
enova
Results and activities
2014

Content

Symbol key

Advisory service

Industry

Support

Non-residential buildings

New energy and climate technology

Renewable heating

Cooperation/ Agreement

Residential buildings

1

CEO'S REPORT

Energy for a better climate

In 2014, Enova saw significant market interest. Never before have we received so many ideas and project proposals. The results are also better than last year. We are particularly pleased with the strong upswing in interest from industry. Industry market players are improving energy efficiency and utilizing new energy and climate technology. New branches of the industry are signing up. One example is that Enova is receiving more applications from market players within aquaculture than before.

Markets

A close and constructive dialogue with the markets is essential for sound management of the Energy Fund. Enova's role involves triggering development projects that provide businesses and public entities with future-oriented solutions at a faster rate. We work every day to meet our clients in an inspiring and responsible manner with the aim of determining possibilities for joint projects.

A clear trend in 2014 is a growing interest in energy and climate measures in industry. There are several different causes for this. Many projects are motivated by a desire to reduce costs, others by ensuring efficient and flexible energy solutions, or adapting production and products to markets. Expectations regarding higher quota prices or other stricter regulation are also a contributing factor.

We have become involved in a number of good projects in every sector where we are active. We ended 2013 by phasing out the programme for support for passive and low energy houses within non-residential buildings. We achieved our objective with the programme, and the market was able to continue the development of passive and low energy houses by itself. We started 2014 with a focus on rehabilitating non-residential buildings and energy measures in residential buildings. We also launched new programmes to trigger innovation and technology development in the sector, with a particular emphasis on new buildings. Overall, we would like to see more activity in the non-residential buildings and residential buildings market, and we are implementing a number of new initiatives with this aim.

Our position within renewable heating is strong, and we are continuing our efforts to develop new capacity that will increase flexibility in the energy system. However, we see relatively few initiatives for innovation and technology development in renewable heating and the power sector.

A relatively large share of projects from previous years were cancelled in 2014. When a project is cancelled, the support (funding) granted is withdrawn, put back into the Energy Fund, and made available to new projects. We also annul the results recorded for the project. The power price drop after 2011 weakened profitability in many projects, leading to their cancellation.

Results in 2014

Enova joined 1400 new projects in the private and public sectors, and supported 4500 new energy measures in residential buildings. The majority of the projects were minor, but some were quite large. We made our biggest ever individual decision within the efforts in new energy and climate technology in industry, granting a funding commitment of NOK 1.55 billion to Hydro's pilot facility for aluminium production on Karmøy.

The overall energy result amounted to 1.7 TWh in 2014. This is significantly higher than the preceding year. The increase can be attributed to the activity in industry. Based on the overall result, 57 per cent was improved energy efficiency, while 43 per cent was generation and distribution of renewable energy and conversion from fossil energy.

For the very first time, we granted more support for innovation and technology development than spread of familiar technology in the markets. This switch is interesting in light of the energy and climate challenges we are facing. These challenges cannot be solved without innovation and technology development.

In flux

We have maintained a focus on further developing the organization throughout the year. We started this work in 2013 to strengthen dialogue with the markets, increase specialization

and cooperation internally, and develop our management. This work was continued in 2014.

Through the 2015 fiscal budget, Enova was tasked with two new assignments from the beginning of the year. We spent quite some time at the end of 2014 preparing for this.

From 2015, Enova has a new programme for homeowners who are implementing energy conservation measures. The programme is rights based. Our focus has been to develop a good programme, which is easy to use and easy to administer.

The second new assignment was within environmentally friendly transport. Through the Energy Fund, Enova will help reduce greenhouse gas emissions from the transport sector. As a step in this work, Enova assumed the tasks previously handled by Transnova. Transnova has been phased out and many of the employees have chosen to continue their work in Enova.

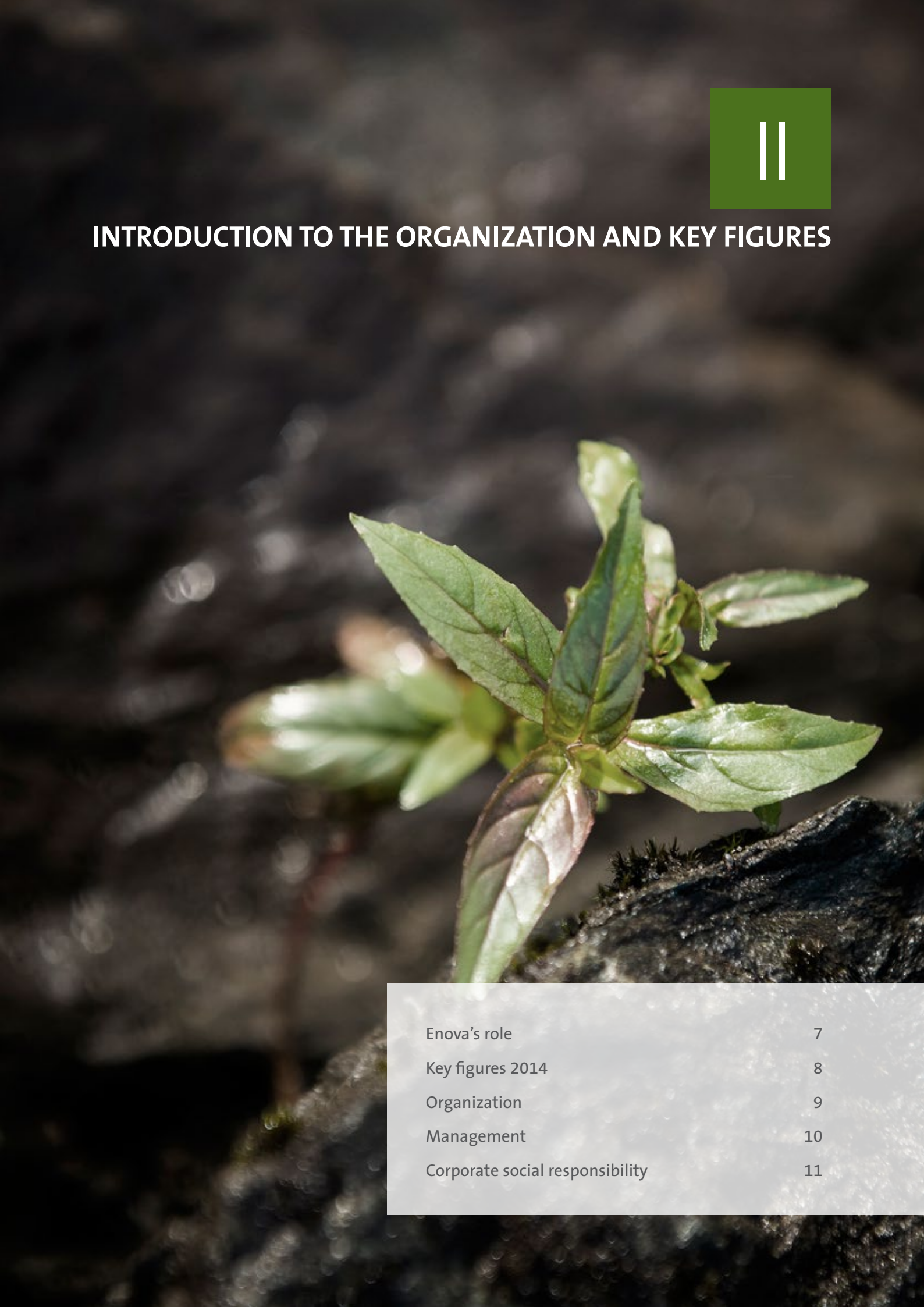
2014 was an eventful year, and we will face many exciting tasks in the new year. When interest in energy and climate grows, interest in Enova follows suit. It is well-documented that the climate challenge is man-made. It is serious, but it can be influenced. The discussion now revolves around how we can limit the impact and damage. The transition to a low emission society will require several changes to the energy system. A number of measures need to be implemented, and the changes are so extensive in scope that they impact every market in which Enova works.

We are devoting all our energy to the work for a better climate!

NILS KRISTIAN NAKSTAD
Chief Executive Officer

II

INTRODUCTION TO THE ORGANIZATION AND KEY FIGURES



Enova's role

Inspiring and market oriented
Two of Enova's values are to be inspiring and market oriented. As the driving force for new energy and climate solutions, these values are important to us. Being market oriented means that we always cooperate with the market. We meet with the market players and listen to their challenges. Enova follows the development closely and ensures that our programmes consistently contribute to real market changes.

Financing
Enova's most important tool is the financing we contribute to projects, whether they are major industrial projects or minor measures in households. Enova's objective is to manage Norway's resources so they can provide the greatest possible benefit for our society.

- **Measurement of support and triggering funding level - method**
  Two principles form the basis for Enova's assessment of the funding level in projects; the support must be necessary to trigger the project in question, and the support must be sufficient. These two criteria reflect the requirements in the guidelines for state aid.

  Necessary support:
  A fundamental principle for subsidizing projects through various types of support is that support changes behaviour. For our projects, this entails that the project owner will choose a more energy or climate-friendly project with the benefit of support than the project owner would choose without support.

  If the project owner will implement the project regardless of support, the support has no purpose and the project is classified as a "free ride".

  Sufficient support:
  The second principle is that support must be sufficient to trigger changed behaviour, but no more. This entails that, after Enova has determined support is necessary to implement the project, we need to assess how much support is needed to trigger the project.

  If the funding level is too low, the project will not be carried out and the support was insufficient. If the funding level is too high, the project received more than necessary to change behaviour.

- **Profitability assessment**
  Enova carries out profitability assessment of projects to determine the necessary and sufficient funding level. The assessment is a standard net present value assessment (NPV), where the project-specific risk is reflected in the cash flows while the return requirement must reflect the applicant's market risk.

Advisory service
The second essential tool in Enova's portfolio is advisory service. Advisory service is provided in a structured manner through our targeted support programmes. In small projects, we provide advice through our Ask Enova helpline and through online information and guidelines. In larger projects, Enova works closely with the projects over time to improve the project with regard to technical solutions and implementation, as well as making it more financially robust. Enova's advisory service is based on the experience from an overall project portfolio totalling several thousand projects.

Long-term market effects
Enova's objective is to promote environmentally friendly energy restructuring. This involves change over time. Enova has two options for promoting new solutions and technology and introducing them in the market; We can either compensate for the existing barriers, through paying our way out of the problem, or we can try to do something about the barriers. Enova focuses on the latter.

An assessment of potentials and barriers always forms the foundation when Enova draws up its strategies and develops its programmes for the market. The extent of the potential, and what barriers exist, will vary between different markets, which is why our programmes for various markets may also vary. As we succeed in removing barriers, we will revise the programmes offered.

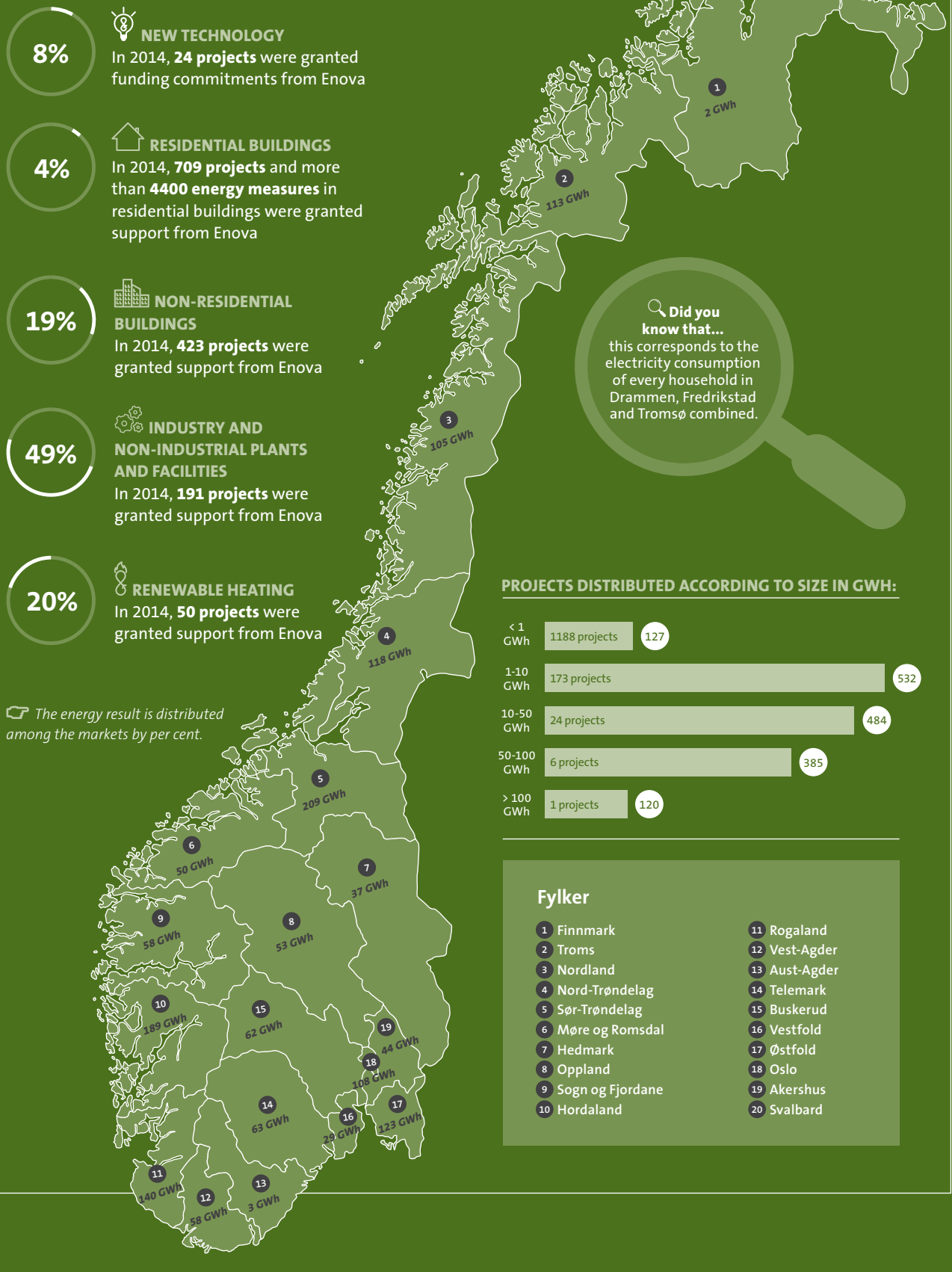
Changing markets usually takes a long time, and there will always be uncertainty associated with how long it takes to address specific barriers to achieve lasting change. If we stop too soon, if we withdraw our time or our money, we risk the market returning to its original condition. And our efforts will have been wasted. Continuing for too long also involves a cost, but it could be wise to overinvest to ensure the change is lasting.

Some barriers will always be in place. A typical example is within innovation and technology development. Individual market players are never able to prevent the rest of the market from using all or parts of the new knowledge. The innovation thus loses some of its value for the individual market player, but the value for society increases. The consequence is that individual players invest less than is optimal for society. Public support will always play a role here.

Cooperation
The goal of public policy instruments is for more ideas to reach the market. The road from good ideas to finished solutions is often long. The need for public support will change along the way. Expedient distribution of work and sound collaboration with other public policy instrument players is important for Enova.

Key figures 2014

In 2014, Enova supported projects with a total energy result of 1.7 TWh through the Energy Fund, distributed over energy efficiency measures, conversion and increased utilization of renewable energy.



8%

NEW TECHNOLOGY
In 2014, **24 projects** were granted funding commitments from Enova

4%

RESIDENTIAL BUILDINGS
In 2014, **709 projects** and more than **4400 energy measures** in residential buildings were granted support from Enova

19%

NON-RESIDENTIAL BUILDINGS
In 2014, **423 projects** were granted support from Enova

49%

INDUSTRY AND NON-INDUSTRIAL PLANTS AND FACILITIES
In 2014, **191 projects** were granted support from Enova

20%

RENEWABLE HEATING
In 2014, **50 projects** were granted support from Enova

The energy result is distributed among the markets by per cent.

Did you know that...
this corresponds to the electricity consumption of every household in Drammen, Fredrikstad and Tromsø combined.

PROJECTS DISTRIBUTED ACCORDING TO SIZE IN GWH:

< 1 GWh	1188 projects	127
1-10 GWh	173 projects	532
10-50 GWh	24 projects	484
50-100 GWh	6 projects	385
> 100 GWh	1 projects	120

Fylker

1. Finnmark
2. Troms
3. Nordland
4. Nord-Trøndelag
5. Sør-Trøndelag
6. Møre og Romsdal
7. Hedmark
8. Oppland
9. Sogn og Fjordane
10. Hordaland
11. Rogaland
12. Vest-Agder
13. Aust-Agder
14. Telemark
15. Buskerud
16. Vestfold
17. Østfold
18. Oslo
19. Akershus
20. Svalbard

Organization

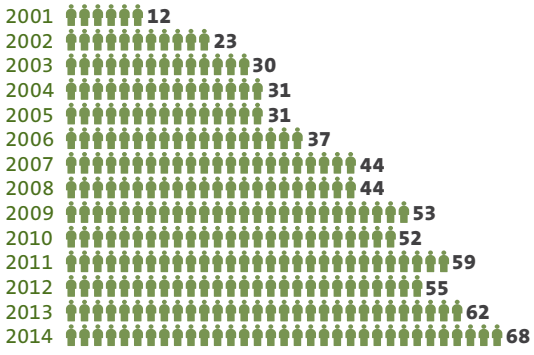
Enova depends on each employee's knowledge and ability to cooperate internally and externally to achieve our goals. As an organization, we want to support the individual's strengths and desire to do their best. Our values (*clear, inspiring, responsible and market oriented*) set guidelines for how we want to behave internally and externally. We exercise value-based management, which means that we seek to integrate the values in all parts of the workday, related to decisions, how we act, prioritization and involvement. One of our measures of our success is whether we appear credible, competent and professional in the market. Important preconditions are clear role distribution, delegation of responsibility and close cooperation between the different units in the organization.

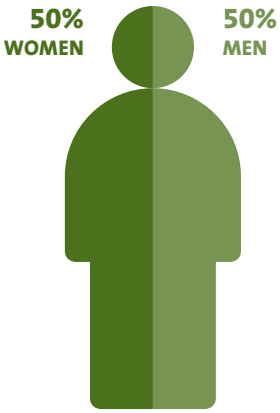
Through the employee survey, we can confirm that the employees largely identify with Enova's values and goals, and that we have passionate employees who want to contribute to continuous learning and development. We develop each employee's expertise through challenging tasks, the chance to work across the organization and through external opportunities. Every employee has an individual development plan designed to promote this. We believe that a good working environment and good relationships with colleagues are important for each person's development, which is why we facilitate various social measures. We want competent managers who are good role models in exercising our values, and work continuously on management development.

Enova aims to have a flexible organization to be well equipped to further develop and expand our mandate. In the transition to 2015, we are adapting the organization for success in a new focus area within transport, and the new rights based programme for households, "Enovatilskuddet" (The Enova Subsidy), from 2015.

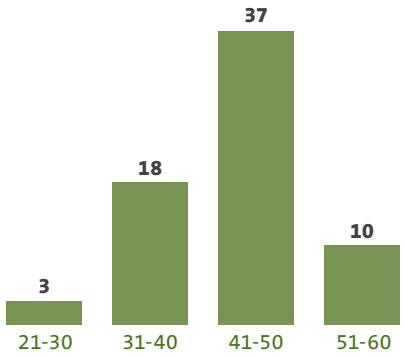
At 31 December 2014, Enova had 68 permanent employees, with 34 women and 34 men. The average age is 43 years. Our employees' education and work backgrounds span many different disciplines. Enova recognizes the value of equality and diversity in the workplace, because we believe this strengthens our ability to think in broad terms and to see different perspectives.

DEVELOPMENT IN NUMBER OF EMPLOYEES





AGE COMPOSITION



Management

Nils Kristian Nakstad
Chief Executive Officer
Mr. Nakstad has been the CEO of Enova since 2008. He is a chartered engineer from the Norwegian Institute of Technology, Mechanical Engineering, with a major in energy. Nakstad has a background as a researcher and research manager in SINTEF and project manager in Hydro. He has also previously headed Trondhjem Preservering AS and ReVolt Technology AS. He is a board member in Trondhjem Preserving AS (and group companies), the Norwegian University of Science and Technology and Langrennskomiteen.

Audhild Kvam
Marketing Director
Mrs. Kvam has been the Marketing Director since 2013. She has an MBA in business administration from Pacific Lutheran University, USA. Kvam was hired by Enova as the Director of the Energy Efficiency Department in August 2010. She has experience as the VP Strategy and Marketing in Powel ASA, and worked as an information consultant and head of information in Trondheim Energiverk Kraftsalg AS. She is a board member of Energi 21.

Geir Nysetvold
Director of Strategy and Communication
Mr. Nysetvold has been the Director of Strategy and Communication since 2013. He is a chartered engineer from the Norwegian Institute of Technology, with a major in technical cybernetics. He also has several courses in technology, management and finance from the Norwegian Institute of Technology and the Norwegian School of Economics. Nysetvold was hired as the Chief Financial Officer of Enova in December 2007. From 2009-2012, he also headed the Strategy and development department. He has experience from several top positions, primarily within insurance, e.g. as a division director and head of the corporate market area in Vital Forsikring. He is a member of the control committee in Nordea Liv Norge AS and Full member in the European Energy Network (EnR).

Gunn Jorun Widding
Director of Enterprise Management
Mrs. Widding has been the Director of Enterprise Management since mid-2013. She is a chartered economist from the Bodø Graduate School of Business (HHB). She also has a number of courses from the university colleges in Sør-Trøndelag, Bodø and Lillehammer. Widding has previous experience from a management position in the travel industry, project management and several top positions in EVRY.

Øyvind Leistad
Programme Director
Mr. Leistad has been the Programme Director since 2013. He has an educational background in resource economics, financing and investment from the Agricultural University of Norway. Leistad was hired by Enova as a senior adviser in 2005. From 2007-2012, he was the Director of the Energy Production Department in Enova. Leistad has experience from the Ministry of Petroleum and Energy, where he worked with administration of various policy instruments related to stationary energy supply and renewable energy, and energy efficiency in particular. He is a member of the programme board for ENERGIX in the Research Council of Norway.

Corporate social responsibility

Enova's social mission is to create lasting changes in the availability of and demand for efficient and renewable energy and climate solutions, to strengthen the security of supply and to reduce greenhouse gas emissions. Through its social mission, Enova helps private and public entities to also fulfil their social responsibility, by making sustainable environmental and climate decisions.

Enova shall promote increased knowledge in society about the possibilities of using energy-efficient, environmentally and climate-friendly solutions. We work to change attitudes among both businesses and individuals. We implement measures with the goal of influencing the next generation's decisions regarding energy and climate. The two most important measures are *Enova gründercamp* (entrepreneur camp) in cooperation with Ungt Entreprenørskap for students in upper secondary school, and *Enova's Energy Challenge* as a learning tool for intermediates grade in primary and lower secondary school.

Enova's management works with the aim for ethical guidelines, together with the values, to function as a guide for ethically responsible behaviour, both for the organization and individual employees. This is a key element in the organizational and management development throughout the year.

Enova works to minimize the company's impact on the external environment. Enova has offices with low energy consumption and renewable energy sources. We cooperate with the landlord regarding energy use, water consumption and waste recycling. We encourage employees to choose environmentally friendly transport to and from work. Enova's procurement processes stipulate requirements for ethical trade and to prevent social dumping. Enova facilitates trainee positions for people with special follow-up needs.

There were no reported whistleblower cases or other incidents involving breach of sound business practices. Enova has reinforced efforts to handle insider trading and ethical management. Enova has training measures related to the Freedom of Information Act to ensure openness and transparency.

Enova will continue its work on corporate social responsibility and ethics in 2015, integrated in objectives, strategies, management of the enterprise and in the management and organizational development. The procurement process will be reinforced through more concise requirements for suppliers. Enova will develop dilemma training as a tool to increase each employee's understanding of the ethical guidelines and handing of insider trading.

Our values

☞ **Clear**

☞ **Responsible**

☞ **Inspiring**

☞ **Market oriented**

Values and ethical guidelines
Our ethical guidelines and fundamental values are our rules of conduct for behaving ethically and in a socially responsible manner in all our activities:

- we have goals, values and ethical guidelines that describe the fundamental attitudes and the philosophy that shall characterize our organization
- we exercise corporate governance principles where we emphasize openness, transparency, responsibility, equality and long-term perspectives
- we set high integrity requirements, which e.g. entail a zero tolerance policy for any form of corruption, and the promotion of free market competition
- we are open, honest and sensitive in our communication and contact with the outside world
- •we do not discriminate based on gender, religion, nationality, ethnicity, social groups or political viewpoints
- •we are attentive to changes in what society in general considers good business practices. We evaluate and change our own practices when necessary

Enova's social mission

Enova's **social mission** is to create lasting change in the supply of and demand for efficient and renewable energy and climate solutions. These activities will strengthen the security of supply and reduce greenhouse gas emissions.

Our vision

An energy-efficient and renewable Norway

The Norwegian State
The Storting (Norwegian Parliament) is Norway's legislative and budgetary power. The Storting passes Norway's statutes, determines the state budget and controls the government. The government is Norway's executive authority. The government is responsible for implementing the decisions adopted by the Storting.

The Ministry of Petroleum and Energy (MPE)
The MPE's primary task on behalf of the Norwegian State is to facilitate comprehensive and value-creating energy policy based on efficient and environmentally friendly utilization of natural resources. The MPE is Enova's owner and principal; it issues letters of award and receives reporting.

The Energy Fund
The purpose of the Energy Fund is to promote environmentally friendly restructuring of energy end-use and energy production, as well as contribute to development of energy and climate technology. The Energy Fund shall be a predictable and long-term financing source for the restructuring work.

The 4-year agreement
Agreement between the Norwegian State through the MPE and Enova which defines and sets the framework for the social mission Enova has been tasked with. The Agreement will ensure the resources from the Energy Fund are managed in compliance with the goals and preconditions that form the basis for establishment of the Energy Fund.

Enova
Enova's primary task is to cultivate environmentally friendly restructuring of energy end-use and energy production, as well as contribute to development of energy and climate technology. This shall take place through management of the Energy Fund.

The Office of the Auditor General of Norway
Through guidance, control and auditing, the Office of the Auditor General of Norway will help ensure Norway's resources and assets are managed in accordance with what the Storting has decided.

Internal control
Enova conducts systematic follow-up, management and control over its own activities. Systems and routines are adapted to risk and significance.

Enova's social responsibility

Enova's **social responsibility** deals with operating our enterprise so it provides a positive contribution to value creation in society, both in relation to achieving our mission, as well as how we deliver on our objectives.

Social contribution
In 2014, Enova supported projects with an overall energy result of 1.7 TWh through the Energy Fund, distributed over energy efficiency measures, conversion and increased utilization of renewable energy.

III

ACTIVITIES AND RESULTS FROM THE YEAR

Part III A:
Reporting – the Energy Fund 2012-2014

Enova's main objectives

Enova's mandate and responsibility within energy and climate technology has been strengthened in the agreement between the MPE and Enova for the period 2012–2015, compared with previous periods.

Enova promotes environmentally friendly restructuring of energy end-use and energy production, as well as development of energy and climate technology.

Enova's objective is further elaborated in six main objectives. The six main objectives are:

- *Development and introduction of new energy and climate technologies in the market*
- *More efficient and flexible use of energy*
- *Increased use of other energy carriers than electricity, natural gas and fuel oil for heating*
- *Increased use of new energy resources, including through energy recovery and bioenergy*
- *More well-functioning markets for energy-efficient, environmentally and climate-friendly solutions*
- *Increase awareness in society regarding the possibilities of utilizing energy-efficient, environmentally and climate-friendly solutions*

These four first main objectives cover the areas where energy results are easily quantifiable. The main objectives overlap to some extent and cannot be added up to a total sum. The energy result from management of the Energy Fund for the period 2012 to the end of 2015 must constitute at least 6.25 TWh. The primary goal of investments in new energy and climate technology is that it will contribute to reducing greenhouse gas emissions and support the development of restructuring energy end-use and energy production in the long term by developing and utilizing technologies and new solutions that can contribute to this.

Main objective 1:
Development and introduction of new energy and climate technologies in the market.

This main objective is a direct result of the Climate Agreement in the Storting in 2012. Development of new energy and climate technology is very important in order to solve the national and global climate challenges. However, these new technologies must reach the market in order to have the desired impact.

With its capital base, Enova can bring technology initiatives from the pilot phase and over to first introduction. This is a capital-intensive and critical phase for the projects where they will demonstrate to the market that the technology functions under normal conditions.

However, making it through the critical phase is no guarantee for success in the market. Some technologies succeed and gain a foothold which can be built on. For many technologies, the first encounter with the market will reveal a need to test new approaches and concepts, which may entail having to take one or more steps backwards in the innovation chain. Other technologies are weighed and found wanting in the competition with other technological solutions. Enova awarded support to technology projects in 2014 with the expectation that many of them will be successful, but not all. Enova cannot pick the winners in advance. Our role is allowing the technologies to be tested in the market, and then the market can determine the winners.

In 2014, Enova engaged in a close dialogue with a number of market players regarding support for technology development within industry, non-residential buildings, residential buildings, non-industrial plants and facilities and renewable power. A total of 24 technology projects were granted support. Overall, this amounted to NOK 1.7 billion and contributed an energy result of 141 GWh.

Main objective 2:
More efficient and flexible use of energy.

More efficient and flexible use of energy is key in order to strengthen the security of supply in the short and long term, both through reducing peak loads and by increasing the ability to swap energy source based on price and availability.

Improved energy efficiency projects, within buildings and industry in particular, help us achieve this main objective. The choices made with regard to building structure and production processes will determine energy end-use for many years to come. If we do not take advantage of the possibilities available in choosing energy-efficient solutions, we will be bound to unnecessarily high energy use for many years in the future. In the same way, many of the choices we make today influence how flexible and robust the energy system will be in the next decades.

Projects within Enova's support programmes for energy efficiency are fulfilling this main objective. In 2014, Enova supported energy efficiency projects with an energy result of 964 GWh. This corresponds to the electricity consumption of every household in Stavanger.

Main objective 3:

Increased use of energy carriers other than electricity, natural gas and fuel oil for heating.

Renewable central heating contributes to increased utilization of energy carriers other than electricity and fossil fuels for heating. Less use of fossil energy carriers results in a direct climate gain in the form of reduced greenhouse gas emissions. Use of more energy carriers also provides increased energy flexibility and more opportunities for efficient utilization of renewable energy resources. Furthermore, increased use of energy carriers such as bioenergy and district heating for heating will reduce pressure on effect balance in dry and cold years.

Enova's programmes for district heating and heating plants are particularly directed at this main objective. Enova also conducts targeted work to phase out oil boilers in households.

Over the course of 2014, Enova has supported projects corresponding to more than 725 GWh for heating, of which about one-third were related to conversion. This corresponds to the energy consumption of every household in Tromsø.

Main objective 4:

Increased use of new energy resources, including through energy recovery and bioenergy.

Norway holds a unique position globally with regard to the high percentage of hydropower, and the electricity certificate system was introduced to further increase the access to renewable power in Norway. We also have considerable potential for increased energy production from energy resources that are not covered under this system. Conversion to renewable energy resources yields direct climate results. Utilization of bioenergy and heat recovery from industry are examples of such resources. Enova has programmes within industry, heating, non-residential buildings and residential buildings that support this main objective, with the industry market as the largest contributor.

In 2014, Enova supported projects that, overall, provide 527 GWh in increased utilization of renewable energy sources and carriers. This energy volume corresponds to one Alta power plant.

Main objective 5:

More well-functioning markets for energy-efficient, environmentally and climate-friendly solutions.

Enova will make the efficient, environmentally and climate-friendly solutions the preferred solutions in the market. By supporting innovators and early users, we create market development by making the good solutions more competitive as a result of increased demand and reduced unit costs.

Enova has several instruments that will create better markets for future energy, environmentally and climate-friendly solutions. Through the subsidy programmes, we increase demand for future energy solutions in the professional market. Furthermore, we help develop the supply side by testing and making products available in the market. Through energy measures in residences, we are stimulating demand in private households. Another instrument is familiarizing consumers with the good solutions already in the market.

Main objective 6:

Increase awareness in society of the possibilities of utilizing energy-efficient, environmentally and climate-friendly solutions.

Information and knowledge impact our attitudes and our behaviour. Enova therefore pursues systematic and targeted communication measures to increase use of efficient and environmentally friendly energy solutions, through both marketing and visibility in the media. We give advice to households and the professional market to increase awareness regarding environmentally friendly energy solutions, highlight possibilities and trigger measures. Much of this learning takes place through implementation of projects. Enova offers professional advisory teams, provides guidance through application processing and organizes courses. In 2014, nearly 600 households received support for hiring an energy adviser. Enova targets children and young people through developing energy and climate learning tools that are used in school. Enova also has a nationwide information and advisory service that reaches a diverse audience through telephone, email and social media.

Objectives and results of the Energy Fund

In 2014, Enova signed project contracts with a total energy result of 1.7 TWh, distributed between 1.548 TWh for ordinary energy projects and 0.141 TWh for projects within new energy and climate technology. In total, Enova allocated NOK 3.4 billion, of which NOK 1.4 billion went to ordinary projects and NOK 1.7 billion went to projects within new energy and climate technology.

Enova's activity level in 2014 was high. About 1,400 projects and 4,500 energy measures in residential buildings received funding commitments from Enova during the year. We are satisfied with the growth within both energy and technology projects, and we achieved a better overall energy result compared with last year.

The level of allocated funds is high in 2014 compared with preceding years. The investment support of NOK 1.55 billion for Hydro's planned pilot project on Karmøy is primarily responsible for the higher level. The project is an example of Enova enabling innovation and introduction of new energy and climate technology in close cooperation with market players.

2014 was generally characterized by weak international economic trends. Many major EU nations experienced slow growth. Norway has long remained relatively sheltered from this situation, though lower investments in oil and gas have been expected for some time. The oil price dropped in the latter half of 2014, and the companies' estimated oil investments in 2015 were impaired. A falling NOK has helped improve the situation for the export industry, but businesses have relatively low expectations for 2015. These circumstances have likely contributed to a sharper focus on costs in 2014. We can generally assume that companies had a greater interest in and incentive to prioritize energy efficiency projects than in preceding years.

The overall energy result for the period 2012–2014 is 4.3 TWh. Cancellations of previously signed contracts during the period reduce the energy results from 2012 and 2013. We must also expect a certain level of cancellations in the future.

The level of Enova's result goals for the period 2012–2015 is based on a number of assumptions. The development in these assumptions was different than anticipated, and it appears that the deviations will last throughout the period. This affects the ability to support new projects and the level of cancellations. The energy result in 2013 was somewhat lower than we hoped for, while 2014 is more on par.

FIGURE 3.1 OBJECTIVES AND RESULTS OF THE ENERGY FUND

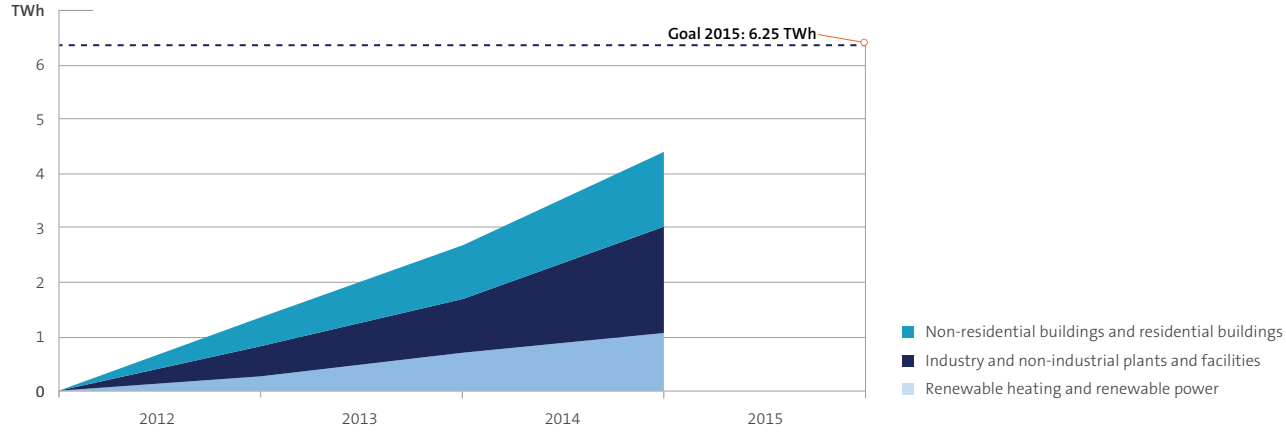


Figure 3.1: The figure shows accumulated energy results distributed by market in the period 2012–2015. The figures are corrected for cancelled and final reported projects.

Enova's industry efforts delivered good results in 2014, and good progress from previous years. The industry market provided several projects in 2014, and many of these projects have major energy results. Nineteen industry projects pledged more than 10 GWh each. More than half of Enova's total energy result in 2014 came from industry.

The development in non-residential buildings is moving towards more, but smaller, projects. Projects within non-residential buildings pledged 329 GWh. This is a decline of 28 per cent compared with 2013. A contributing cause is the phase-out of support for passive houses and low energy buildings at the end of 2013. After a quiet start to the year, development remained positive throughout 2014, with an increasing project volume.

Renewable heating pledged an energy result of 341 GWh. The size of projects is in line with previous years, but the number of projects was somewhat smaller in 2014 and the energy result ended at 14 per cent lower than in 2013. There were fewer district heating projects applying for support in 2014. A likely cause of this is declining power prices in the first half of 2014, and that the markets are anticipating low power prices going forward. Low power prices result in lower profitability in the district heating market.

The number of projects from the residential buildings market is developing well, with an increasing volume and growing results. The residential buildings market contributed 59 GWh in 2014.

The number of non-industrial plants and facilities projects grew in 2014, and the largest project supported last year was 9 GWh. In total, we pledged 32 GWh from non-industrial plants and facilities projects in 2014. Enova has worked diligently with the market players, and will focus more efforts on this market after Transnova's tasks were transferred to Enova from 2015.

TABLE 3.1 THE ENERGY FUND'S ENERGY RESULTS AND ALLOCATIONS 2012–2014

	2012		2013		2014		2012-2014	
	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK
Renewable heating	242	231	398	472	341	381	981	1084
Renewable power	8	62	6	13	0,5	1	14	76
Industry	529	504	395	303	928	2 173	1852	2981
Non-industrial plants and facilities	22	13	13	35	32	32	67	79
Non-residential buildings	512	559	454	696	329	429	1295	1685
Residential buildings	30	86	29	127	59	108	117	321
International projects	-	4	-	7	-	2	-	13
Advisory services and communications	-	59	-	70	-	61	-	189
External analyses and development measures	-	34	-	27	-	38	-	99
Administration	-	98	-	110	-	129	-	336
Total	**1 343**	**1 649**	**1 295**	**1 860**	**1 689**	**3354**	**4 327**	**6 862**
Of which:								
Ordinary energy projects	1 329	1 310	1 239	1 458	1 548	1 392	4 116	4 160
New energy and climate technology projects	14	111	56	176	141	1 727	211	2 013

Table 3.1: The table shows aggregated energy results and resources allocated from the Energy Fund in the period 2012-2014, corrected for cancelled and final reported projects as of 2014. Projects within the programmes for new technology are distributed by market and year.

Management of the Energy Fund's resources

Each year, the Energy Fund is supplemented with new funds that will be used to fulfil the mission in the agreement between the MPE and Enova, and the annual Assignment Letter from the MPE. The income in the Energy Fund comes from the return on deposits in the Fund for climate, renewable energy and energy restructuring, and from the parafiscal charge on the grid tariff (small additional charge on electricity bills). In total, this income constituted just under NOK 1.9 billion in 2014.

In addition, Enova can allocate transferred funds from previous years, returned funds from cancelled projects, as well as the interest income from the funds that are sitting in the Energy Fund. These additions constituted just over NOK 2.8 billion in 2014. Enova thus had an overall framework of NOK 4.7 billion in 2014.

A decision was made in connection with the Climate Agreement in 2012 to strengthen the Fund for climate, renewable energy and energy restructuring with NOK 25 billion up to and including 2016, creating a total volume of NOK 50 billion. In line with this, NOK 5 billion was added to the Fund at the beginning of 2014. The Government also decided to increase capital by another NOK 4.25 billion on 1 July 2014. The return on these deposits will be added to the Energy Fund in 2015.

When Enova decides to award support for projects, the amounts are earmarked in the Energy Fund as commitments. The relevant amount is then disbursed in arrears based on actual project costs. The earmarked amount in the Energy Fund is released for other projects if projects are cancelled.

Enova's ability to transfer unused funds from one year to the next is one of the Energy Fund's strengths. This provides a flexibility that is particularly important for major, capital-intensive individual projects. These are projects that Enova normally has a close dialogue with for a long time prior to an application, but where it is often difficult to predict with any certainty when the projects are ready for a support decision. Major energy and climate projects often have a long project development time. The possibility of transferring funds gives projects assurance that the time of application and decision will not impact the outcome of the project portfolio management. Transferred funds therefore allow Enova to carry the major individual projects, including full-scale production lines in the industry.

Enova has awarded funding commitments totalling NOK 3.4 billion in 2014, including NOK 129 million in administration. According to the state aid guidelines and agreement with the MPE, Enova must consider whether each project actually needs support, how much support it needs and whether it will provide environmental gains in the form of energy or climate results. This is followed up and means that projects could be rejected, even if funds are available.

Enova has awarded funding commitments totalling about NOK 3.1 billion in support for projects in 2014, which will in turn trigger just under NOK 6 billion from the market in connection with the projects that received the support. This will create total investments of more than NOK 9–10 billion in energy and technology projects approved in 2014.

FIGURE 3.2 ALLOCATION OF THE ENERGY FUND'S RESOURCES

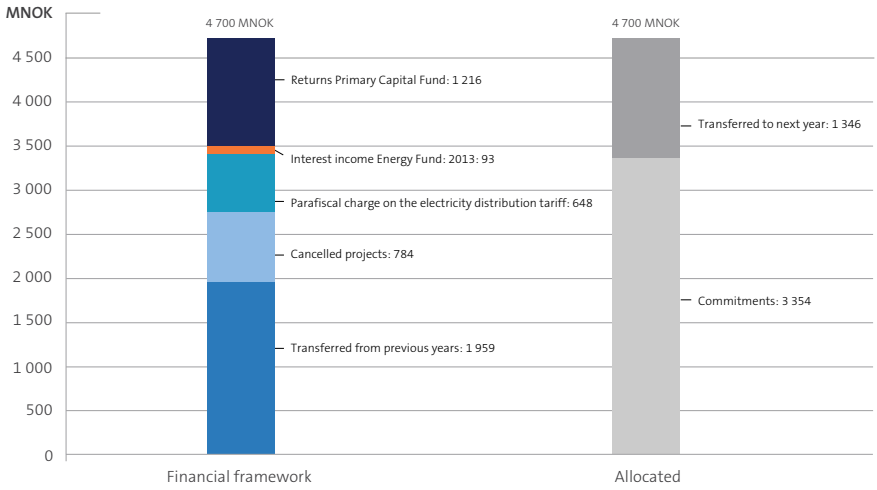


Figure 3.2: The figure shows a comparison of the Energy Fund's various sources of income and allocations thereof. Projects that are approved and cancelled in the same calendar year are not included in cancelled projects or commitments.

Climate reporting

So far, Enova has mainly supported energy projects, but these projects also have climate results. Either because the project entails reduction in fossil fuel consumption, or because the resources released and the technologies developed can replace fossil emissions in other areas. For example, we support technology projects that could, over time, be key in achieving the climate goals in Norway and globally, through spread of the technology. This section presents greenhouse gas resultss for projects supported by Enova in the period 2012–2014.

The climate reusults take a basis in the pledged energy result (kWh) figures for each project and emission factors for the various energy carriers. The results are reported in CO_2 equivalents, which indicate the combined effect of CO_2, as well as other types of greenhouse gases[1]. Enova supports measures within the categories: *improving energy efficiency, restructuring from electricity and fossil energy sources, and production of energy from renewable energy sources*. Information about which energy source(s) are replaced in the greenhouse gas results is used for restructuring projects. For projects involving development of new production capacity, we make an assumption regarding which energy source(s) would be used if the project was not carried out. The assumption regarding alternative energy source(s) in the projects is based on price conditions for electricity and fuel oil[2]. As an assumption regarding replaced energy is used, there is uncertainty associated with calculation of the climate result in these projects. For 2014, these projects correspond to 30 per cent of the total energy result.

Some of our projects, particularly within the *New technology* programme, can contribute to greenhouse gas reductions as a result of processes that are independent of the pledged kWh. One example is reduction of process emissions, which is reported in Appendix C.

Method and assumptions

The method, scope and assumptions used as a basis for the climate results are essential for the calculations and result achieved. There is a difference if the calculation takes into account a *carbon footprint*[3] or a *life-cycle assessment*[4] approach where emissions in all project phases are included (construction, operations, realization), or if the calculation only includes emissions related to the operations phase in the projects. Our calculations only take into account changes in greenhouse gas emissions related to the operations phase in the projects. This provides us with an easy way to assess projects and is quite similar to the national climate accounts.

National or regional/global perspectives

Another example of the choice of system limit and how this will impact the climate accounts is whether the climate calculations are made based on a national or regional/global perspective, see Figure 3.3. For example, reduced electricity consumption is expected to have no or minor climate reward if Norway is used as the system limit. This is because Norwegian power production is mainly renewable. In 2013, the percentage of renewable was 98 per cent (96.1 per cent hydropower, 1.4 per cent wind and 0.1 per cent thermal power from biofuel)[5]. In a scenario looking at an expanded region, such as the Nordics or Europe, export of power produced in Norway could have a climate reward if it replaces fossil-based sources. In order to estimate reductions in greenhouse gas emissions related to measures that help improve efficiency of electricity consumption, or conversion from electricity to renewable sources, we have used four power production scenarios as a basis: Norwegian power consumption mix, Nordic mix, European mix and coal power[6].

FIGURE 3.3 SYSTEM LIMITS FOR THE GREENHOUSE GAS RESULTS

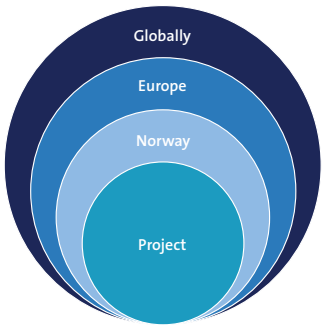


Figure 3.3: The figure shows how the greenhouse gas accounts are impacted by choice of system limit, e.g. whether the climate calculations are made based on a national or regional/global perspective.

1 Enova uses Global Warming Potential with a 100-year perspective: GWP100 years.

2 Enova's price assumption for **electricity** is based on 3-year forward contracts at NordPool (sliding average last 6 months). As an addition to the actual electricity price, we calculate a price of the electricity certificates for the electricity certificate period 2014–2035. Enova's price assumption for **fuel oil** is based on sale of two-year future contracts of Heating Oil at NYMEX + taxes and fees (sliding average last 6 months).

3 GHG Protocol (http://www.ghgprotocol.org/) provides guidelines for the carbon footprint of products, measures, etc.

4 Standardized method for environmental and climate accounts. '**ISO 14 040:2006** Environmental management – Life Cycle Assessment – Principles and Framework' and 'ISO 14 044:2006 Environmental Management – Life Cycle Assessment – Requirements and Guidelines' contain guidelines for life-cycle assessment.

5 http://www.nve.no/no/Kraftmarked/Sluttbrukermarkedet/Varedeklarasjon/Varedeklarasjon-2013/

6 These mixes (Norwegian power consumption mix, European mix and coal power) have an emission intensity of 22 g CO_2/kWh, 117 g CO_2e/kWh, 477 gCO_2e/kWh and 819 g CO_2e/kWh, respectively (source: Ecoinvent).

Energy versus climate results

In relation to the objectives of increased security of supply and reduced greenhouse gas emissions, the projects help achieve one or both objectives. For some projects, contributions toward one objective may have a negative impact on the other objective. One example is the projects that involve conversion from electricity to renewable heating which includes fossil fuels in the energy mix, for example to cover peak loads. Enova only supports the renewable share of the project, but overall, the project will contribute to increased greenhouse gas emissions.

Climate result from more efficient fossil fuel consumption

Table 3.2 shows the estimated volume reduction of greenhouse gas emissions as a result of measures that contribute to reducing consumption of fossil fuels such as coal, oil and natural gas, distributed by market. The calculations are based on the two measures improving efficiency of fossil sources and conversion from fossil to renewable energy. The emission coefficients for the various energy carriers come from the Ecoinvent database.

TABLE 3.2 CLIMATE RESULT FROM REDUCTION OF FOSSIL FUELS FOR PROJECTS APPROVED IN 2012–2014

Market	2014	2012-2014
	ktonnes CO_2e.	ktonnes CO_2e.
Renewable heating	34	112
Renewable power	0	0
Industry	49	100
Non-industrial plants and facilities	1	1
Non-residential buildings	16	46
Residential buildings	7	9
Total	**106**	**268**

Table 3.2: The table shows the estimated volume reduction of greenhouse gas emissions, measured in CO_2 equivalents, as regard to efficiency of fossil sources and conversion from fossil to renewable energy, distributed by market.

Enova estimates that the project portfolio from 2014 will contribute to reducing greenhouse gas emissions by about 106 kilotonnes of CO_2 equivalents. The corresponding result for 2012 and 2013 projects updated in 2014 is about 63 and 98 kilotonnes of CO_2 equivalents. The results in Table 3.2 only include reductions in greenhouse gas emissions as a result of measures that reduce fossil fuel consumption. Other effects, for example as a consequence of projects supported by Enova entailing changes in industrial production processes, are not included in the figures.

Compared with 2013, the results for industry increased in 2014, while results for renewable heating declined. Enova estimates that in the period 2012–2014, measures regarding reduced fossil fuel consumption will yield a climate gain of about 268 kilotonnes of CO_2 equivalents, where the largest contributions come from projects in industry and renewable heating.

Climate results from more efficient electricity consumption or conversion from electricity to renewable sources

Enova supports projects that contribute to more efficient electricity consumption or conversion from electricity to renewable energy sources. These projects result in minor or no reduced greenhouse gas emissions in the actual project itself. Whether the projects contribute to the climate result in other areas will depend on what system limit is used as a basis. However, conservation of electricity in Norway could have a climate reward, if it replaces power based on fossil sources.

We have calculated the climate result of more efficient electricity consumption for the four different electricity mix scenarios: Norwegian power consumption mix, Nordic mix, European mix and coal power. The results are highly contingent on the preconditions related to the alternative power supply (marginal power generation).

The climate result from reduced electricity consumption or conversion from electricity from renewable sources ranges from 56 to 1 230 kilotonnes of CO_2 equivalents for the period 2012–2014, depending on whether we use a Norwegian or European production mix as a basis.

Projects from enterprises subject to quotas in the EU's quota system

Table 3.4 shows the number of projects in 2014 from enterprises subject to quotas in relation to the EU's quota system (EU Emissions Trading System, or EU-ETS), as well as the energy and climate result. In total, Enova supported 35 projects from enterprises subject to quotas in 2014, where 24 were within industry and 11 within renewable heating. These projects contributed to reducing greenhouse gas emissions as a result of reducing fossil fuel consumption by about 19 kilotonnes CO_2 equivalents.

TABLE 3.3 CLIMATE RESULTS FROM MEASURES THAT REDUCE ELECTRICITY CONSUMPTION

Market	Norwegian power consumption mix [1]		Nordic mix [2]		European mix [3]		Coal power [4]	
	2014	2012-2014	2014	2012-2014	2014	2012-2014	2014	2012-2014
	ktonnes CO_2e	ktonnes CO_2e	ktonnes CO_2e	ktonnes CO_2e	ktonnes CO_2e	ktonnes CO_2e	ktonnes CO_2e	ktonnes CO_2e
Renewable heating	4	14	23	73	94	300	162	512
Renewable power	-	0	-	2	-	7	-	11
Industry	9	23	49	121	198	501	340	847
Non-industrial plants and facilities	1	1	3	4	11	18	19	31
Non-residential buildings	1	17	6	91	26	375	45	637
Residential buildings	0	1	2	9	1	28	1	49
Total	**15**	**56**	**83**	**300**	**330**	**1 230**	**566**	**2 087**

Table 3.3: The table shows climate results from reduced electricity consumption or conversion from electricity to renewable energy sources for projects approved in 2012–2014 based on four different electricity scenarios. The results are shown by market.

1 22 g CO_2e/kWh (source: Ecoinvent)
2 117 g CO_2e/kWh (source: Ecoinvent)
3 477 g CO_2e/kWh (source: Ecoinvent)
4 819 g CO_2e/kWh (source: Ecoinvent)

TABLE 3.4 NUMBER OF PROJECTS FROM COMPANIES SUBJECT TO QUOTAS 2014

Subject to quotas (EU-ETS	Market	Number of projects	Pledged energy result	Climate result from reduced consumption of fossil fuels
		No.	GWh	ktonnes CO_2e
Subject to quotas		**44**	**632**	**19**
	Renewable heating	11	31	2
	Industry[1]	33	601	17
Not subject to quotas		**1 354**	**1 057**	**87**
Total		**1 398**	**1 689**	**106**

Table 3.4: The table shows the number of projects approved in 2014, the energy result and climate result from reduced consumption of fossil fuels sorted by companies subject to and not subject to quotas according to the EU Emission Trading System (EU-ETS).

1 9 out of the 33 projects in industry are feasibility studies that don't yield direct energy results.

New energy and climate technology

New technology in general, and energy and climate technology in the industry in particular, were the subjects of increased focus through the agreement between the MPE and Enova. The goal of the technology projects is to harness experience that will contribute to expertise development, innovation and spread of the technology both nationally and internationally. Together with the market, Enova contributes to reducing greenhouse gas emissions and supporting broad-based energy restructuring development.

The agreement with the MPE stipulates that at least 10 per cent of the annual available funds in the Energy Fund be earmarked for technology projects within the agreement period. Enova supports technology projects in every market in order to follow up this aspect of the agreement. NOK 1.73 billion in support was granted to 24 projects in 2014. This support constitutes more than half of the allocated funds in 2014.

The majority of the funds for new technology were awarded to a project focusing on energy and climate technology in industry. Hydro Aluminium on Karmøy received a funding commitment for investment support totalling NOK 1.55 billion for a planned pilot plant to test next generation technology for producing primary aluminium. This is the biggest investment support amount Enova has granted to a single project so far. The ESA Surveillance Authority for EFTA approved the funding and found that it complied with state aid regulations. These funds can now contribute to making future aluminium production both more energy-efficient and climate-friendly.

A total of 7 industrial projects were granted support in 2014. The highest number of new technology projects was within non-residential buildings, where 14 projects received funding commitments.

TABLE 3.5 SUPPORT FOR NEW ENERGY AND CLIMATE TECHNOLOGY 2012–2014

Market	Programme	2014			2012-2014		
		Number of projects supported	Contractual energy result	Contractual support	Number of projects supported	Contractual energy result	Contractual support
		Stk	GWh	MNOK	Stk	GWh	MNOK
Renewable heating		**0**	**-**	**-**	**3**	**3**	**15**
	Support for introduction of new technology	-	-	-	3	3	15
Renewable power		**1**	**0,5**	**1**	**7**	**14**	**76**
	Support for introduction of new technology	1	0,5	1	7	14	76
Industry		**7**	**126**	**1627**	**16**	**167**	**1737**
	Support for introduction of new technology	2	2	9	4	3	26
	Support for new energy and climate technology	5	124	1618	12	164	1711
Non-industrial plants and facilities		**1**			**3**	**8**	**30**
	Support for introduction of new technology	1	0,1	0,5	3	8	30
Non-residential buildings		**14**	**15**	**98**	**20**	**19**	**155**
	Support for introduction of new technology	1	-	0,1	4	2	26
	Support for introduction of new technology in the buildings of the future	4	2	21	7	3	52
	Support for energy-efficient new buildings	9	13	77	9	13	77
Residential buildings		**1**			**1**		
	Support for energy-efficient new buildings	1	-	0,1	1	-	0,1
Total		**24**	**141**	**1727**	**50**	**210**	**2013**

Table 3.5: The table shows energy results and allocations within new energy and climate technology in 2014 and 2012–2014 distributed by market.

Looking at the agreement period overall, the industry area received the most support. The spread between markets based on the distribution of projects is relatively good. The projects cover a broad range from industry to residential buildings. Table 3.6 provides an overview of the ten largest projects supported by Enova in 2014.

All of the technology projects often have relatively modest energy results compared to the support they receive. Untested and immature technology will usually be significantly more expensive that standard solutions. The support need will therefore also be higher than for projects based on well-tested technology. The total, direct energy result of 210 GWh is thus modest compared with the total support of NOK 2 billion. However, these projects are expected to result in long-term ripple effects and positive effects for the climate and value creation.

Enova believes the portfolio contains new and exciting energy and climate technology projects. The project owners say it is challenging to obtain risk capital, but we find that the response to the programmes offered has been good. The market is willing to be innovative, and we believe there are still many good ideas out there for new technology projects that will be realized going forward.

TABLE 3.6 TEN LARGEST PROJECTS WITHIN NEW ENERGY AND CLIMATE TECHNOLOGY 2014, MEASURED BY AWARDED SUPPORT

Project	Company	Market	Programme	Contractual energy result (GWh)	Contractual support (MNOK)
HAL4e Pilot Plant	Hydro Aluminium AS	Industry	Support for new energy and climate technology in the industry	96,0	**1 555,0**
EnPro Pilot Plant Project	Enpro AS	Industry	Support for new energy and climate technology in the industry	6,8	**40,0**
Low energy hospital LHL clinics	Gardermoen Campus Utvikling AS	Non-residential buildings	Support for energy-efficient new buildings	4,9	**29,9**
Energy optimization of production process	Nutrimar AS	Industry	Support for new energy and climate technology in the industry	7,5	**18,5**
Wergelandsveien 7 – Rehabilitation of façade	Wergelandsveien 7 ANS	Non-residential buildings	Support for new technology in buildings of the future	1,2	**16,2**
New Munch museum	City of Oslo	Yrkesbygg	Støtte til energieffektive nybygg	2,1	**13,4**
Kulturbyggene i Bjørvika	Non-residential buildings	Support for energy-efficient new buildings	Støtte til energieffektive nybygg	1,7	**11,4**
New energy-efficient addition to UNIL	Våler Distribusjonslager AS	Non-residential buildings	Support for energy-efficient new buildings	0,7	**7,7**
Demonstration plant for 3D printing of titanium	Norsk Titanium AS	Industry	Support for introduction of new technology	1,1	**5,4**
Sweco building	Fantoft Utvikling AS	Non-residential buildings	Support for energy-efficient new buildings	0,7	**4,6**
Brynsengfaret school	Undervisningsbygg Oslo KF	Non-residential buildings	Support for energy-efficient new buildings		

Table 3.6: The table shows the ten largest projects within new energy and climate technology 2014, measured by contractual support.

Table 3.7 presents key information on every project that Enova supported within new energy and climate technology in 2014, distributed by market. The table shows the projects' climate results from reduced process emissions, and reduced use of fossil energy carriers. The table provides a picture of the domestic results.

Appendix C provides exhaustive information about Enova's total project portfolio within new energy and climate technology for the period 2012–2014, including information about the projects' expertise development, spread potential and international impact.

TABLE 3.7 PROJECTS WITHIN NEW ENERGY AND CLIMATE TECHNOLOGY 2014

PROJECT OWNER	PROJECT DESCRIPTION	SUPPORT AWARDED (NOK)	PROJECT'S ENERGY RESULT (KWH/YEAR)
Renewable power			
Gjøvik, Land og Toten Interkommunale Avfallsselskap IKS	Energy utilization of landfill gas with installation of five stirling engines at Dalborgmarka Miljøpark	1 400 300	486 000 Production of power and heating
Non-industrial plants and facilities			
Norwegian Public Roads Administration Region South	Installation of intelligent lighting system in the Gvammen/Århus tunnel. Traffic is registered using a camera, and light zones are activated and follow the car through the tunnel	499 920	114 066 Improving energy efficiency
Industry			
Enpro AS	Technology to reduce energy consumption and greenhouse gas emissions through use of CO_2 from impure exhaust in production of industrial mineral products. The pilot will be installed at BKK's plant outside Bergen	40 000 000	6 800 000 Energy efficiency
Moelven Mjøsbruket AS	Rehabilitation and isolation of drying plant for timber at Moelven Mjøsbruket in Gjøvik	443 121	529 400 Energy efficiency
Hydro Aluminium AS	Construction of an industrial pilot on Karmøy for next generation energy-efficient primary aluminium production based on a new technological platform, called HAL4e	1 555 000 000	96 000 000 Energy efficiency
Elkem AS Bremanger	Pilot facility for dry classification in silicone production at Elkem in Bremanger	3 825 025	13 555 100 Energy efficiency
Nutrimar AS	Energy optimization of production process for processing offal from salmon at Nutrimar on Frøya	18 500 000	7 500 000 Energy efficiency and conversion from oil
Rørosmeieriet AS	CADIO energy system with CO_2 as the cooling medium will be installed at Rørosmeieriet	1 577 500	471 000 Energy efficiency
Norsk Titanium AS	Demonstration plant with two machines for 3D printing of titanium at Norsk Titanium in Ringerike	7 715 700	747 000 Energy efficiency
Buildings			
Orkla Elektronikk Lomundal	Solar roofing on villa rooftops in Orkdal	80 242	1 195 Production of power
Kjeldsberg Sluppen ANS	Sluppenveien 17bc (offices) in Trondheim will be erected with high ambitions, including several innovative energy solutions	737 000	187 000 Energy efficiency
Fantoft Utvikling AS	A combined retail building and office building in Bergen is being built with high energy ambitions: 50% lower delivered energy compared with energy label A (will be rented to Sweco and Meny)	5 400 000	1 099 429 Energy efficiency, as well as production of power
NG Kiwi Oslo Akershus AS	New Kiwi shop in Nes, Akershus, with several technical solutions that will be coordinated to run the shop, and also achieve a passive house standard	3 328 170	502 658 Energy efficiency, and production of power and heating
Norwegian Defence Estates Agency (OSLO)	Construction of a zero energy office building (according to SINTEF ZEB's requirements), "Haakonsvern" in Bergen, through optimization of technical solutions	2 350 000	273 396 Energy efficiency, and production of power and heating
Bjørkheim Senter AS	Construction of low energy business building with grocery shops and residential block in Samnanger. New solutions for interaction between cooling and heating system in addition to utilization of seawater	3 000 000	352 127 Energy efficiency, and production of heating
Gardermoen Campus Utvikling AS	Construction of ambitious low energy hospital in Ullensaker, for rent to LHL, with energy rating A	29 900 000	4 882 200 Energy efficiency
City of Oslo Kulturbyggene i Bjørvika	A new Munch museum will be built in Oslo with a passive house standard, with new solutions for solar screening and technical systems	13 391 000	2 060 157 Energy efficiency
Våler Distribusjonslager AS	Expansion of storage building with extensive measures on energy supply, advanced technical systems and optimal management of these	11 427 800	1 705 639 Energy efficiency, and production of power, heating and cooling
Entra Eiendom	Papirbredden 3 in Drammen: new 7-floor office building with energy demand below "passive house level" and 0% heating supply based on fossil fuels or direct electricity	3 393 441	869 803 Energy efficiency, and production of cooling
Undervisningsbygg Oslo KF	New primary school (Brynsengfaret skole) in Oslo with ambitious environmental and energy goals. Energy need will be reduced beyond regulatory requirements, as well as production of electricity for own use	4 556 000	660 386 Energy efficiency, and production of power and heating
Bergen municipality	Rehabilitation of Varden school in Bergen: "State of the art" energy system using multiple renewable energy sources	551 802	60 000 Energy efficiency, and production of power and heating
Wergelandsveien 7 ANS	Rehabilitation of Wergelandsveien 7 in Oslo: Reduction of real energy use in commercial buildings through a newly developed, innovative façade (Qbiss)	16 212 000	1 180 000 Energy efficiency
Haram municipality	Construction of a care centre in Haram municipality where both construction and energy use must fulfil the requirements according to NS3701 as a minimum	3 400 000	1 251 741 Energy efficiency, and production of power and heating
Residential buildings			
Mikkelsen, Geir	Construction of a house in Larvik. The house will deliver more electricity to the grid than it uses over one year, through electricity production from solar cells	115 600	16 284 Energy efficiency, and production of power and heating

PROJECT'S CLIMATE RESULT IN NORWAY (KG CO_2e/YEAR)	INNOVATION
56 358 Conversion from oil	• Stirling engine can handle polluted landfill gas • Can be run with landfill gas with a methane content down to 18%
0	• Connection of two familiar technologies; AID cameras and dimming system for LED lighting systems • Light level in the tunnel controlled based on need using AID cameras, where lighting zones are activated when there is traffic and follow the car through the tunnel • The lighting level will be reduced to 10% when there is no traffic
14 400 000 Reduced emissions compared with best available technology	• Use of CO_2 from industrial exhaust with a concentration of 4-5% • No other impurities than CO_2 are collected during the process • Production of superior mineral products • Known elements individually, composed in a new way • Patent for technology has been applied for
0	• New method for maintenance of timber dryer with concrete structures • New type of isolation (polyurethane) is sprayed on all outer walls/ceiling of the dryer followed by flexible sealing layer
7 000 000 Reduced process emissions	• New design of technological platform for aluminium production with low energy consumption, high production efficiency and low environmental impact • New principles for cathode design • Several technology elements have been patented • Larger cells and increase in electricity strength and productivity
0	• Verification of technology for dry classification of silicone products • Energy use is reduced in relation to delivered end product per produced unit • Opens for a superior product, and more new products
2 272 500 Conversion from oil to LPG gas	• Known technologies are put together and used in new ways to optimize the production process • Production of more superior end-products
142 713 Oil reduction	• New type of plant with CO_2 as working medium; can also deliver hot water in addition to cooling • CO_2 enables achieving large temperature differences on the warm side • In combination with propane, the plant will also be efficient at high temperatures
0	• Reduced use of titanium and need for machining • Goal for pilot to become the first commercial 3D printer for major, complex titanium components • Enables local production with few process steps, as well as lower energy use through less waste • Several patents related to the concept
0	• Building-integrated solar cells in roofing with natural cooling of the solar cells • Installation of measurement station for solar radiation, to measure efficiency
0	• Thermal covers to improve the indoor climate while also reducing energy use and power draw • Covers cast in place provide the possibility of increasing the capacity of energy storage through cast-in water pipes • For added energy, a combined heat pump/cooling machine to provide heating and cooling from outdoor air is used
0	• Interaction between all components and building parts, where energy efficiency is an important focus (e.g. needs-based ventilation solution with exchanger, adiabatic cooling for reduced cooling need, utilization of waste heat between the two building parts)
0	Passive house level supported by Enova, as well as: • Combination and coordination of technical solutions, such as building-integrated solar cells, aerogel panels and light management, and utilization of waste heat
0	• Unique interaction between the best available passive measures in combination with optimized technical solutions and own production of energy (e.g. the orientation of the building, solar screening, solar cell system) ensure a delivered energy figure down to 16 kWh/m2
0	• LED lighting in grocery shop and rental area • Comprehensive solutions in interaction through use of seawater collectors, recovery of waste heat from the grocery shop, as well as use of energy-efficient equipment
0	Sum of multiple technical solutions: • Ventilation system divided by façade • Detailed, coordinated room management logic • Energy-efficient cross flow heat exchangers with separated air flows • One-pipe system for heating and cooling • Low temperature heating and "high temperature" cooling • Directly cooled, energy-efficient hospital equipment
0	Meets requirements for energy efficiency, greenhouse gas emissions, as well as storage of art • Division into zones according to the building's function and need • Airborne heating and cooling with a high level of heat recovery • Use of low emission materials • Electricity-producing lift, and energy-efficient escalators • Innovative solutions for solar screening
0	Combination of various measures and a high degree of energy self-sufficiency: • Large solar cell system in combination with large freezer installations • Utilization of excess heat from freezer installations * Heat recovery unit with 85% recovery
0	Combination of solutions to fulfil requirements beyond the passive house level: • Heating from heat pump and energy wells • Heat recovery unit • Measures to satisfy thermal conditions without using mechanical cooling • Special measures to reduce internal load • Direct use of well water for comfort cooling
0	Combination of solutions to achieve high energy goals: • Façade-integrated solar cell panels • Liquid-to-water heat pump with energy well for heating production, as well as free cooling • Placement of sports centre on the roof • Aerogel walls in the sports centre
0	Energy system that combines several renewable energy sources: • Hybrid solar collector/solar cell panel (PVT) in synergy with heat pump with a well as the heat source
0	• Façade system with up to seven layers of glass/aluminium in a framework • Pressure equalization system that reduces the impact from physical forces, particularly temperature variations • Increased isolation effect through reflective isolation • Qbiss is a new element façade with very good U-values compared to the thickness of the façade elements
0	Comprehensive solution with known technology composed in new ways to achieve ambitious energy goals: • Water-to-water heat pump connected to discharge air and energy wells • Solar heat collector for e.g. heating tap water • Fans and ventilation with need management
0	• Known technology is to some extent put together in new ways • Ventilation system with heat pump for heating ventilation air and tap water. Heating of supply air via ventilation duct in the ground. This will also provide "free" cooling during summer

Table 3.7: The table shows projects within new energy and climate technology supported in 2014.
The approved support amount and pledged energy result have been corrected according to the final reported result.

In-depth reporting

Energy results

The contractual energy result is an estimate of what the annual energy results are expected to be when the supported project is completed. Completing a major project can take several years, and the results from the project are recorded in the year the support is granted. This provides quicker reporting and enables closer follow-up of Enova than waiting until the projects are complete. The energy results are then updated as the projects are completed.

Some of the projects approved in 2014 were cancelled over the course of the year. As shown in Table 3.8, 1 699 GWh were pledged in 2014, while projects totalling 10 GWh were not carried out as planned. The total contractual energy result at the end of 2014 thus ended at 1 689 GWh. The funds are released in the Energy Fund upon cancellation, and can be recycled as support for new projects.

When a project is completed, a final report is prepared, containing an updated prognosis of the project's expected annual energy and climate result. Of the projects with which contracts were signed in 2014, few were completed by the end of the year. The completed projects that were supported in 2014 constitute about 9 GWh, and there is little difference between the contractual and final reported energy and climate result for these projects.

There is somewhat greater fluctuation in the project portfolio for 2012–2014. As a result of cancellations, the contractual energy result was reduced by eight per cent from 4 739 GWh to 4 338 GWh. Furthermore, there have been some corrections in final reporting of projects, so the contractual energy result corrected for final reported results is 4 327 GWh for the project portfolio.

TABLE 3.8 ENERGY RESULTS 2012–2014 DISTRIBUTED BY MARKET

	2014			2012-2014		
	Gross contractual result	Contractual result	Contractual corrected for final reported result	Gross contractual result	Contractual result	Contractual corrected for final reported result
Market	GWh	GWh	GWh	GWh	GWh	GWh
Renewable heating	341	341	341	1 109	981	981
Renewable power	0,5	0,5	0,5	15	15	14
Industry	932	928	928	1 897	1 862	1 852
Non-industrial plants and facilities	32	32	32	69	67	67
Non-residential buildings	330	329	329	1 448	1 296	1 295
Residential buildings	65	59	59	201	117	117
Total	**1 699**	**1 689**	**1 689**	**4 739**	**4 338**	**4 327**

Table 3.8: The table shows the contractual energy result (in GWh) distributed by market, both before and after correction for cancelled and final reported projects. The "Contractual results" column shows the energy result by the end of 2014 corrected for cancellations.

Funding level

An important precondition for use of investment support is that the instrument is cost-efficient. Enova should get the most value in the form of kWh for the support it provides. The support is measured by support per energy result (NOK/kWh). For energy projects in particular, the funding level is an important assessment criterion. For new energy and climate technology projects, the goal of the support is that the projects will contribute to reducing greenhouse gas emissions and support the development of restructuring of energy end-use and energy production in the long term, through developing and utilizing new technologies and new solutions that can contribute to this. For technology projects, expertise development, potential applications and innovation are more relevant assessment criteria than the funding level.

Funding for a project is calculated based on what is necessary to ensure the project is completed. If the project is considered profitable, it does not need support to be implemented. If the project is very unprofitable, it will need a high funding level. Enova prioritizes projects that require the least possible support per energy result, and ensures cost efficiency by rejecting the most unprofitable projects.

Overall, the funding level for energy projects declined in 2014, compared with 2013. This is mainly due to structural changes, and it is our experience that the cost level is stable and increasing for comparable projects. The industry projects are most cost-efficient, but the funding level increased somewhat in relation to 2013. The energy management projects in particular have a very low funding level, and these projects constitute a lower share in 2014 than the preceding year.

The funding level for non-residential buildings projects declined from NOK 1.46/kWh to NOK 1.06/kWh after the support for passive and low energy buildings was discontinued at the end of 2013.

The funding level for residential buildings projects was also reduced compared with 2013. Support for existing buildings has contributed cheaper energy results in 2014 than the previous support for passive and low energy buildings.

Overall, renewable heating remained at the same funding level in 2013 and 2014. The funding level for renewable heating projects increased by 1 per cent, but an increased share of biogas projects pulls the funding level down.

The funding level for projects in non-industrial plants and facilities increased somewhat in the period 2012–2014, but the scope has been less than 20 projects per year. It is therefore natural that the funding level varies from year to year.

TABLE 3.9 FUNDING LEVEL WITHIN THE ENERGY FUND 2012–2014 (EXCL. NEW ENERGY AND CLIMATE TECHNOLOGY)

		2012		2013		2014		2012-2014	
		Distributed by contractual energy result	Lifetime-adjusted	Distributed by contractual energy result	Lifetime-adjusted	Distributed by contractual energy result	Lifetime-adjusted	Distributed by contractual energy result	Lifetime-adjusted
	Average lifetime	NOK 0.01/kWh		NOK 0.01/kWh		NOK 0.01/kWh		NOK 0.01/kWh	
Renewable heating	20 år	93	4,7	117	5,8	112	5,6	109	5,5
Industry	15 år	92	6,1	58	3,9	68	4,5	73	4,9
Non-industrial plants and facilities	15 år	56	3,7	80	5,3	100	6,6	81	5,4
Non-residential buildings	15 år	103	6,9	146	9,8	106	7,1	119	7,9
Residential buildings	15 år	204	13,6	400	26,7	175	11,6	238	15,9
Total		**98**	**6,1**	**117**	**6,8**	**90**	**5,4**	**101**	**6,1**

Table 3.9: The table shows the funding level distributed by contractual annual result, as well as funding level measured over the average lifetime. The results are corrected for cancelled projects. Projects within new energy and climate technology are not included in the table.

The average support need for Enova overall has increased, and the most important reason is the composition of projects supported by Enova. Projects focusing on innovation and technology development are usually significantly more expensive than projects involving more mature technology. Such projects vary widely, and the average funding level will vary from year to year. The average funding level for technology projects was NOK 12.22/kWh in 2014, while the corresponding level for the projects from 2012 and 2013 was NOK 4.11/kWh.

Enova looks at cost efficiency distributed over the project's lifetime. This makes it easier to compare projects with widely varying lifetimes. The longer a project's lifetime, the more years over which support can be distributed. Table 3.9 uses average lifetimes for the various markets as a basis. In the same way as there could be significant variation in funding level between projects in the same market, lifetime could also vary widely. The lifetime is included to illustrate annual levels.

The general scenario is also the same when taking into account the lifetime of projects. The energy projects supported in 2014 are cheaper than in 2013, and the industry projects are still the most cost-efficient. This is primarily due to structural changes, and Enova finds that the cost level is stable and increasing for comparable projects.

Energy results by project category

The projects supported by Enova can be split into four categories: production, energy efficiency, distribution and conversion.

The majority of the energy result in 2014 comes from energy efficiency projects. These are projects with the goal of increasing the efficiency of end users' energy use, either in the form of reduced energy use or as reduced specific energy use per produced unit. This type of project constitutes 57 per cent (964 GWh) of the overall energy result in 2014.

Production projects include all projects where electricity or renewable heating are produced, either for sale or internal use. Establishment and expansion of district heating plants entails development of new infrastructure, and these projects are characterized as distribution projects. The conversion projects are projects where the energy carrier is changed from electricity or fossil energy carriers to renewable energy carriers based on, for example, bioenergy.

TABLE 3.10 ENERGY RESULT 2014 DISTRIBUTED BY PROJECT CATEGORY

Market	Energy efficiency	Production	Distribution	Conversion
	GWh	GWh	GWh	GWh
Renewable heating	5	103	197	36
Renewable power	0,3	-	-	0,2
Industry	648	200	-	80
Non-industrial plants and facilities	30	-	-	1
Non-residential buildings	264	2	-	63
Residential buildings	18	-	-	41
Total	**964**	**305**	**197**	**222**

Table 3.10: The table shows contractual energy results in 2014 distributed by project category and market. The figures are corrected for cancelled projects.

FIGURE 3.4 RESULTS 2014 DISTRIBUTED BY PROJECT CATEGORY

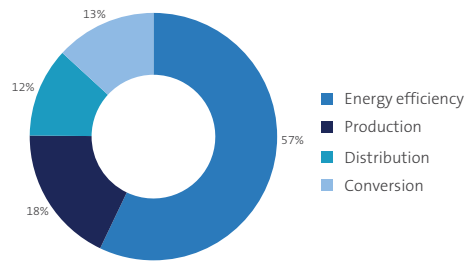
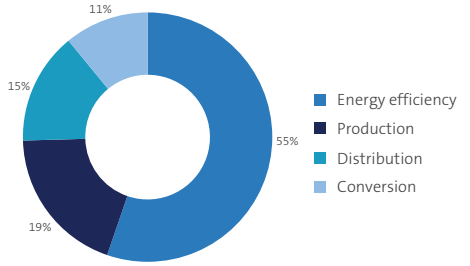


Figure 3.4: The figure shows contractual energy results in 2014 distributed by project category. The figures are corrected for cancelled projects.

FIGURE 3.5 RESULTS 2012–2014 DISTRIBUTED BY PROJECT CATEGORY



The figure shows contractual energy results in 2012–2014 distributed by project category. The figures are corrected for cancelled projects.

Energy efficiency has represented more than half of the energy result every year since 2012. The scope of production projects was high (34 per cent) in 2012 and low (5 per cent) in 2013. The distribution projects have counteracted the fluctuations in production projects and constituted about one-fourth of the energy result in 2013, but dropped to 12 per cent in 2014. The scope of conversion projects has increased steadily since 2012, and helps balance out the shares between project categories.

Figure 3.4 and Figure 3.5 show that the distribution between project categories for the 2014 projects is quite similar to the overall distribution in the project portfolio in recent years. As the project portfolio increases year by year, these shares tend to stabilize.

Results distributed by renewable energy sources/carriers

Table 3.11 shows the energy result within production, distribution and conversion, distributed by energy carrier. Overall, the energy result is 725 GWh. Increased use of bioenergy, mainly chips, represents the largest share, with 400 GWh. After this comes use of waste for heat production and utilization of waste heat, with 95 GWh each. Both energy carriers saw strong increase compared with 2013, with quadrupled and doubled energy results, respectively. The energy result from conversion to heat pumps declined by half compared with 2013.

TABLE 3.11 ENERGY RESULTS WITHIN PRODUCTION, DISTRIBUTION AND CONVERSION DISTRIBUTED BY ENERGY CARRIER

Energy carrier	Energy result (GWh)
Energy from waste incineration	95
Bioenergy	400
Biogas	*0,2*
Biomass	*98*
Chips	*280*
Pellets	*21*
Other bioenergy	*0,2*
Waste heat	95
Heat pump	84
Geothermal	0,5
Solar	1
Other renewable	50
Total	**725**

Table 3.11: The figure shows energy results within production, distribution and conversion distributed by energy carrier.

Portfolio composition

Three development trends characterize portfolio composition in 2014. Firstly, Enova has supported a very large number of projects, which could indicate an increasing focus on energy and climate measures. Secondly, market players have shown greater willingness to initiate major energy projects, after there were fewer such initiatives in 2013 and a previously supported project was cancelled. Thirdly, we can see in 2014 that support for one single project within innovation and technology development dominates the portfolio distribution with regard to allocated support.

The portfolio of projects supported by Enova is complex. If we categorize projects according to size of energy result, the portfolio looks quite different than if we were to look at energy result, allocated support or number of applications.

The largest number of applications consists of projects with an energy result of less than 1 GWh. This group constitutes 85 per cent of the application volume and 8 per cent of the energy result in 2014.

The energy result is much more evenly distributed in the portfolio, and about two-thirds of the energy result comes from the group of projects between 1 and 50 GWh. The very largest projects measured by energy result are very significant for the overall energy result in each year. It takes a very large number of small projects to compensate for one single project of more than 100 GWh.

Contractual support usually follows the distribution of the energy result quite closely. In 2014, however, the individual project that received the most support weighs so heavily that it dominates the portfolio composition. This means that the group of projects between 50 and 100 GWh received the largest share of support funds in 2014, and the same group is also largest if we consider the entire portfolio from 2012 to 2014.

Figures 3.6 and 3.7 illustrate the major differences in portfolio distribution when looking at the number of projects, energy result and support allocation. This applies both for the 2014 portfolio and 2012–2014 overall.

FIGURE 3.6 PROJECTS 2014 DISTRIBUTED BY SIZE

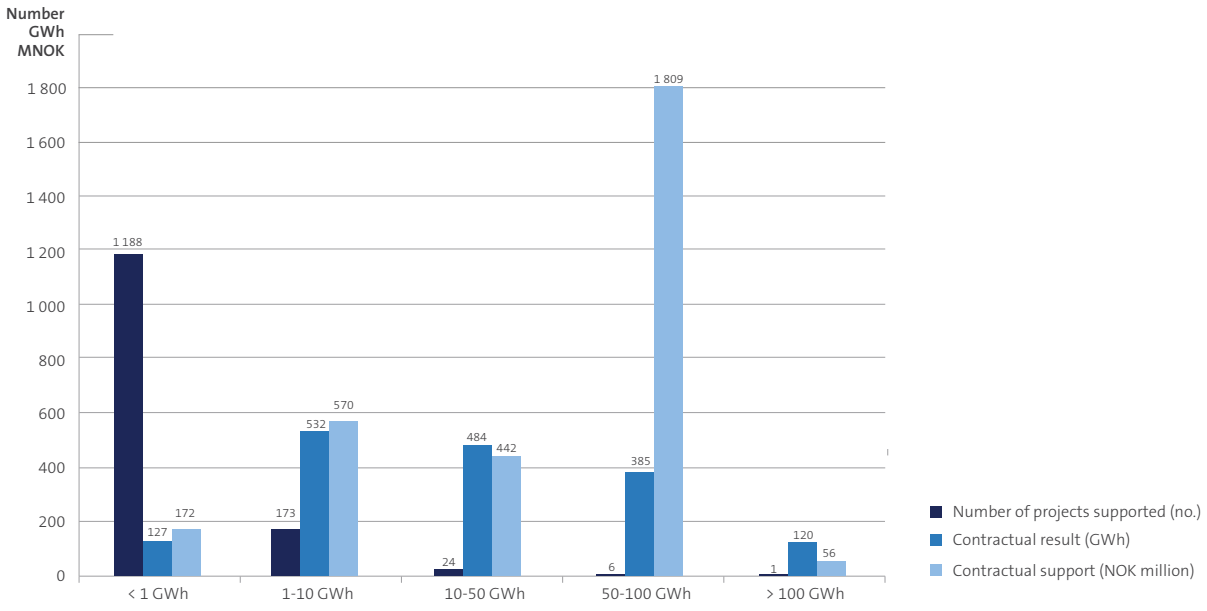


Figure 5.5: The figure shows distribution of projects entered into in 2014 grouped by project size in GWh. Energy measures in residences are not included in this overview.

FIGURE 3.7 PROJECTS 2012–2014 DISTRIBUTED BY SIZE

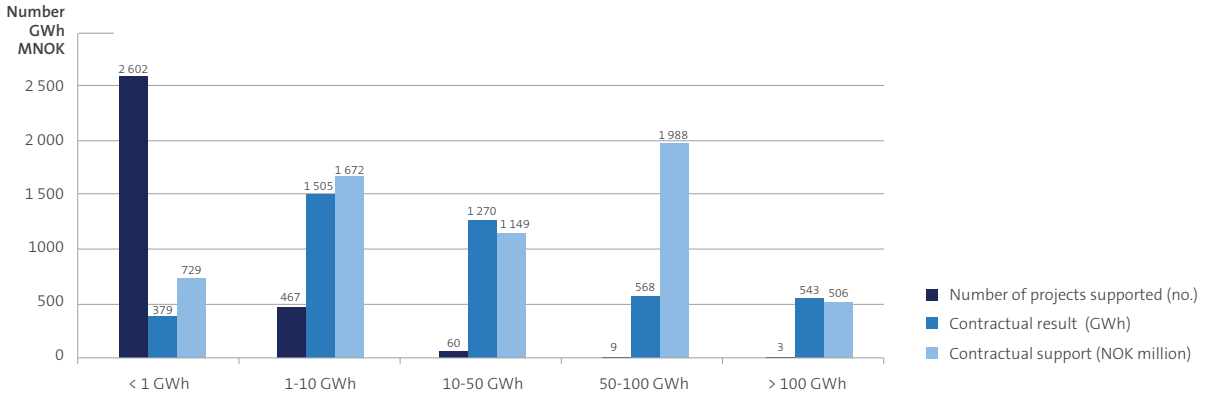


Figure 3.7: The figure shows distribution of projects entered into in 2012 through 2014 grouped by project size in GWh. Energy measures in residences are not included in this overview.

Enova supported about 1 400 projects in 2014, of which about 85 per cent are less than 1 GWh. The majority of the smallest projects belong under the residential buildings area. Energy measures in residences are not included here, and constitute about another 4 500 projects. The residential buildings market can be characterized as a mass market, and Enova handles a vast volume of applications. Individually, these represent relatively small energy results, but they are important to get individuals involved and to make an effort to conserve energy and help solve the climate challenge we are facing. Measured by energy result, this group of projects corresponds to about one of the largest industry projects.

There is a correlation between the size of the projects and implementation time of the projects. Small projects have a significantly shorter implementation time than major projects. Small projects are generally related to energy management and minor measures in residences, non-residential buildings and industry, while larger projects involve extensive engineering and investments in major physical measures. These naturally take longer to complete.

The small projects have an expected end date on an average of 1 year after the approval date. Overall, 93 per cent of the projects approved in 2014 are expected to be finalized by the end of 2016. These constitute about 60 per cent of this year's contractual energy result and about 30 per cent of this year's allocated support.

Looking at the entire project portfolio for 2012–2014, 95 per cent of the projects are expected to be finalized by the end of 2016. These projects constitute 70 per cent of the energy result and just over 50 per cent of allocated support.

Enova wants the supported projects to be carried out as quickly and efficiently as possible. Quick implementation reduces the risk of external factors changing with a resulting negative impact on the projects.

FIGURE 3.8 PROJECTS 2014 DISTRIBUTED BY CONTRACTUAL FINAL DATE

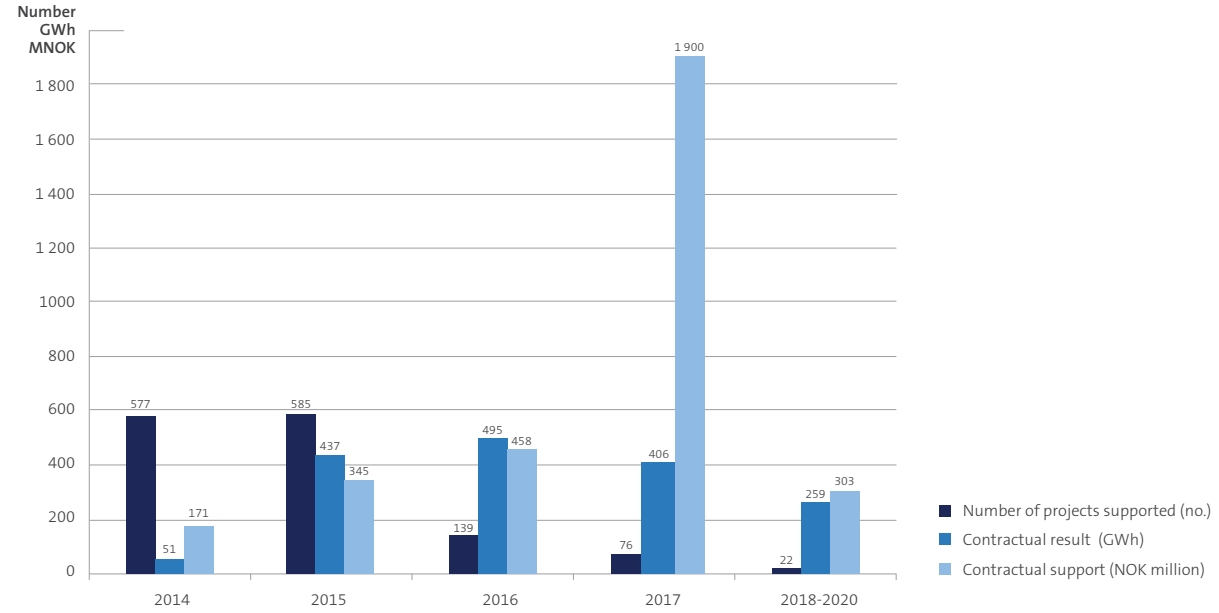


Figure 3.8: The figure shows distribution of projects entered into in 2014 distributed by the project's contractual final date. Energy measures in residences are not included in this overview.

FIGURE 3.9 PROJECTS 2012–2014 DISTRIBUTED BY CONTRACTUAL FINAL DATE

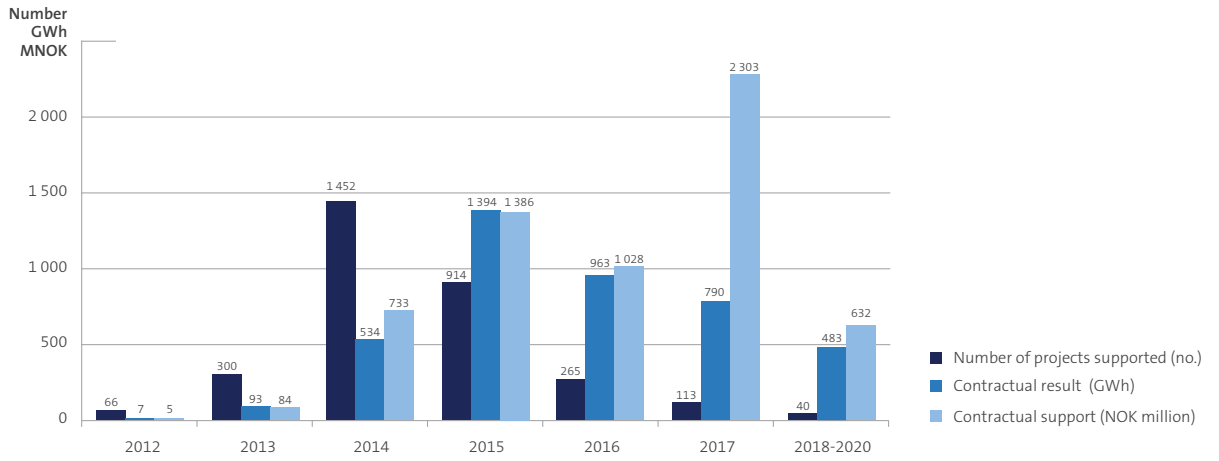


Figure 3.9: The figure shows distribution of projects entered into in 2012–2014 distributed by the projects' contractual final date. Energy measures in residences are not included in this overview.

Figure 3.10 shows the development in the number of received applications for the years 2012 to 2014. We see that the number of applications from 2012 to 2013 grew significantly, and that the influx of applications declined somewhat in 2014.

Table 3.12 shows an overview of the applications submitted to Enova in 2014. There were a high number of project applications for investment support in 2014, but somewhat fewer applications for support for energy measures in residences. However, we expect this to pick up in 2015 as a result of establishment of Enovatilskuddet. Enova received and processed a total of about 6 200 applications in 2014 and a total of about 5 900 support decisions were made over the course of the year.

Most of the applications and decisions are related to energy measures in residences with more than 4 600 applications and nearly 4 500 decisions. Phase-out of oil boilers represented more than 40 per cent of the decisions, followed by support for central management systems with more than 20 per cent.

There is a natural explanation for the difference between the number of received and processed applications in a year. Applications received at the end of a year are rarely fully processed until the beginning of the following year. In other words, there is a displacement of case processing between years.

When applications are not granted support, it is usually due to one or more of the following causes:

- Projects are too profitable to support.
- Projects are too expensive to support.
- Projects fall outside the criteria for support.
- Projects are insufficiently documented.

Some applications are withdrawn by the project owner before they are processed. These projects are not included in the statistics.

Some of the applications that arrived late in 2013 were processed in 2014. The difference is therefore smaller for the number of applications processed, and a higher number of projects were supported in 2014 compared with 2013.

FIGURE 3.10 SØKNADER MOTTATT I PERIODEN 2012-2014

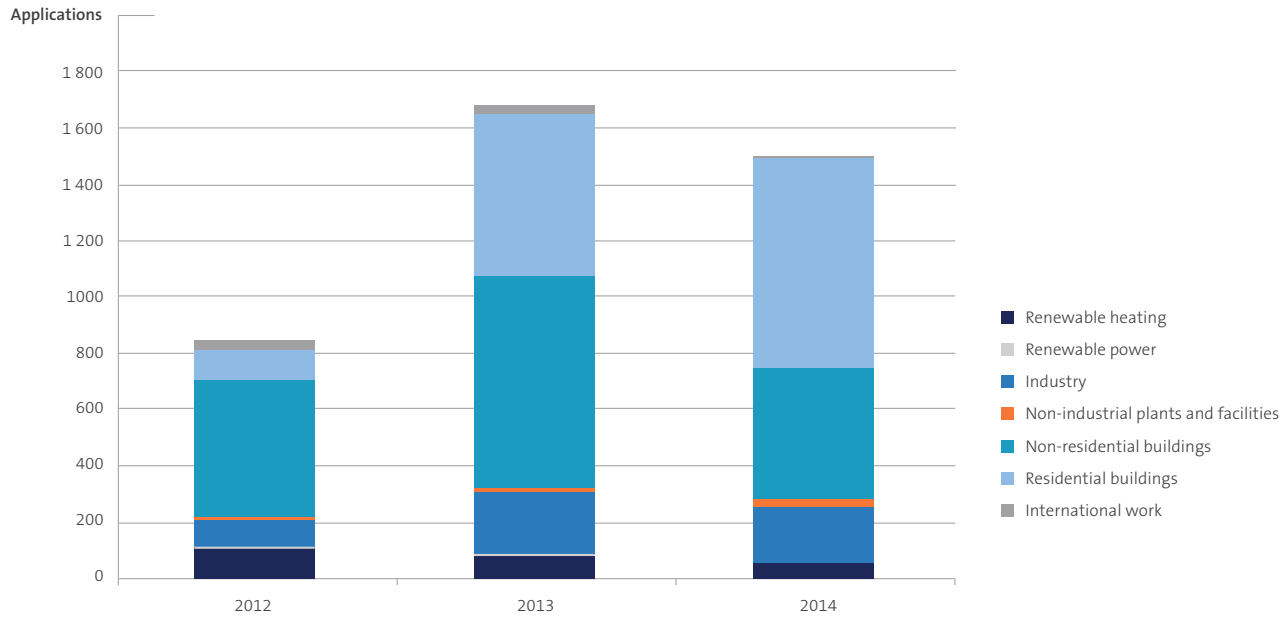


Figure 3.10: The figure shows the development in number of applications in the period 2012–2014 and the distribution between the various markets. Energy measures in residences have not been included in this overview. For this programme, Enova received 6731 applications in 2012, 7410 applications in 2013 and 4662 applications in 2014.

TABLE 3.12 ACTIVITY OVERVIEW ENERGY FUND 2014

Market area	Number of applications received	Number of applications received	Number of projects supported	Contractual energy result	Contractual support
	No.	No.	No.	GWh	MNOK
Renewable heating	**57**	**51**	**50**	**341**	**380**
Biogas	4	3	3	98	87
District heating	53	48	47	243	294
Renewable power	**1**	**1**	**1**	**0,5**	**1**
Support for introduction of new technology	1	1	1	0,5	1
Industry	**200**	**190**	**179**	**928**	**2174**
Support for energy measures in industry	70	64	63	566	471
Support for introduction of energy management in industry and plants and facilities	71	67	65	195	35
Support for new energy and climate technology in the industry	7	5	5	124	1618
Support for introduction of new technology	7	6	2	1	9
Heating plants industry	14	16	14	18	10
Heating plants expanded	12	11	10	25	20
Pre-project support for energy measures in the industry	19	21	20	-	12
Non-industrial plants and facilities	**29**	**22**	**20**	**32**	**32**
Support for energy measures in non-industrial plants and facilities	28	21	19	32	31
Support for introduction of new technology	1	1	1	-	-
Non-residential buildings	**470**	**507**	**437**	**329**	**430**
Support for existing buildings	226	230	226	297	312
Support for new technology for the future's buildings	6	4	4	2	21
Support for energy-efficient new buildings	15	9	9	13	77
Support for introduction of new technology	1	1	1	-	-
Heating plant expanded	15	14	11	6	6
Heating plant simplified	116	111	105	11	6
Mapping support buildings	91	100	81	-	8
Support for passive houses and low energy buildings[3]	-	38	-	-	-
Residential buildings	**5411**	**5446**	**5176**	**58**	**102**
Support for existing buildings	35	35	30	13	20
Support for energy-efficient new buildings private	4	4	1	-	-
Support for upgrading residences	107	95	89	4	9
Support for energy advising	603	623	590	-	3
The household subsidy programme	4662	4650	4466	41	70
Support for passive houses and low energy buildings[3]	-	39	-	-	-
International activities	**1**	**1**	**1**	-	-
IEA Pre-project support	1	1	1	-	0,1
Total	**6169**	**6218**	**5864**	**1689**	**3119**

Table 3.12: The table shows an overview of the number of applications received, processed (i.e.: a final decision on approval or rejection has been made), the number of projects supported1, as well as funds granted2 within applicable programmes and associated energy results2 in 2014. The table only shows support for applicable programmes and not allocations for other activities in the Energy Fund. Applications for the programme "Support for introduction of new technology" are distributed by market area based on the type of project.

1 The number of projects supported has been corrected for cancellations. This applies to 32 projects for the 2014 portfolio.

2 Awarded support and contractual energy results have been corrected for cancellations.

3 The programme was terminated in 2013 and therefore has no received applications or positive decisions in 2014.

Activities

Applications from private individuals

The programme *Support for energy measures in residences* which was launched in 2013 received a good response, in particular the support for phasing out oil boilers. The number of applications declined in 2014. We expect that the number of applications from private individuals will increase in 2015 as a result of the new rights-based subsidy programme, Enovatilskuddet.

The interest in support for private individuals for energy consultation increased in 2014. A positive result of this is that 15 per cent of the applicants who received approved support for energy advisory service and upgrades chose to take the next step for ambitious upgrades of their own residence.

FIGURE 3.11 DECISIONS WITHIN ENERGY MEASURES IN RESIDENCES, DISTRIBUTED BY TECHNOLOGY

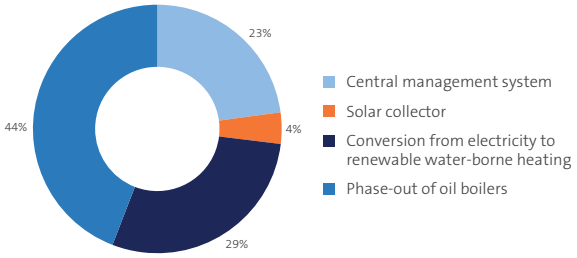


Figure 3.11: The figure shows the relative distribution of technologies/measures for the decisions within Energy measures in residences in 2014, distributed by number of measures.

TABLE 3.13 PROGRAMMES FOR PRIVATE INDIVIDUALS

Programmes	Purpose	Measurement parameter	Goal 2014	2012	2013	2014
				No.	No.	No.
Support for energy measures in residences	More efficient and flexible use of energy, increased use of other energy carriers than natural gas and oil for heating, increased use of new energy resources, energy recovery and bioenergy	Number of applications	6600 applications	6731	7410	4662
		Number of disbursements	*n/a*	3099	2704	2583
Support for energy advising[1]	More well-functioning markets for efficient energy, environmentally and climate-friendly solutions	Number of applications	1500 applications	-	326	603
Support for ambitious upgrade	More efficient and flexible use of energy	Number of applications	135 applications	-	32	107

The table shows Enova's programmes for private individuals, the purpose and goal figures for each programme, as well as their result in the period 2012–2014.

1 The Support for energy advising and Support for ambitious upgrade programmes were launched on 13 May 2013.

Programmes aimed at children and young people
In 2014, Enova initiated a new strategy for efforts aimed at children and young people. The work resulted in two changes. The Enova Rainmakers was discontinued after the 2013–2014 school year, and a new concept was developed in parallel with this, focusing on increasing knowledge, anchored in the current digital classroom education and competence goals in schools. Enova launched a web-based digital tool about energy and climate in December 2014. The target group is students and teachers in the upper primary level in primary and lower secondary school. Together with Ungt Entreprenørskap, Enova is also organizing the Enova entrepreneur competition "Energy for the future" for students in upper secondary school.

Advisory service for private individuals
Enova provides advisory service for private individuals, focusing on the need to acquire information at an early stage in the decision phase before a project and assistance with the application process.

TABLE 3.14 ACTIVITIES AIMED AT CHILDREN AND YOUNG PEOPLE

Activity	Purpose	Goal	Measurement parameter	School year 13–14	School year 14–15
Learning platform for use in school	Increased knowledge in society about the possibilities of using energy-efficient, environmentally and climate-friendly solutions	Five per cent (150) primary schools 2014–15	Number of schools using the Energy Challenge, Enova's learning tool about energy and climate	Rainmaker school: 61	Energy Challenge: 192
Enova's cooperation with Ungt Entreprenørskap "Energy for the future" gründercamp (entrepreneurship camp)	Increased knowledge in society about the possibilities of using energy-efficient, environmentally and climate-friendly solutions	2200 students in upper secondary schools	Number of students participating in county and national entrepreneurship camps	2449	3754

Table 3.14: The table shows activities within programmes aimed at children and young people.

TABLE 3.15 ADVISORY SERVICES FOR INDIVIDUALS

Activity	Purpose of the activity	Goal 2014	Result		
				2013	2014
Ask Enova	Nationwide information and advice via telephone, e-mail and online chat to support the goals of the Energy Fund	40 000	28 215	41 792	38 748
Page views per day on the website	Information about Enova's programmes for homeowners, and advice related to energy measures in residences	n/a	1 806	2 667	2 926

Table 3.15: The table shows advisory activities aimed at individuals. The number of page views on the website includes the sections on enova.no aimed at private individuals and the search portal for energy measures in residences (etib.enova.no).

Activities within communications and public relations

Enova's communication work is anchored in Enova's business strategy. The majority of communication activities have been directed at supporting new programmes vis-à-vis the professional market. It has been important to use communication as a tool to reinforce Enova's position as the force for restructuring of energy end-use and energy production in Norway.

"The Green Gold", the Enova conference, was held for the third time in January 2014, and was a successful continuation of previous years. About 700 participants from both the private and public sectors took part in the conference. Through the conference, we have succeeded in creating an arena for entities that are concerned with developing and establishing climate-friendly solutions.

Enova's investment in Hydro's pilot line on Karmøy in Rogaland County was the most popular news item in the media. Enova was also the subject of considerable attention regarding its new responsibility to reduce emissions within the transport sector, and the new rights-based programme for energy measures at home.

The annual knowledge and reputation survey showed that Enova has been successful in strengthening its reputation among professional market players. Overall knowledge of Enova is good, in the private and professional markets.

TABLE 3.16 ACTIVITIES WITHIN COMMUNICATION AND PUBLIC RELATIONS

	2012	2013	2014	Comments
Articles about Enova	3 344	2 636	3 140	The total number of mentions in 2014 increased by about 20 per cent compared to 2013. The funding commitment granted to Hydro's pilot plant on Karmøy and Enova's new rights-based support programme for homeowners (Enovatilskuddet) were subject to considerable attention.
Inquiries Ask Enova	40 152	49 062	46 124	Traffic was somewhat lower than in 2013. Main causes of the decline were less extensive campaign activities and support programmes under revision in the residential area in 2014. Relatively steady influx throughout the year.

Table 3.16: The table shows activities within communication and public relations. The number of articles about Enova includes mention of Enova in Norwegian broadcasting, digital media, as well as paper-based media. The number of inquiries to Ask Enova includes both the private and professional markets.

International activities

International activities are a learning arena for expertise sharing and exchange of experience. Through international cooperation, Enova shares experience and best practice and learns from other entities. We use this knowledge to prepare national policy instruments.

Enova is represented in multiple international forums:

- Participation in five of the *International Energy Agency's* (IEA's) management groups, so-called Implementing Agreements (IA) and projects organized by these
- Participation in the *European Energy Network* (EnR), a European network for Enova's sister organizations
- Participation and board membership in the *European Council for an Energy Efficient Economy* (ECEEE).

Table 3.17 provides an overview of IEA activities where Enova represents and/or contributes funds.

Enova provides support for the preparation of new projects for participation in the IEA's Implementing Agreements where Enova is a participant. The objective is to facilitate the establishment of additional IEA projects with Norwegian participation and leadership.

TABLE 3.17 INTERNATIONAL ACTIVITIES

IEA Implementing Agreements (IA) – representation by Enova	
IA	**IA Title**
IEA EEWP	IEA Energy Efficiency Working Party (EEWP)
END-USER TECHNOLOGIES (EUWP)	
EUWP 04	Heat Pump Programme (HPP)
EUWP 05	Demand Side Management (DSM)
EUWP 09	Industrial Energy-Related Technologies and Systems (IETS)
RENEWABLE ENERGY (REWP)	
REWP 16	Renewable Energy Technology Deplyment (RETD)
Bioenergy	
CS 22	IEA Bioenergy
IEA Tasks/Annexes - representasjon v/Enova	
Task/Annex	**Title**
IEA Bioenergy Task 40	Sustainable International Bioenergy Trade - Securing supply and demand
IEA HPP Annex 37	Measurment of of heat pump systems in buildings
IEA HPP Annex 40	Heat pump concepts for near zero-energy buildings
IEA DSM Task 23	The Role of Customers in Delivering Effective Smart Grids
IEA DSM Task 24	Closing the loop - Behaviour change in DSM, from theory to policies and practice
IEA IETS Annex 15	Industrial Excess Heat Recovery
IEA IETS Annex 16	Energy Efficiency in SMEs
Other IEA	**Project title**
IEA's information centre AIVC	Partaking in IEA's information centre AIVC – Air Infiltration & Ventilations Centre on Norway's behalf
Other International (apart from IEA and IEE)	
Forum	**Title**
ECEEE	European Council for an Energy Effeicient Economy
EnR	European Energy Network
ISO (International Organization of Standardization)	Strategic Advisory Group on Energy Efficiency

Table 3.17: The table shows an overview of IEA activities and other forums where Enova represents and/or contributes financing.

Geographical distribution and the largest projects

Over the course of 2014, Enova supported about 1 400 projects[7] distributed across all of Norway. The number of projects within each county varies, from one single project on Svalbard to 147 projects in Akershus.

The county distribution for support from Enova in 2014 is dominated by the allocation to Hydro Aluminium on Karmøy in Rogaland. The distribution of energy result and number of projects largely reflects population density and financial activity in the various counties.

Sør-Trøndelag, Møre og Romsdal and Troms counties received support for a relatively high number of projects in 2014. Vest-Agder County has relatively few supported projects in 2014. The distribution of number of projects in 2014 largely corresponds with the distribution for the period 2012–2014.

There is a somewhat larger spread between energy results than for number of projects. The projects from Hordaland County and Sør-Trøndelag County contributed relatively high energy results in 2014, while projects from Oslo contributed somewhat lower energy results compared with previous years.

In addition to the county-specific projects, there is a group of projects categorized as nationwide projects. These are projects involving measures in two or more counties. Examples of this include projects related to increasing energy efficiency in non-residential buildings, Sektor Gruppen AS and Entra Eiendom AS, and that stand out as these projects involve measures in several buildings all over the country. There were 16 such projects in 2014, with an energy result of 74 GWh.

FIGURE 3.12 ENERGY RESULT AND SUPPORT WITHIN THE ENERGY FUND 2014 – DISTRIBUTED BY COUNTY

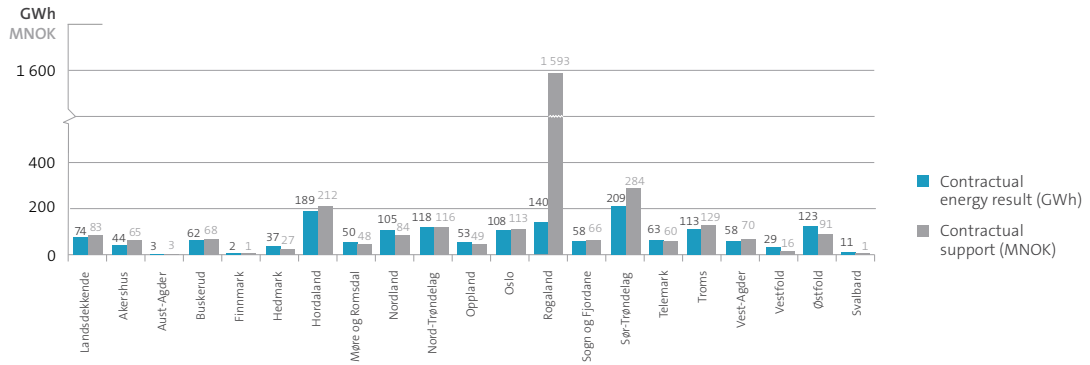


Figure 3.12: The figure shows contractual results and contractual support in 2014 distributed by county. Projects that are characterized as "nationwide" apply to projects that involve measures in two or more counties. Energy measures in residences are not included in this overview.

FIGURE 3.13 ENERGY RESULT AND SUPPORT WITHIN THE ENERGY FUND 2012–2014 – DISTRIBUTED BY COUNTY

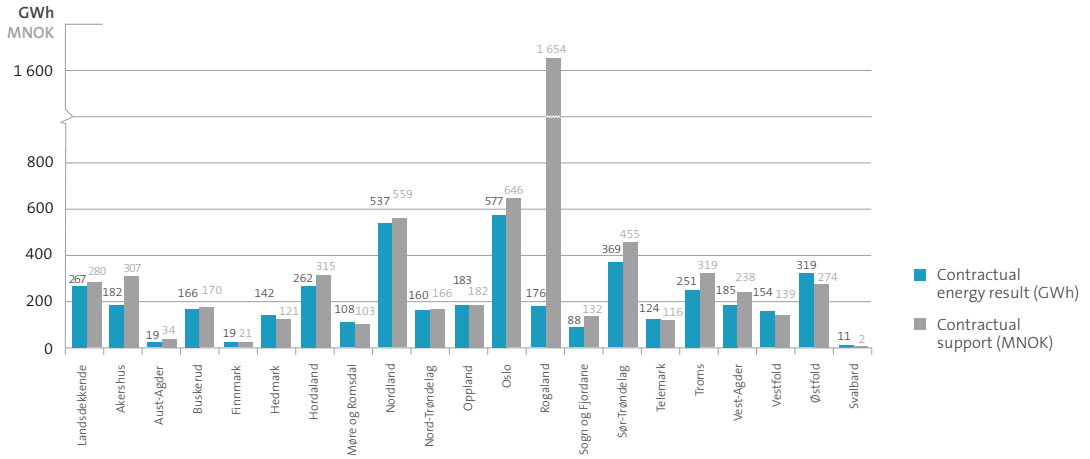


Figure 3.13: The figure shows contractual results and contractual support in 2012–2014 distributed by county. Projects that are characterized as "nationwide" apply to projects that involve measures in two or more counties. Energy measures in residences are not included in this overview.

7 Enova also supported about 4 500 energy measures in residences in 2014.

FIGURE 3.14 NUMBER OF PROJECTS SUPPORTED WITHIN THE ENERGY FUND IN 2014 – DISTRIBUTED BY COUNTY

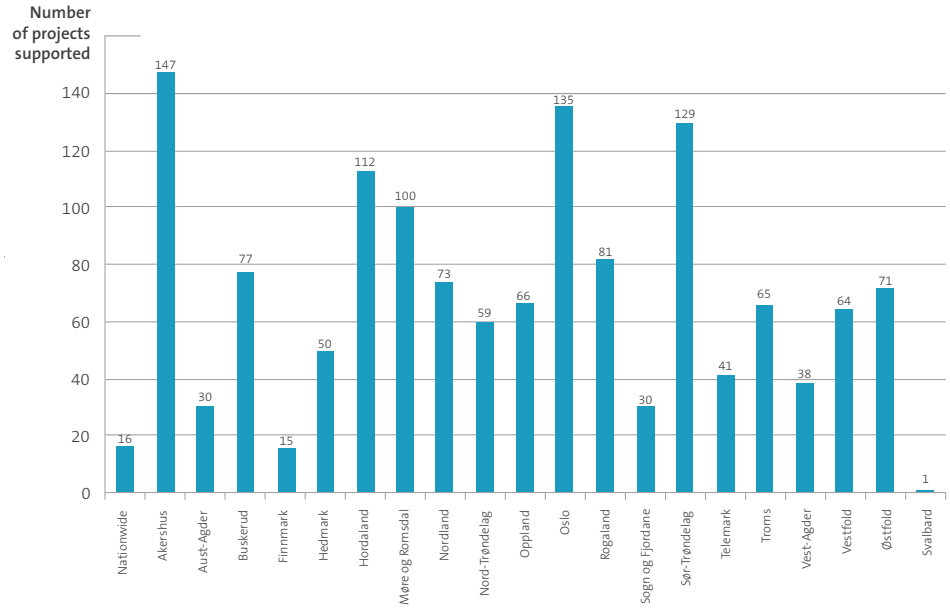


Figure 3.14: The figure shows the number of projects supported in each county in 2014. The projects characterized as "nationwide" apply to projects that involve measures in two or more counties. Energy measures in residences are not included in this overview.

FIGURE 3.15 NUMBER OF PROJECTS SUPPORTED WITHIN THE ENERGY FUND IN 2012–2014 – DISTRIBUTED BY COUNTY

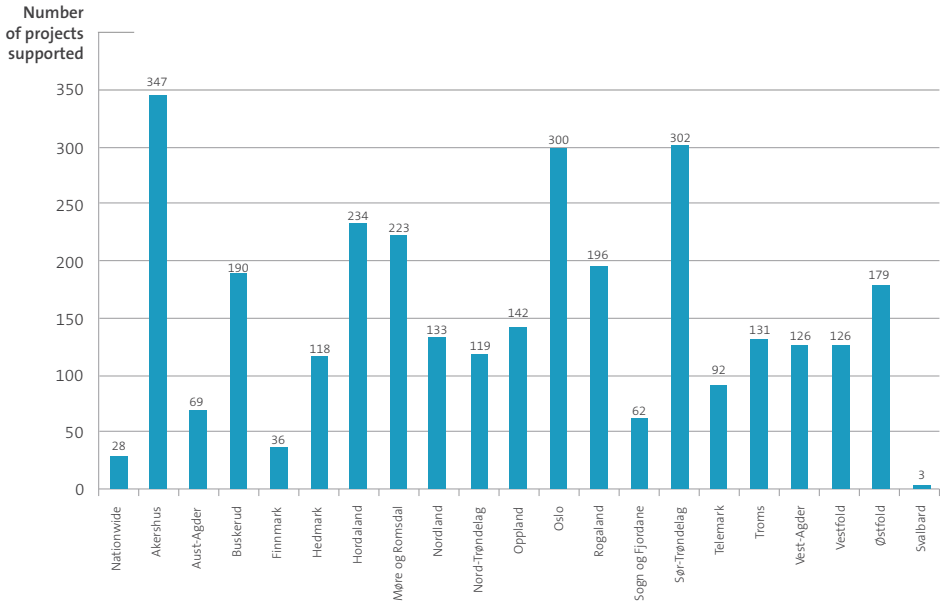


Figure 3.15: The figure shows the number of projects supported in each county in 2012–2014. The projects characterized as "nationwide" apply to projects that involve measures in two or more counties. Energy measures in residences are not included in this overview.

TABLE 3.18 TOP 10 IN 2014 – PROJECTS WITH THE HIGHEST AWARDED FUNDING LEVEL

Market	Project description	Applicant	Contractual energy result	Contractual support
			GWh	MNOK
Industry	HAL4e Pilot Plant	Hydro Aluminium AS	96	**1 555**
Renewable heating	Biopower Biofuel Skogn	Biokraft AS	71	**60**
Renewable heating	Main pipeline Skattøra Breivika, as well as lines to the airport and Åsgård hospital	Kvitebjørn Varme As	54	**57**
Industry	Ranheim Energi	Peterson Energi AS	120	**56**
Industry	Increased energy recovery Elkem AS Bjølvefossen	Elkem AS Bjølvefossen	45	**54**
Industry	Energy and environmental measures in Yara Porsgrunn Bamboo project	Yara Porsgrunn	54	**52**
Industry	Portfolio low temperature energy	Borregaard AS	60	**45**
Renewable heating	Sentrum Stakkevollsveien in Tromsø	Kvitebjørn Varme AS	31	**43**
Industry	EnPro Pilot Plant Project	Enpro AS	7	**40**
Industry	Project P200	Boliden Odda AS	50	**40**

Table 3.18: The table shows the ten largest projects in 2014 measured by contractual funding level.

TABLE 3.19 TOP 10 IN 2014 – PROJECTS WITH THE HIGHEST ENERGY RESULT

Market	Project description	Applicant	Contractual energy result	Contractual support
			GWh	MNOK
Industry	Ranheim Energi	Peterson Energi AS	**120**	56
Industry	HAL4e Pilot Plant	Hydro Aluminium AS	**96**	1 555
Renewable heating	Biopower Biofuel Skogn	Biokraft AS	**71**	60
Industry	Portfolio low temperature energy	Borregaard AS	**60**	45
Industry	Energy and environmental measures in Yara Porsgrunn Bamboo project	Yara Porsgrunn	**54**	52
Renewable heating	Main pipe line Skattøra Breivika, as well as lines to the airport and Åsgård hospital	Kvitebjørn Varme AS	**54**	57
Industry	Project P200	Boliden Odda AS	**50**	40
Industry	Increased energy recovery Elkem AS Bjølvefossen	Elkem AS Bjølvefossen	**45**	54
Industry	Introduction of energy management in Hafslund Varme (Oslo plant)	Hafslund Varme AS	**34**	1
Renewable heating	Sentrum Stakkevollsveien in Tromsø	Kvitebjørn Varme AS	**31**	43

Table 3.19: The table shows the ten largest projects in 2014 measured by contractual energy result.

Part III B:
Reporting – the Energy Fund 2001 – 2011

Energy results and allocations
2001-2011

Table 3.20 shows the allocation of funds from the Energy Fund and total energy results during the 2001-2011 period, updated at the end of 2014, distributed by market and year. This table takes a basis in the year the funds were allocated, not the year the framework was awarded. Cancelled projects must be corrected for energy results for the year the contract was originally signed and recorded. The contractual support amount will be released and returned to the Energy Fund so it can be put into new projects that create results. The fact that cancellations are corrected with retroactive effect, results in released funds and transfer of resources between years.

Enova awarded about NOK 8 billion in support for energy projects during the 2001-2011 period. The total investments which the support will trigger amount to more than NOK 40 billion. Enova's support percentage varies from market to market. In building, heating and industry projects, the support averaged less than 20 per cent of the projects' total investments during the agreement period. Within new technology projects, the support constituted between 25 and 50 per cent of investments.

TABLE 3.20 **ENERGY RESULTS AND ALLOCATIONS 2001-2011**

	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		Totalt	
	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK	GWh	MNOK
Renewable heating	328	-	173	49	233	31	135	69	167	64	592	285	374	164	694	346	754	571	595	311	390	318	4 435	2 209
Biofuel production	-	-	-	-	154	3	255	14	162	6	100	4	167	5	67	3	-	2	-	-	-	-	906	38
Renewable power	120	-	80	35	127	27	441	186	334	137	-	-	-	-	55	80	453	1 041	498	916	-	-	2 107	2 422
Industry	300	-	157	19	136	16	360	56	248	34	556	92	573	106	206	42	812	317	191	74	90	42	3 629	797
New technology	28	-	1	19	-	-	-	9	-	2	2	7	8	71	1	13	2	45	15	51	7	20	64	236
Non-residential buildings[1]	44	-	138	56	300	65	265	65	547	113	363	101	178	67	341	132	250	491	220	164	514	494	3 160	1 750
Residential buildings[2]	-	-	-	-	-	12	-	12	-	14	-	36	10	45	-	56	-	62	-	72	42	107	52	416
Analyses, development and strategy	-	-	-	7	-	7	-	6	-	5	-	8	-	11	-	9	-	9	-	17	-	31	-	110
International work	-	-	-	6	-	7	-	7	-	12	-	11	-	6	-	4	-	9	-	8	-	7	-	75
Communications and public relations	-	-	-	112	-	40	-	26	-	47	-	19	-	21	-	44	-	25	-	25	-	59	-	417
Administration	-	-	-	42	-	36	-	41	-	45	-	47	-	61	-	75	-	100	-	93	-	95	-	635
NVE contracts (2001)*	-	385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	385
Total	**820**	**385**	**548**	**346**	**949**	**244**	**1 456**	**491**	**1 459**	**479**	**1 613**	**610**	**1 310**	**557**	**1 364**	**804**	**2 271**	**2 671**	**1 519**	**1 731**	**1 043**	**1 173**	**14 353**	**9 491**

Table 3.20: The table shows aggregated energy results and funds allocated from the Energy Fund in the period 2001-2011, corrected for cancelled and final reported projects as of 2014. Funds for the NVE projects from 2001 (MNOK 385) have not been distributed in the various areas. The associated energy result has been distributed by area and totals 820 GWh.

1 For the 2001-2011 period, non-residential buildings also includes non-industrial plants and facilities.

2 The household subsidy programme for electricity conservation was incorporated in the Energy Fund from 1 July 2011, and the results are recorded from this time.

TABLE 3.21 ENERGY RESULTS 2001-2011, CORRECTED FOR CANCELLATIONS, FINAL REPORTING AND REALIZED RESULTS

	Gross contractual result	Total contractual result[1]	Contractual corrected for final reported result	Contractual corrected for final reported and realized result
	2001-2011	2001-2011	2001-2011	2001-2011
Market	GWh	GWh	GWh	GWh
Renewable heating	6 676	4 732	4 435	4 570
Biofuel production	1 035	891	906	773
Renewable power	3 750	2 108	2 107	1 939
Industry	5 670	3 797	3 629	3 588
New technology	213	116	64	72
Non-Residential buildings[2]	3 648	3 137	3 160	3 184
Residential buildings[3]	90	52	52	52
Total	**21 083**	**14 834**	**14 353**	**14 178**

Table 3.21: The table shows the contractual energy result (in GWh) distributed by market and year, both before and after correction for cancelled, final reported and realized projects.

1 Contractual results show the energy result at the end of 2014 corrected for cancellations during the period 2001-2014.

2 In the period 2001-2011, non-residential buildings also includes non-industrial plants and facilities.

3 With the exception of certain measures in 2007, energy results within the Residences market area were not contractual until 2011. The household subsidy programme was incorporated in the Energy Fund from 1 July 2011, and the results are recorded from this time.

Table 3.21 shows the contractual energy result for the 2001-2011 period, distributed by market and year, before and after correction for cancelled, final reported and realized results. The contractual energy result is about 30 per cent lower than the gross contractual energy result. The contractual result has been corrected for cancelled projects. We see that the total contractual energy result changes marginally with correction for final reported and realized results. There are some individual differences on the market level. While projects in non-residential buildings consistently have better energy results measured after a few years of operation, markets like renewable power and biofuel processing show the opposite development.

FIGURE 3.16 PERCENTAGE OF FINAL REPORTED PROJECTS APPROVED IN THE PERIOD 2001-2011

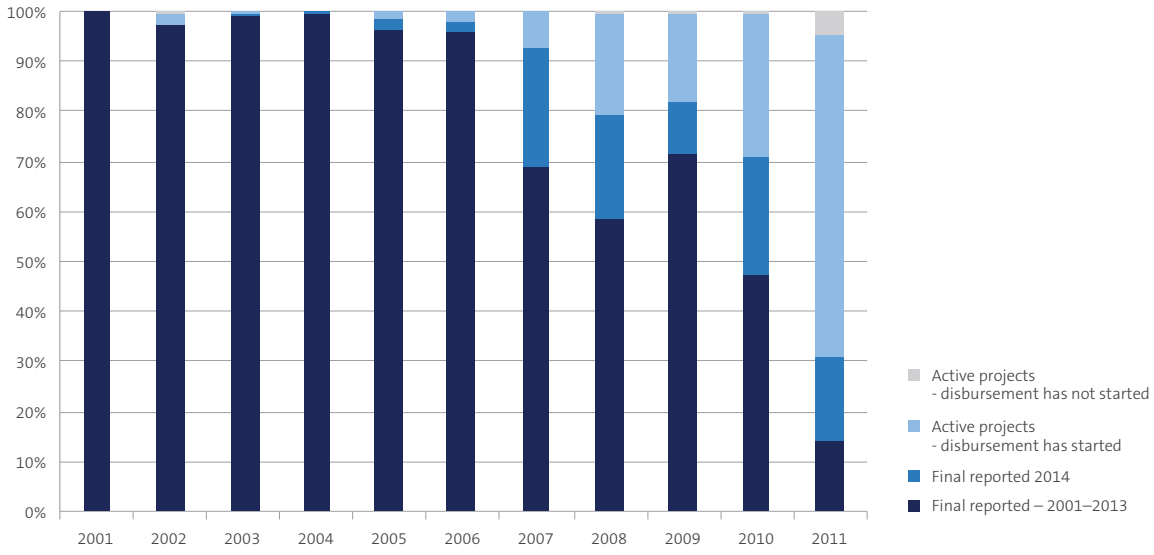


Figure 3.16: The figure shows the percentage of final reported and active projects at the end of 2014, distributed by the year the project was approved. The figure also shows the percentage of the active projects where disbursement has started.

Figure 3.16 shows the percentage of final reported projects for the years going back in time. We can see that the percentage of final reported projects increases with the age of the projects. The figure illustrates the timeline for Enova's investment support. In 2014, there were still final reported projects in all years from 2003 to 2011. The percentage of final reported projects in 2007 is more than 90 per cent, and about 80 per cent for 2008 and 2009.

The figure also differentiates between active projects where disbursement has started and active projects where disbursement has not yet started. The risk of a project being cancelled has turned out to be significantly lower when disbursement of support has started.

There is still a minor cancellation risk for 2011 related to the less than five per cent of projects that have not yet received disbursement by the end of 2014. Overall, active projects where disbursement has not yet started constitute less than 0.5 per cent of energy results.

Enova carries out active follow-up of the projects' progress and rate of completion. Systematic and sound follow-up will contribute to the projects being implemented in line with the agreements. In those instances where projects for various reasons will not be implemented, close follow-up ensures we prevent funds from being unnecessarily tied up in projects without any progress.

Final reports have been submitted for about 1.4 TWh in 2014 from projects whose contracts were entered into in 2001-2011.

FIGURE 3.17 ENERGY RESULTS AND CANCELLATIONS PER CONTRACT YEAR

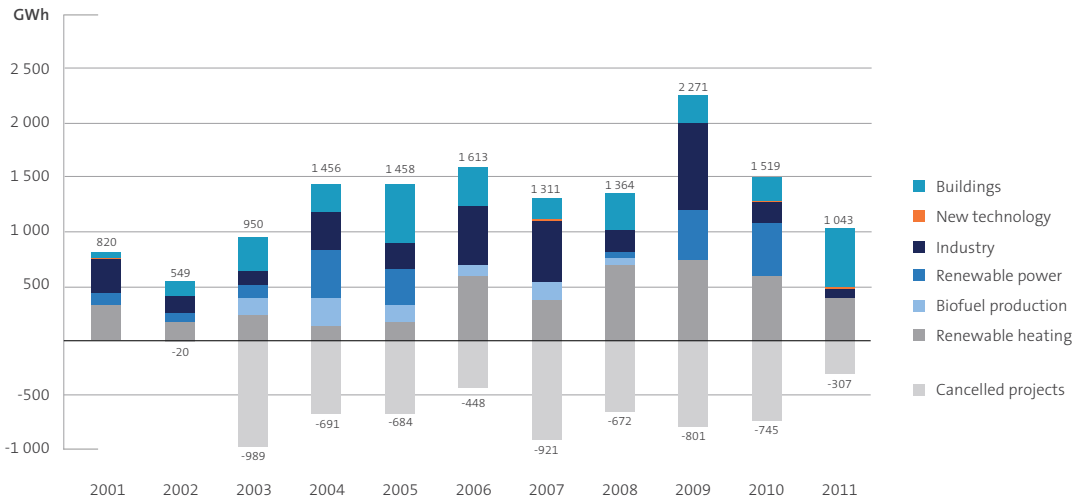


Figure 3.17: The figure shows the contractual energy results for 2001-2011, distributed by contract year. The figure shows how cancelled contracts impact annual net energy results. Overall, the columns show the contractual energy result for each year. Cancellations contribute to an annual accumulated deduction (the negative part of the columns) from Enova's net energy result (the positive part of the columns). The figures are corrected for changes in the energy results in final reported projects.

Figure 3.17 shows the contractual energy result from contracts signed in the period 2001-2011, distributed by contract year.

The figure shows how cancellation of contracts retroactively affects annual net energy results.

The figure shows that the scope of cancellations increases with the age of projects, but also that the level varies between years.

The scope of cancellations within 2011 is 23 per cent, and the average is 30 per cent.

For many projects, it takes several years from project application to project completion. The implemented solutions then move on to the operations phase, in order to harvest energy results. After three years of operation, Enova measures the energy results realized from the project.

Realized results

When Enova supports a project, the support recipient commits to achieving a certain energy result in the future. It takes time from project application until energy results can be harvested after project implementation. Implementation takes several years for the largest projects supported by Enova. The results, in the form of energy saved or renewable production, then vary from year to year.

Enova has existed for thirteen years, and the oldest projects in our portfolio have accumulated sufficient operational experience to report what results they have actually realized. Enova examined the results from projects that were implemented in the period from 2001 to 2011. Enova decided to support more than 3 800 projects during this period. Of these projects, the percentage completed within the period are the relevant source of empirical data.

Main results

In a normal year, these projects expect to achieve about the same energy result that corresponds with their final reported result. Most of the projects, roughly two out of three, have realized the results they expected to, or more. Some projects achieve lower results than expected, for example the wind power projects. Enova has phased out its wind power programmes.

Overall, the projects expect result fluctuations between -20 per cent and +15 per cent from year to year.

FIGURE 3.18 REALIZED RESULTS COMPARED WITH CONTRACTUAL AND FINAL REPORTED RESULTS

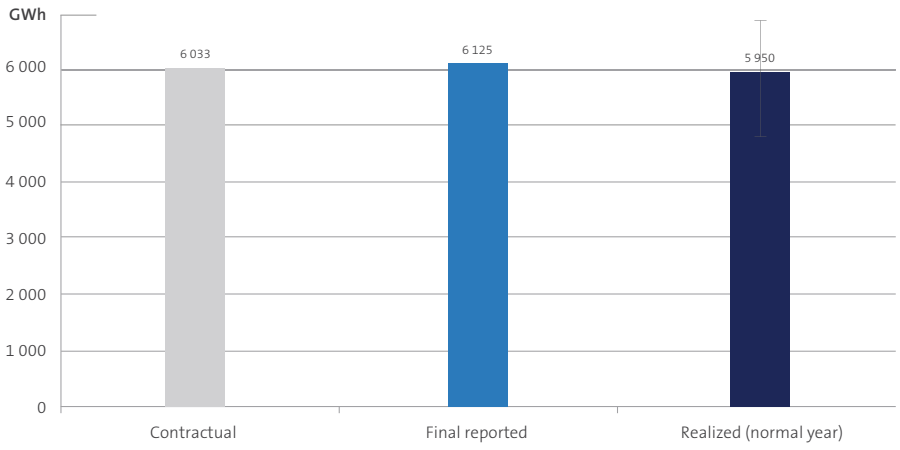


Figure 3.18: The figure shows aggregated results as of 2014 for projects subject to final reporting before 31 December 2011. The total contractual, final reported and realized in a normal year. Natural discrepancies from a normal year are also shown for realized results

Realized results within market areas

Figure 3.19 shows the contractual and final reported energy results for each market area, and the realized energy result during a normal year. The expected interval for variation in energy results from year to year is indicated by lines on the column for the realized result. Each project has reported the annual energy result they expect in the best and worst case scenarios, and the intervals are derived from this.

Projects within renewable heating realize about nine per cent higher energy results than expected when the projects are completed. The projects expect considerable variations from year to year, but the energy results predicted upon completion will usually be higher – as much as 30 per cent higher than expected in some cases.

Renewable heating, buildings, residential buildings and non-industrial plants and facilities projects consistently realize higher energy results than expected upon project completion. This group of projects also reports the least uncertainty from year to year.

FIGURE 3.19 REALIZED RESULTS PER MARKET COMPARED WITH CONTRACTUAL AND FINAL REPORTED RESULTS

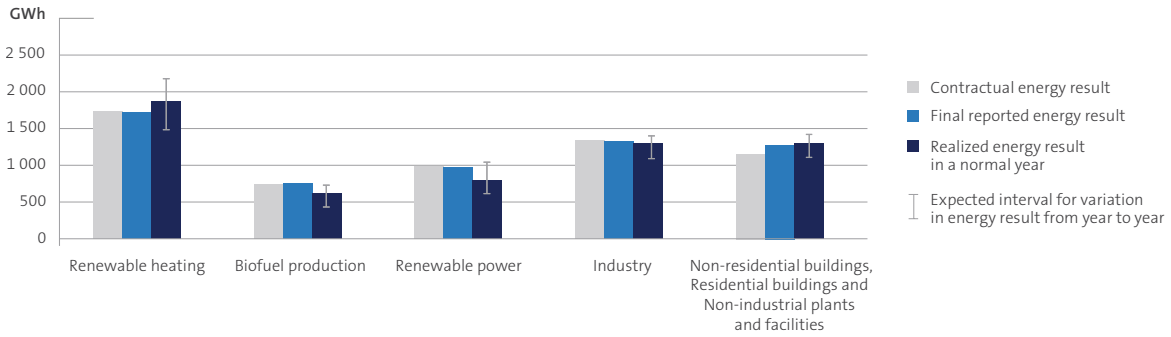


Figure 3.19: The figure shows realized results in a normal year per market as of 2014, compared with contractual and final reported result for projects subject to final reporting before 31 December 2011. The expected interval for variation in energy result from year to year is indicated with vertical lines on the columns for realized results.

Wind power projects (renewable energy) are unable to deliver the expected energy results. The normal annual production is about 15-20 per cent lower than production estimates used as a basis upon completion of the projects. However, in a good year, it is possible to generate the expected volume of energy. These projects carry substantial uncertainty from year to year.

Biofuel projects are unable to deliver the expected results, and the projects report a high risk of not delivering enough results. At worst, the result is 40 per cent lower than expected when the projects were completed.

Composition of Enova's total energy results

Figure 3.20 shows how Enova's total energy results are distributed across projects with varying maturity. One year could include contractual results from projects still in the start phase, as well as realized results from completed projects that have been operational for several years. The earlier the year, the larger the percentage of final reported and realized energy results.

FIGURE 3.20 CONTRACTUAL, FINAL REPORTED AND REALIZED ENERGY RESULTS 2001-2011

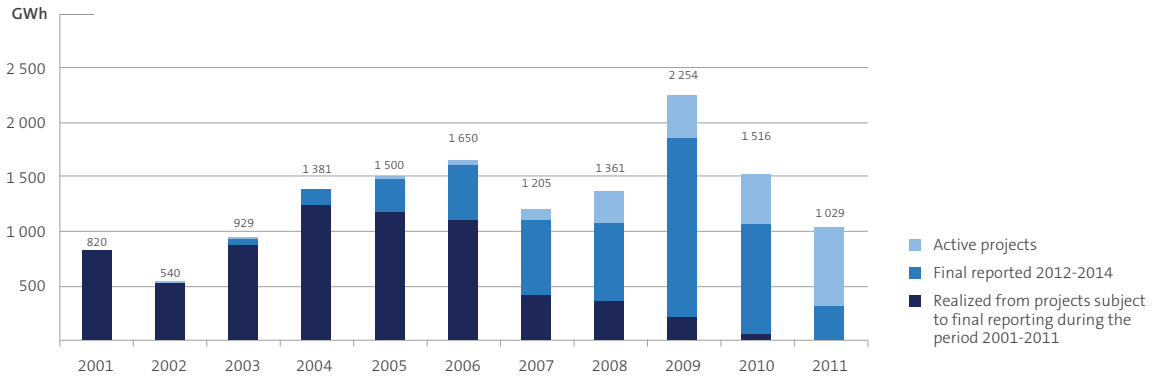


Figure 3.20: The figure shows the net contractual, final reported and realized energy results distributed by the year the contract was entered into. The figures are corrected for changes in energy result in final reported and realized projects.

Climate reporting

This chapter summarizes the estimated volume of annual greenhouse gas emission reductions from Enova's project portfolio for the 2001-2011 period.

In 2012, Enova developed a database which shows the energy and climate result for each project.

The climate results for the agreement period 2012-2014 take a basis in the figures for contractual energy result (kWh) and emission factors (for example CO_2 equivalents/kWh) for the various energy carriers in the project. The climate results for the period 2001-2011, however, are based on a template assessment of the volume of oil reduction achieved for each market. It is assumed that half of the energy result from projects within renewable heating will replace oil and half will replace electricity. Each kWh in energy result from industry leads to an estimated reduction in oil consumption of about 34 per cent on average for the period 2001-2011. The energy results from renewable power and new technology are presumed to have a 100 per cent impact via electricity as an energy carrier. That is why the reduction in oil consumption is estimated as zero in these areas. Projects within buildings are expected to result in a proportionately smaller reduction in oil consumption, about 12 per cent.

There is a major uncertainty associated with estimated climate results for the project portfolio from 2001-2011, as Enova's project portfolio management systems before 2012 were primarily adapted to energy reporting (kWh) instead of climate reporting (CO_2 equivalents). Enova has supported projects within other fossil fuels than oil, for example natural gas, etc. The climate impact of such measures has not been taken into consideration here, only the impact of estimated greenhouse gas reductions from improving the efficiency of oil consumption.

With a basis in energy results for 2001-2011, we estimate that projects supported by Enova during this period have a climate result of about 1 163 kilotonnes of CO_2 equivalents.

Climate result from estimated improved oil consumption efficiency

Table 3.22 shows the energy result distributed by market, and the corresponding estimated reduction in greenhouse gas emissions as a result of measures that have helped reduce oil consumption. The emission coefficients for oil came from the Ecoinvent database.

TABLE 3.22 CLIMATE RESULTS FROM ESTIMATED REDUCTIONS IN OIL CONSUMPTION FOR PROJECTS SUPPORTED BY ENOVA DURING THE PERIOD 2001-2011

Market area	Energy result	Climate result from reduced oil consumption
	GWh	ktonnes CO_2 eqv.
Renewable heating	4 435	672
Renewable power	2 107	-
Industry	3 629	374
New technology	64	-
Non-residential buildings[1]	3 160	115
Residential buildings[2]	52	2
Total	**13 448**	**1 163**

Table 3.22: The table shows the energy result distributed by market, and the corresponding estimated reduction in greenhouse gas emissions as a result of reductions in oil consumption, for projects supported by Enova during the period 2001–2011. Biofuel processing is not included.

1 In the period 2001-2011, non-residential buildings also includes non-industrial plants and facilities.

2 The subsidy programme for electricity conservation in households was incorporated in the Energy Fund from 1 July 2011, and the results are recorded from this time.

Renewable heating and industry achieve the biggest reductions in greenhouse gas emissions, and correspondingly have the largest percentage of energy result from reduced oil consumption.

Overall climate result from the period 2001-2011

Enova supports projects that help improve the efficiency of electricity consumption, or conversion from electricity to renewable energy sources. The climate result from these types of measures will be highly dependent on the system limit used as a basis, cf. climate reporting in Part III Activities and results from the year. To calculate changes in greenhouse gas emissions as a result of measures that result in reduced electricity consumption, we take a basis in four different electricity scenarios and corresponding emission intensities. These scenarios are: Norwegian consumption mix (corresponds to Norwegian production and import), Nordic mix, European mix and coal power.

Table 3.23 shows the overall climate impact of the projects, including both the impact from reduced oil consumption and from more efficient electricity consumption. As expected, the results depend on the preconditions used as a basis for the alternative supply. Using the European mix as a basis, the aggregated portfolio from 2001-2011 achieves a climate result of about 5 747 kilotonnes of CO_2 equivalents.

TABLE 3.23 OVERALL CLIMATE RESULT (FROM REDUCED OIL CONSUMPTION + MORE EFFICIENT USE OF ELECTRICITY OR CONVERSION FROM ELECTRICITY TO RENEWABLE SOURCES) FROM PROJECTS APPROVED IN THE PERIOD 2001-2011

Market	Norwegian power consumption mix[3]	Nordic mix[4]	European mix[5]	Coal power[6]
	ktonnes CO_2 eqv.	ktonnes CO_2 eqv.	ktonnes CO_2 eqv.	ktonnes CO_2 eqv.
Renewable heating	721	931	1 730	2 488
Renewable power	46	247	1 005	1 726
Industry	427	654	1 516	2 335
New technology	1	7	31	52
Non-residential buildings[1]	176	440	1 441	2 393
Residential buildings[2]	3	7	24	39
Total	**1 374**	**2 287**	**5 747**	**9 034**

Table 3.23 Overall climate result (from reduced oil consumption + more efficient use of electricity or conversion from electricity to renewable sources) from projects approved in the period 2001-2011

1 In the period 2001-2011, non-residential buildings also includes non-industrial plants and facilities.

2 The subsidy programme for electricity conservation in households was incorporated in the Energy Fund from 1 July 2011, and the results are recorded from this time.

3 22 g CO_2e/kWh (source: Ecoinvent)

4 117 g CO_2e/kWh (source: Ecoinvent)

5 477 g CO_2e/kWh (source: Ecoinvent)

6 819 g CO_2e/kWh (source: Ecoinvent)

Part III C:
Reporting by topic – new energy and climate technology in the industry

Norwegian industry – by the numbers

Norwegian industry spans a broad range and the structure is continuously changing. We have a substantial petroleum industry, many energy-intensive enterprises within metal, wood processing, chemical industry and a food industry that feeds Norway and the rest of the world. The industry can be segmented by the number of employees, energy consumption, markets, ownership, location, etc.

The following section focuses on Norwegian mainland industry (including mining) as categorized by Statistics Norway (SSB), as this is where Enova has conducted most of its industry projects so far.

TABLE 3.24 KEY FIGURES NORWEGIAN MAINLAND INDUSTRY

Indicator	Description	Size
Number of enterprises	Totalt	Approx. 20 000
	Of which more than 250 employees	150
Number employed	Total	Approx. 230 000
	Of which food is the largest industry	Approx. 50 000
Annual sales	Total	NOK 800 billion/year
	Of which export	NOK 350 billion/year[1]
	Largest export industry fish	NOK 60 billion/year
	Second largest export industry primary aluminium	NOK 35 billion/year
Annual investments	Total	NOK 20 billion/year
Total annual energy use	Total	Approx. 80 TWh
	Of which energy-intensive (>50 GWh/year) industry	80%
Annual greenhouse gas emissions	Total	11.8 mill. tonnes CO_2e
	Perfluorocarbons	0.25 mill. tonnes CO_2e
	Combustion	4.2 mill. tonnes CO_2e
	Process emissions	7.35 mill. tonnes CO_2e

Table 3.24: The table shows key figures for Norwegian mainland industry. Data as of 2013. Source: Statistics Norway.

1 For comparison, the oil and gas industry has an annual export of NOK 600 billion.

Industry is becoming increasingly energy-efficient and less polluting

Energy consumption in mainland industry has remained stable for several years, while production has increased. There has been a continuous improvement in specific energy consumption. This is the result of both structural conditions and ever improving technology.

The majority of emissions come from the following industrial processes: electrolysis, coke/coal as reduction agents and calcination of limestone.

There are still considerable potentials for reducing specific energy consumption and greenhouse gas emissions in industry. This is documented in Enova's 2009[8] study of the potential, Klimakur 2010[9] (climate cure 2010) and their subsequent updates[10]. It is estimated that specific energy use can be reduced by up to 30 per cent from the level in the 2009 study. In Klimakur, the Norwegian Environment Agency shows that the Norwegian mainland industry can reduce its emissions by just under 10 per cent by 2020, but this will require use of new technology. The Agency expresses some uncertainty[11] related to the impact of new technology. With technologies for capture and storage of CO_2, or other technologies that reduce process emissions correspondingly, it may be possible to reduce industry emissions to 2–3 million tonnes of CO_2 equivalents in 2050. This will require

8 Enova (2009): http://www.enova.no/om-enova/publikasjonssenter/291/0/ «Potensial for energieffektivisering i norsk landbasert industri» (Potential for increasing energy efficiency in Norwegian mainland industry) (McKinsey & Co on behalf of Enova)

9 The Norwegian Environment Agency (2010): http://www.miljodirektoratet.no/no/Tema/klima/Klimakur-2020/, sector report industry

10 Norsk Energi and Carbon Limits study for Enova and the Norwegian Environment Agency (2013), unpublished

11 The Norwegian Environment Agency (2014): http://www.miljodirektoratet.no/Documents/publikasjoner/M229/M229.pdf

a number of long-term and targeted technology developments. Through its mandate and with its resources, Enova can help trigger such projects.

There is a clear difference between export-related industry and industry that only relates to the domestic market. Imported raw materials and an exported final product are typical in the metal industry. Energy and expertise connects the activity to Norway, while production, in principle, could take place anywhere. Many of these also have international owners. However, the food industry obtains its raw materials locally and, with the exception of the fisheries industry which is a major exporter, its primary market is national. The market players here are affected by toll barriers and national and international regulations, which influence where they can most conveniently locate their facilities. Different framework conditions for export-related industry and industry targeted towards the domestic market help ensure the market players have different innovation strategies and motives for technology development.

FIGURE 3.21 DEVELOPMENT IN ENERGY CONSUMPTION AND PRODUCTION INDEX FOR NORWEGIAN ONSHORE INDUSTRY 2003-2013

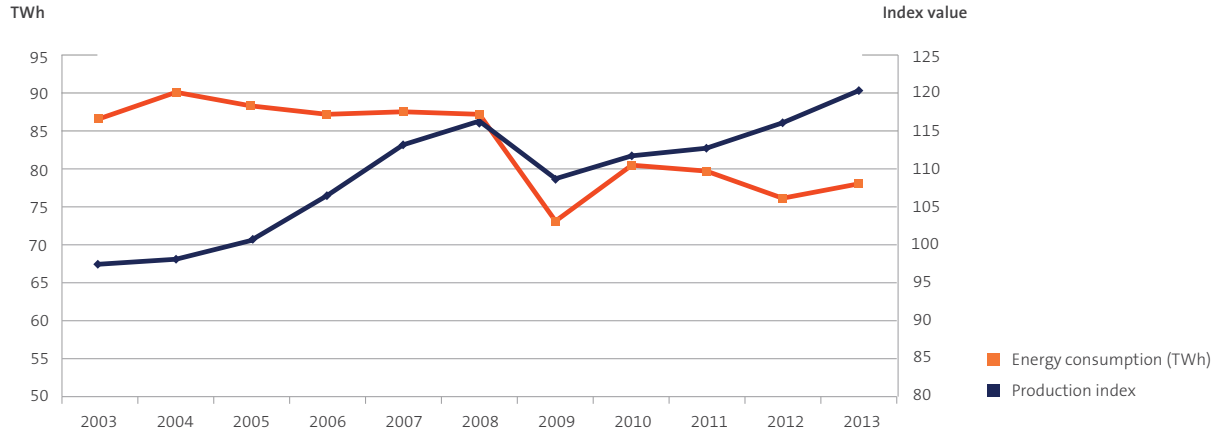


Figure 3.21: The figure shows the development in energy consumption and production index for Norwegian onshore industry in the period 2003-2013. Source: Statistics Norway

Drivers and barriers for innovation in industry

Technology development in industry is mainly driven by:

- Increased efficiency
- Cost cuts
- Product quality
- Regulatory orders
- Product development

Major companies have designated R&D departments that take projects from idea to product, others depend on buying expertise. Statistics Norway's statistics[12] indicate that annual investments in self-performed R&D in industry total NOK 8 billion[13] and that the industry also purchases R&D for about NOK 1.5 billion.

The barriers for developing and implementing new technology can be summarized as follows:

- **Deficient commercial appeal:** Uncertain profitability and risk
- **Capital:** Lack of available risk-willing investment capital
- **Expertise:** Lack of available knowledge and expertise
- **Operations – technological risk:** Fear of impact on product or loss of production due to start-up problems. For major industrial processes, new installations must be incorporated in the maintenance routines and it can often take 3-5 years between each maintenance shutdown.

- **Framework conditions and external market conditions** Uncertainty regarding future framework conditions results in a short planning horizon and high return requirements. The uncertainty is linked to energy prices, quota prices, exchange rates, tax and fee rules, market conditions, raw material prices and product prices that are often determined internationally at different exchanges. Expectations regarding regulatory intervention can both accelerate and curb the pace of development.

12 SSB (2013): http://ssb.no/teknologi-og-innovasjon/statistikker/foun

13 SSB (2013): http://ssb.no/foun

"Non-energy benefits" are often the drivers of technology development. Reduced energy consumption and reduced emissions are side effects that bring added value to the projects, but that are not necessarily the initial drivers. The exemption is for the part of industry where energy constitutes a significant share of production costs.

Small-scale industry often needs to choose where to direct the weight of their development. Should it be placed on product development and market, i.e. on the revenue side of operations, or should it be placed on process improvements and cost efficiency measures?

Large enterprises often have a better basis for initiating and participating in extensive technology development courses. One can differentiate between development courses related to the individual enterprise's core process, which is often confidential in nature, and courses that are more general and related to various components in the auxiliary systems.

Good examples of industries that are very active in R&D are the ferroalloy industry and aluminium industry. The ferroalloy industry formed the Norwegian Ferroalloy Producers Research Association (FFF[14]) which deals with joint industry issues. The companies often collaborate in areas where they are not competitors. The work is often carried out in cooperation with SINTEF and NTNU and is the source of a large number of doctorates and joint projects that are financed by own efforts, own resources and the Research Council of Norway.

Two major companies are represented in Norway in the aluminium industry; Norsk Hydro and Alcoa. These follow different courses for development of their core processes. Alcoa's R&D headquarters is in Pittsburgh, US, while the company's Norwegian R&D activity mainly takes place at the plant in Lista. Norsk Hydro developed a technology demonstration department in Årdal. This department tests the company's new solutions in a small scale, both individual components and entire cells, before future developments in large scale, for example the planned pilot facility on Karmøy. Both Alcoa and Norsk Hydro receive support from national policy instruments, in addition to own efforts and own financing.

Norwegian policy instrument players support innovation work in industry

Norwegian industry is innovative and works continuously to develop both processes and products for the future. The Research Council of Norway, Innovation Norway and Enova are important supports.

- **Enova:** Investment support and support for assessment of projects through a selection of programmes directed at demonstration and market introduction of technology to the industry.
- **Research Council of Norway:** Support for research projects in line with announcements and programmes, including the R&D Tax Incentive Scheme, hourly commitments and small-scale laboratory trials.
- **Innovation Norway:** Subsidies and loans, particularly for business development and industry development. Innovation Norway also manages the Environmental Technology Scheme.

Enova's industry efforts have undergone several extensive shifts. In 2012, Enova's efforts were further developed as a result of the Climate Agreement in the Storting. The policy instruments for realizing projects that will develop new energy and climate technology were strengthened.

Enova will further strengthen its efforts in this area to help Norwegian industry become more energy-efficient and to deliver on future emission goals. Enova currently has the following programmes aimed at industry:

> Support for introduction of energy management in industry and non-industrial plants and facilities
> Pre-project support for energy measures in the industry
> Support for energy measures in industry
> Support for introduction of new technology
> Support for introduction of new energy and climate technology in industry

In 2013, Enova established a designated programme to support new energy and climate technology in the industry. We have become a major player for financing demonstration plants for new energy and climate technology in industry. In line with the agreement with the Ministry of Petroleum and Energy, we have ambitious goals for our work and have pledged NOK 1.7 billion in support for energy and climate technology projects in industry during the last three years. Support of this level also triggers financing from the industry in the order of NOK 2.7 billion.

Enova can contribute to triggering new innovative technology together with the industry. The largest individual project Enova has supported so far is Hydro's planned pilot project for testing new aluminium production technology on Karmøy.

14 Information about FFF: http://www.sintef.no/Projectweb/Ferroforsk/

FIGURE 3.22 NORWEGIAN POLICY INSTRUMENT PLAYERS IN VARIOUS PHASES OF TECHNOLOGY DEVELOPMENT PROJECTS

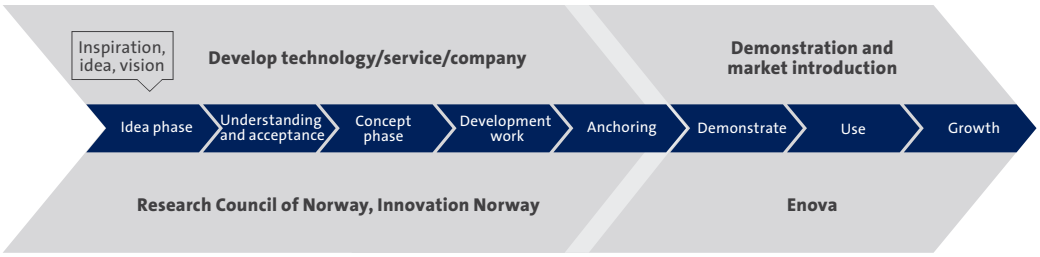


Figure 3.22: The figure shows Norwegian policy instrument players in various phases of technology development projects.

Technology development in energy intensive industry

Enova assumes that companies that consume more than 50 GWh annually are energy intensive. These are smelting plants, the wood processing industry and processing industry, including large dairies. In Norway, these represent 80 per cent of energy consumption in industry. About 55 per cent of this is electricity, but a considerable degree of fossil energy carriers, particularly coal, are also used for reduction processes. Some gas is also used, particularly in the petrochemical industry.

Energy intensive industry constitutes the part of Norwegian industry with the largest incentives for working continuously on all aspects relating to cost savings and increased efficiency, including reduced specific energy consumption and reduced greenhouse gas emissions. We are also seeing high levels of development activity in these businesses, which also often have close relationships with the research communities.

Technology development and innovation are driven forward across borders. The market players in the Norwegian energy intensive industry are international and have a clear place in this picture.

Innovations in energy intensive industry

Using a short time perspective, it can be difficult to see the impact of the projects implemented by the industry. Decades can pass from when a project is carried out in downscaled pilots and demonstration plants until it moves to a fully commercial production line.

Production of primary aluminium shows the way

In the aluminium industry we have a good example of how continuous improvement can be achieved through development of all elements in the production process. The major shifts in efficiency are achieved when completely new electrolysis processes are introduced. It is also possible to reap efficiency gains from continuous improvement projects in all stages of a production process.

Through targeted work over many decades, the aluminium industry has lowered specific energy consumption in primary aluminium production from about 32 kWh/kg aluminium in the early 1900s to about 13 kWh/kg today[15].

Figure 3.23 shows the development in emissions and energy consumption at Hydro's facility over the past 25 years. There have been major advances in connection with new developments such as Sunndal and Qatalum, and further improvement is expected with innovations HAL4e and Halultra.

Norwegian ferroalloy industry leading the way in power recovery

Ferroalloys is another example of an industry with considerable development. Two major focus areas in Norway are waste heat power recovery and solutions related to alternative reduction agents. Today, reduction agents are usually fossil coal, which is the most significant emission factor from the ferroalloy industry, and thus a challenge that needs to be solved[16]. As regards power recovery, Norway, spearheaded by Finnfjord and Elkem, has paved the way internationally and promoted highly functional solutions that serve as examples for the rest of the world. The fact that Norwegian companies are often wholly or partially owned by international players helps the rapid spread of Norwegian technology and expertise to the rest of the world.

Power from low temperature heat

In order to specify and highlight innovative activity, technology development courses and maturity, we will focus on one specific technology area: Utilization of low temperature waste heat to produce electricity.

The Norwegian energy intensive industry generates vast volumes of waste heat in its production processes. There will always be a percentage of energy that is not used and therefore lost.

In 2009, Enova mapped the waste heat potential in Norway's mainland industry[17]. The study found that about 20 TWh of heat is emitted annually to water and air at various temperatures. Due to local conditions, it is difficult to utilize this waste heat as heating. At the highest temperatures, power production from waste heat is an attractive solution, but it has been difficult to find efficient and tested technologies in lower temperature areas, below 400˚C.

The mentioned report requested development courses for technologies that would address this. Organic Rankine Cycle (ORC)

15 http://www.tms.org/pubs/journals/jom/1108/tarcy-1108.html (13 November 2014 at 15:00)

16 The Norwegian Environment Agency (2014): http://www.miljodirektoratet.no/no/Publikasjoner/2014/Oktober-2014/Kunnskapsgrunnlag-for-lavutslippsutvikling/

FIGURE 3.23 DEVELOPMENT IN SPECIFIC ENERGY CONSUMPTION DURING PRODUCTION OF PRIMARY ALUMINIUM IN HYDRO'S PLANTS

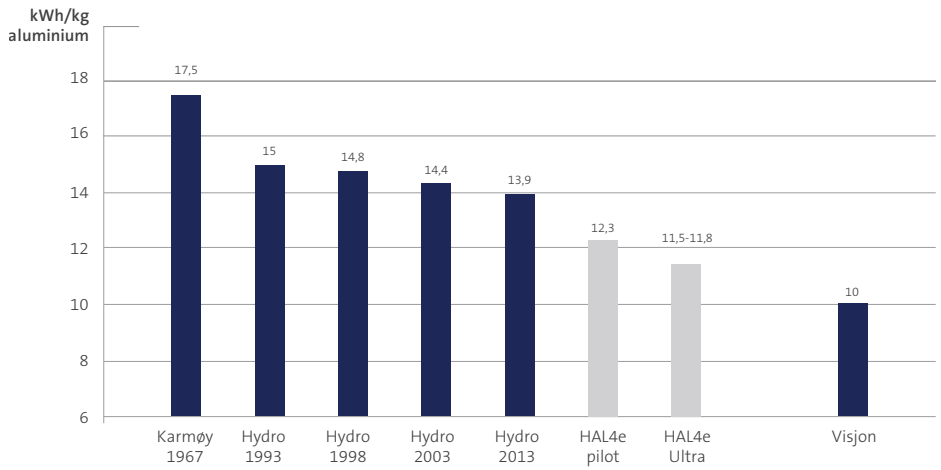


Figure 3.23: The figure shows average specific energy consumption at Hydro's Norwegian metal works over the past 25 years. Figure prepared by and used with permission from Hydro.

and Sterling were noted as particularly promising, but better solutions needed to be established for temperatures down to 60-70˚C.

As a response to the study from 2009, Enova supported projects that contribute to developing technology that can respond to the challenges revealed by the waste heat report. This could be individual components such as heat exchangers that will help capture the heat, or partial components for further development of the actual power generation unit or a comprehensive installation of a near commercial solution in the current production process.

Single Phase Power is an example of a Norwegian supplier which Enova has cooperated with for several development projects. The technology in the start-up phase was mainly aimed at increasing the temperature of the waste heat to a level where the heat could more easily be used in the industrial process. The next step is getting power generation into place. Enova supported the development process and contributed to end-user testing of the technology.

Viking Heat Engines is another example. This supplier's concept, based on modules that can be assembled into larger units, is currently being tested at Returkraft in Kristiansand. This is also being supported by Enova.

Enova carried out technology mapping in the autumn of 2014, five years after the mentioned study, to examine development in the area. The mapping revealed a large number of suppliers distributed over various maturity levels for the technologies. All suppliers had passed the R&D stage and had started a course of experimental development, piloting and/or market introduction. Some are currently delivering commercial solutions, but the majority are still in the development course. ORC has positioned itself as the technology that has come the furthest, both as regards development and with regard to the number of suppliers and usages.

Figure 3.24 paints an interesting picture. It shows different suppliers and their technologies placed on an axis that demonstrates where the players are in their development course. The colours reflect which temperatures they are working within. From barely having any available technology in the area 60-140˚C in 2009, we see a large number of alternatives and many different suppliers in 2014.

17 Enova (2009): http://www.enova.no/om-enova/publikasjonssenter/291/0/ Utilization of waste heat from Norwegian industry – a study of the potential (NEPAS/Norsk Energi on behalf of Enova)

FIGURE 3.24 TECHNOLOGY STATUS FOR DIFFERENT SUPPLIERS

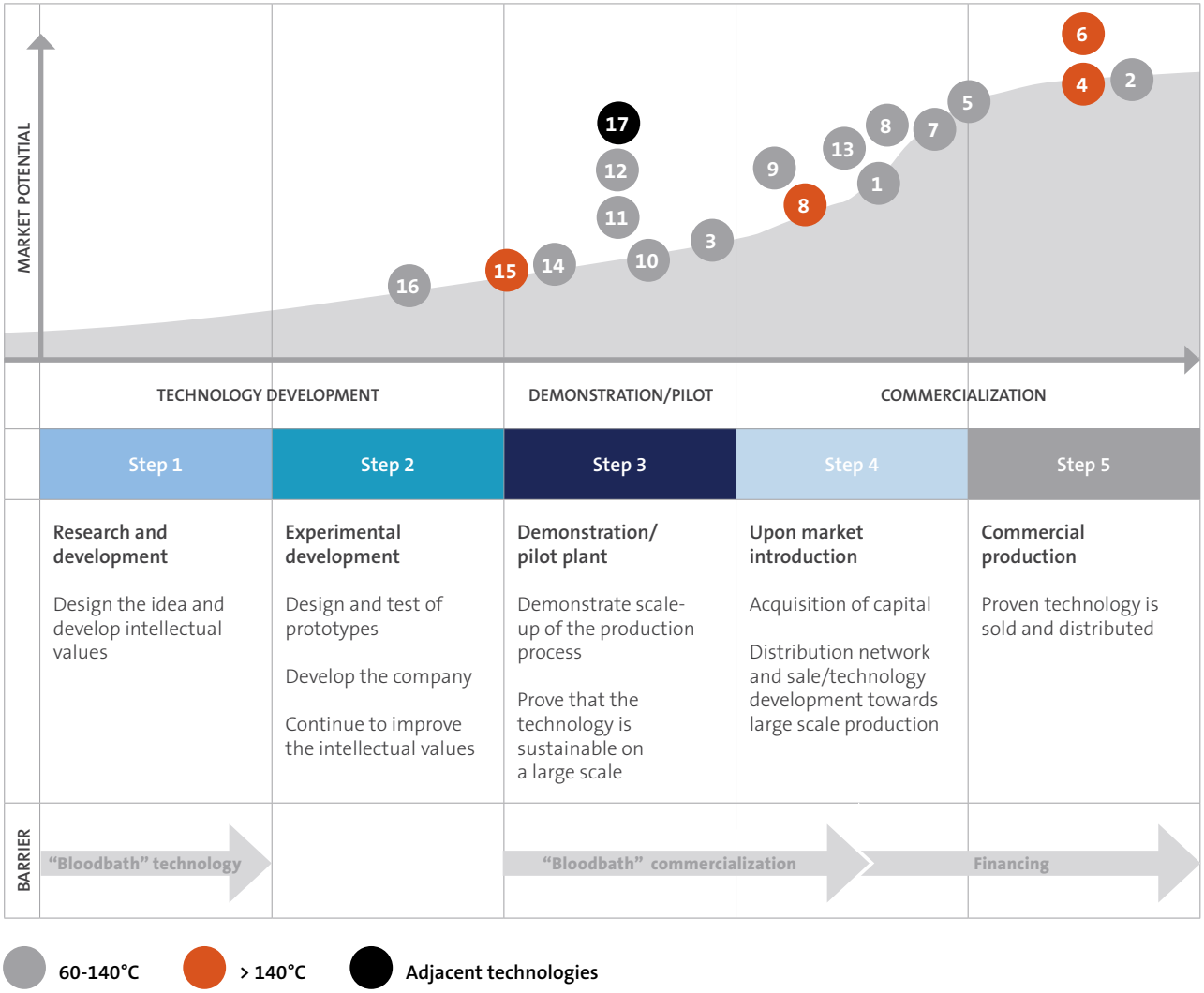


Figure 3.24: The figure shows different suppliers and their technologies placed on an axis that demonstrates where the players are in their development course. The colours reflect which temperatures they are working within. For a more detailed description of who the various suppliers are, we recommend the report "Teknologikartlegging kraftgjenvinning fra lavtemperatur spillvarme" (technology mapping power recovery from low temperature waste heat). Source: Rambøll/Enova SF.

FIGURE 3.25 MATURITY OF VARIOUS TECHNOLOGIES

Technology	ORC	Kalina	Transcritical	Trilateral Flash Cycle	Organic Flash Cycle	Absorption Rankine	Stirling	TEG	PCM
Technological maturity									
Current cost									
Cost reduction potential									
Effectiveness									
Market potential in Norway									

Figure 3.25: The figure shows various technology courses related to power generation from low temperature waste heat, and their level of maturity in various parameters. The white part represents the potential for further development. Source: Rambøll/Enova SF.

The review revealed that there are many different technology courses related to power generation from low temperature waste heat, and that the parameters have significantly varying levels of maturity, cf. Figure 3.25. Enova is committed to contributing to further development of these technologies.

Further development

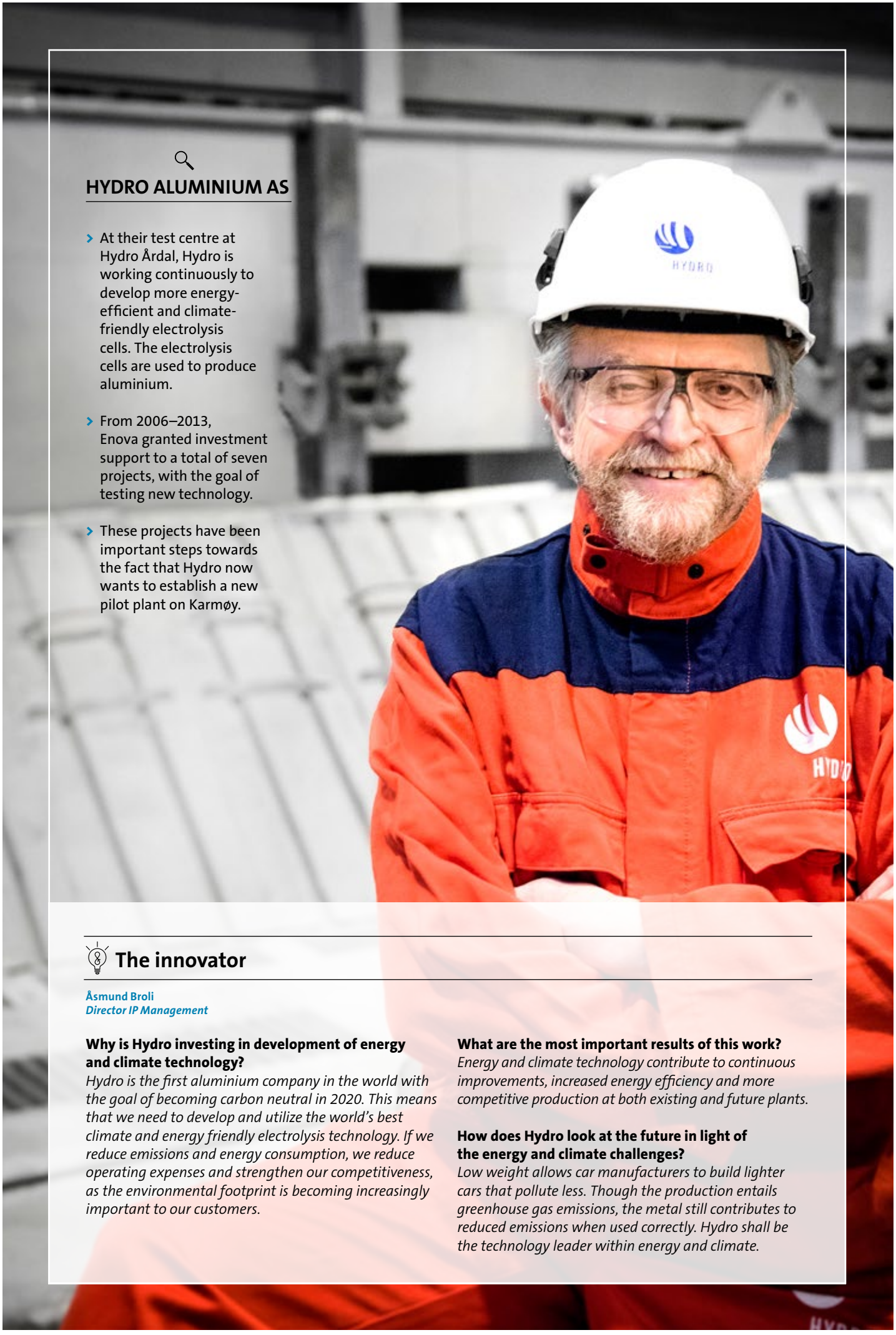
Enova has developed into a partner to the industry in development projects. We will continue this commitment. With security of supply, climate and the further development of industry in mind, it is natural to maintain and strengthen the services already in place.

Norwegian industrial companies must continue their development work to deliver:

- a sustainable industry with efficient processes and sustainable products
- reliable security of supply for energy
- future goals (official goals) to reduce greenhouse gas emissions

It is our experience that the industry has a great deal of involvement in these areas and that high-quality projects for testing new technology are promoted. This is also reflected in the growing interest in our programme Support for energy and climate technology in industry.

As a step in Enova's continued work, a designated evaluation of the industry efforts as they have functioned so far is under way. This will provide input regarding where to strengthen efforts, and how to best bring even more energy and climate projects in industry up to realization.



HYDRO ALUMINIUM AS

- At their test centre at Hydro Årdal, Hydro is working continuously to develop more energy-efficient and climate-friendly electrolysis cells. The electrolysis cells are used to produce aluminium.
- From 2006–2013, Enova granted investment support to a total of seven projects, with the goal of testing new technology.
- These projects have been important steps towards the fact that Hydro now wants to establish a new pilot plant on Karmøy.

The innovator

Åsmund Broli
Director IP Management

Why is Hydro investing in development of energy and climate technology?
Hydro is the first aluminium company in the world with the goal of becoming carbon neutral in 2020. This means that we need to develop and utilize the world's best climate and energy friendly electrolysis technology. If we reduce emissions and energy consumption, we reduce operating expenses and strengthen our competitiveness, as the environmental footprint is becoming increasingly important to our customers.

What are the most important results of this work?
Energy and climate technology contribute to continuous improvements, increased energy efficiency and more competitive production at both existing and future plants.

How does Hydro look at the future in light of the energy and climate challenges?
Low weight allows car manufacturers to build lighter cars that pollute less. Though the production entails greenhouse gas emissions, the metal still contributes to reduced emissions when used correctly. Hydro shall be the technology leader within energy and climate.

IV

MANAGEMENT AND CONTROL IN THE ORGANIZATION

Styring og kontroll i virksomheten

Management of goals and results
Enova follows a goal management model which will help Enova achieve its strategic goals. The goal management model is used in addition to traditional accounting and financial management. The model lists goals and key figures concerning results and processes within four perspectives; *results/economy, customer/market, internal processes/case processing and organization/working environment.*

This system is being further developed in 2015 with close follow-up of results and risk and action plans in all units compared with the goals. In addition to focusing on prioritized measures in strategy and action plans, the process will promote learning and continuous improvement in the organization.

Enova completes systematic evaluations of all policy instruments. The support programmes are evaluated both during the early phase and at a later stage in the programme's lifetime. The results from these evaluations allow for adjustments, thereby increasing the probability of achieving the desired result.

Internal control and risk management
The reorganization carried out in 2013 had positive effects, and the work distribution is considered expedient for ensuring good internal control. Enova also has an Appropriations Committee (BU) that is independent of the line organization, in addition to verifications that are incorporated in the case processing systems and routines. The committee comprises employees that do not participate in the case processing, but that quality assure, process and make decisions in appropriation cases in accordance with delegated authorizations and as a step in the established decision structure.

The Energy Fund is audited by the Office of the Auditor General, and Enova SF is audited by an external auditor. Enova has various internal control functions with specialized responsibilities within follow-up of the project portfolio, allocations over the Energy Fund and operation of the company. A dedicated function also has overall responsibility for risk management and internal control in the company. Enova conducts regular external quality assurances of numbers and reporting of results in relation to the goals.

Annual, agreed-upon procedures engagements are carried out by an external auditor for objective and independent assessment of the company. The process for following up granted subsidies was assessed in 2014. The assessments verify that the process is organized and systematically solved in an expedient manner in relation to Enova's overarching goals. The results of agreed-upon procedures engagements are included in our work on continuous development and improving efficiency.

Enova conducts regular risk mapping to assess risk in relation to goal achievement, efficient operations, reliable reporting and compliance with statutes and rules. The risk assessment is submitted to the Ministry of Petroleum and Energy in accordance with requirements in the Assignment Letter.

In 2014, Enova received a clean auditor's report for both management of the Energy Fund from the Office of the Auditor General and from an external auditor for Enova SF. No significant nonconformities were identified in connection with the internal control in 2014. Based on the results from internal and external controls over time, Enova is considered to have an expedient internal control process for ensuring responsible and efficient management and operations. Enova's values are clearly communicated by management and are anchored well in the company culture. Enova's control environment thus provides a solid foundation for efficient internal control.

Responsible steward
Enova's project portfolio is dynamic and growing, but with a considerable share of active projects in progress. Projects supported by Enova range from small amounts for simple measures in households, to major and complex technology development projects in industry. The projects are followed up closely and frequently over a long period. Reporting and recording of results increase in scope and complexity every year in line with the portfolio's development.

Enova manages the Norwegian state's resources on behalf of our society. Allocation of funds must take place in accordance with objective and transparent criteria. Enova sets requirements for its employees' integrity and business morals through ethical guidelines and value-based management. There are, for example, routine legal competence assessments in connection with new applications.

Enova implemented a new State account plan effective from 1 January 2014, due to a mandatory change from the 2014 accounting year for state-owned enterprises. The purpose is to facilitate a better information basis for the management in and of state-owned enterprises. Enova has an updated and flexible financial management system that responsibly supports administration of the Energy Fund.

Support system and tools
Enova processes and follows up an ever growing number of projects, while society is becoming increasingly digitalized. This increases the need to focus on data security, which requires sound control over IT systems, and increasing the awareness of employees in the company. For example, Enova participates annually in the Nasjonal Sikkerhetsmåned (national security month), where employees participate in an e-learning class focusing on information security.

Enova works continuously and systematically to further develop and improve our case processing and support systems. We focus on reducing paper-based processes, and emphasize using national shared IT components where possible.

Enova has been tasked with administrating an expanded rights-based programme for energy conservation measures in private households from 2015; *the Enova Subsidy*. A new application and case processing system was developed in 2014 in order to manage this programme. Extensive use of national shared components makes it easier for homeowners to apply for support, and machine controls combined with manual case processing ensure efficient case processing and good control over disbursements.

V

ASSESSMENT OF FUTURE PROSPECTS

Assessment of future prospects

Enova's goal is to trigger environmentally friendly restructuring of energy end-use and energy production, as well as to contribute to the development of energy and climate technology. Enova will create lasting changes in the supply of and demand for efficient and renewable energy and climate solutions. In order to deliver on this social mission, we need to be close to the market. We need to follow market development. The development in various markets also depends on the market players themselves, and a number of framework conditions that influence them to varying degrees. For example, the development in financial framework conditions, such as the interest rate level, will impact the effect of investment support, financial growth and resource use. The pace of power development in Norway will correspondingly impact the power price and thereby the profitability of investments.

Enova follows a set of indicators that provide us with an overview of key assumptions for development in the markets we work with. In 2014, we published the measurement indicator report; "Market Development 2014. An analysis of Enova's market areas".

This chapter provides examples of indicators that we follow. We then explain the market situation for the markets in which Enova works.

Indicators

Figures 5.1 – 5.3 are examples of indicators we follow.

FIGURE 5.1 ENERGY CONSUMPTION IN NORWAY 2013

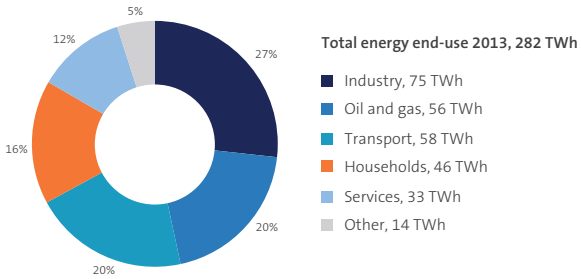


Figure 5.1: The figure shows relative distribution of energy end-use in Norway, including offshore activities, distributed by sector in 2013.
Source: Statistics Norway. Energy accounts and energy balance 2011-2012

FIGUR 5.2 NORSKE UTSLIPP AV KLIMAGASSER 2013

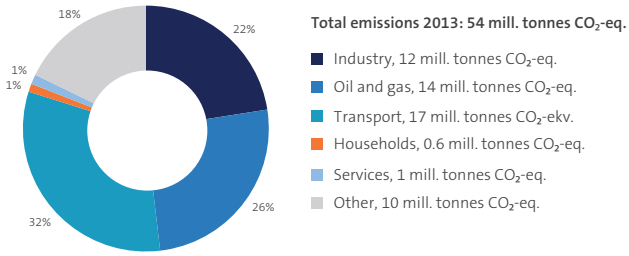


Figure 5.2: The figure shows the relative distribution of greenhouse gas emissions in Norway in 2013 distributed by sector. The figure covers emission of the six greenhouse gases included in the national emission accounts (Kyoto gases). Carbon dioxide (CO_2), nitrous oxide (N2O), Methane (CH4), Hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF6). The method for calculating emissions has changed since last year's reporting. The UN's climate panel IPCC introduced new guidelines for how to calculate the greenhouse gas emissions. The new guidelines enter into force starting from 2015. The changes entail including more emission sources in the calculations, and a number of emission factors have been changed. The factors for calculation of other greenhouse gases than CO_2 to CO_2 equivalents have also changed. Source: Statistics Norway. Greenhouse gas emissions.

FIGURE 5.3 PRICE DEVELOPMENT ENERGY CARRIERS 2008-2014 (NOK/KWH)

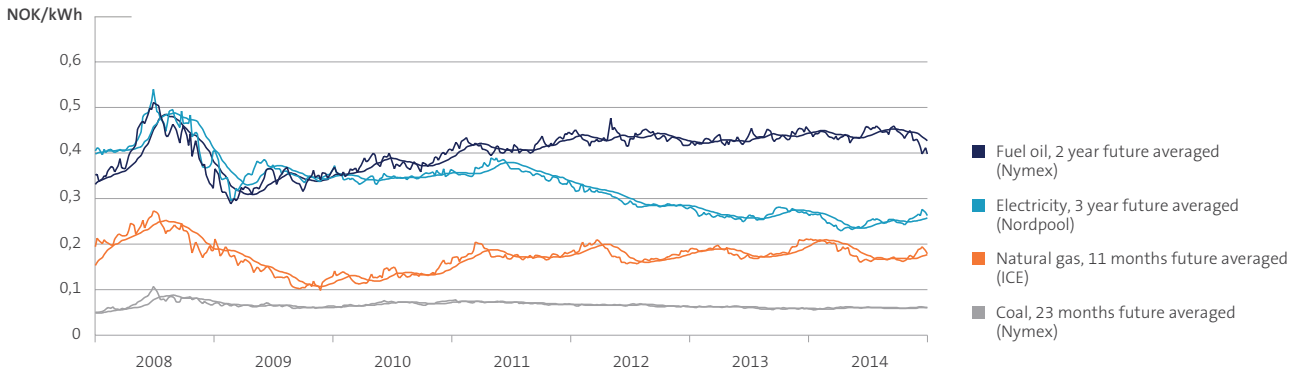


Figure 5.3: The figure shows the price development for different energy carriers measured by NOK/kWh during the period 2008-2014. Source: Thomson Reuters Datastream and Enova SF

Renewable heating
Continued development in an established market

Market, potential and goals

The market for renewable heating covers all heating deliveries based on renewable energy sources. Renewable heating contributes to increased security of supply and increased renewable energy production in Norway. Restructuring to renewable heating production in industry and building is an important factor in reducing CO_2 emissions.

The potential for increased use of renewable heating mainly lies within buildings, industry and non-industrial plants and facilities. The heating need in buildings is about 45 TWh per year, while the annual need in the processing industry is approximately 27 TWh[1]. In 2013, investments in district heating plants constituted about NOK 1.4 billion, of which NOK 0.7 billion went to production plants and NOK 0.6 billion to distribution plants.[2]

Enova's goal is to increase flexibility in the energy system through building production capacity and infrastructure for distribution of renewable heating. We also want to stimulate increased use of new technology in the heating industry.

Market situation

District heating is a flexible energy system. The infrastructure allows for use of different energy sources over time and can be adapted to the local resources available.

The market basis for district heating is defined by the development in heating demand and how many end-users have facilitated use of renewable heating. The price of electricity determines the price of district heating[3] and the low price level over several years[4] has impacted the pace of development. From 1999 and up to 2007, there was a steady increase in investments in the district heating sector. In 2008, investments exceeded NOK 1 billion and more than tripled in 2010 to NOK 3.5 billion. The investment level during the period 2011-2013 declined. In 2013, investments were just under 40 per cent of the level in 2010[5].

The average price of district heating increased by just over four per cent from 2012 to 2013. Sales income grew by 15 per cent and totaled NOK 2.7 billion in 2013. 4.7 TWh district heating was delivered to consumers in 2013, compared with 4.2 TWh in 2012[6].

A low energy price reduces the profitability of projects. The lower the price, the more the project needs support. We find that companies generally have higher requirements for return in individual projects compared to before. Low energy prices bring an increased risk of more approved projects needing restructuring or being cancelled.

District heating is a good collective heating solution in areas with dense population, a high heating need and with access to reasonable energy sources.

The major infrastructure investments in new district heating plants and heating plants have mainly been completed in Norway. The activity in the market is currently mostly related to expansion of the district heating grid. As a result of the work over the past few years, about 90 per cent of the major cities have either established district heating, or are in the process of completing development.[7] In areas with a smaller heating demand, local heating systems and individual plants may be the right choice. By developing a market for local heating plants, for example, less densely populated areas could also gain access to renewable heating in the future. There is a considerable potential here.

A certain consolidation has taken place in the district heating industry over the past few years. There have been several sales and acquisitions of both individual plants and companies. A reduction of the number of players in the market could result in increased profitability and a more professional industry. In order for customers outside central areas to gain access to renewable heating, we need a sustainable industry with professional players who deliver heating systems.

The focus in the market is now primarily aimed at increased efficiency of operations. Though the heating technology is mature, there is a potential for innovation and new solutions in the heating industry. One example is increased use of innovative heating and cooling solutions in buildings. Use of district heating plants could help prevent peak loads on the power grid on hot days. Though some players have started exploring new solutions, there is a need for more initiatives that help increase flexibility in the energy system. Introduction of new technology and innovation are significant to improve the competitiveness of district heating[8].

Enova supports restructuring to renewable heating through several programmes that are tailored to different types of market players, such as district heating companies, building owners and industrial companies. Enova received fewer applications in 2014 with a lower average project size compared to 2013. The applications are primarily aimed at expansions and condensing the existing district heating grid.

Prospects

Enova will continue its work within renewable and central heating. Contributing to further development, as well as innovation and introduction of new technology are important areas for Enova. Increased innovation is important to improve district heating's competitiveness vis-à-vis future heating customers.

Examples of measures we will support include introduction of energy management in the heating industry and conversion of peak load to renewable energy sources. We also want to stimulate innovative heating solutions in buildings.

1 Enova (2011). Potential for renewable heating and cooling in 2020 and 2030. Report prepared by Xrgia.

2 Statistics Norway (2014): District heating statistics

3 Act relating to the generation, conversion, transmission, trading, distribution and use of energy, etc. (Energy Act)

4 Statistics Norway 2014/energi-og-industri/statistikker/elkraftpris/kvartal/2014-09-19

5 Statistics Norway (2014): District heating statistics

6 Statistics Norway (2014): District heating statistics

7 NOU 2012:9 Energy assessment - value creation, security of supply and the environment

8 Innovation in District Heating. Process study 2012. Devoteam daVinci.

STATKRAFT VARME

Statkraft Varme installed a new district heating line between the Lade and Ranheim neighbourhoods in Trondheim municipality.

- **Project owner:** Statkraft Varme AS
- **Year funded:** 2009
- **Support amount:** 19,1 MNOK
- **Energy result:** 36 GWh
- **Completed:** 2014

Leading in Heating

Jon Anders Hagen
Site Manager

Why did Statkraft Varme choose to invest in this transmission line?
The transmission line is key in the further development of district heating in Trondheim. Establishment of new production capacity in eastern Trondheim is under way, and significant customer growth has taken place and is expected in this part of town.

What are the most important results from the project?
The line is dimensioned to transmit energy from a new production unit that is planned to meet the increasing demand. A new heating plant will increase the reliability of supply for our customers in Trondheim. Establishment of a new transmission line for a neighbourhood also provides a larger customer potential.

What is Statkraft Varme's view of the future in light of the energy and climate challenges?
District heating will be an important and key aspect of future energy supply. District heating can make significant contributions towards addressing important issues. Urbanization and increased population in cities require a robust and flexible energy supply. Energy flexible district heating contributes to reduced loads on the electrical supply grid. Renewable heating from an energy flexible system is an important climate policy instrument for achieving local and national climate goals.

Industry and non-industrial plants and facilities

More energy measures in industry

Market, potential and goals

The market for mainland industry and non-industrial plants and facilities includes many small and large companies, small plants and facilities with no employees to several hundred employees. Non-industrial plants and facilities are defined as roads, onshore power and water, sewage and waste plants, etc.

Mainland industry represents a significant share of stationary energy end-use in Norway[9]. This industry represents 20-25 per cent of total greenhouse gas emissions in Norway[10]. Total investments constituted approx. NOK 20 billion in 2014[11].

Studies show a potential for improving energy efficiency in the industry by 10-15 TWh up to 2020[12].

Enova's goal is to contribute to a more climate-friendly and energy-efficient industry supplied with renewable energy.

Market situation

Norwegian power-intensive industry is based on hydropower and is considered climate-friendly. The market is characterized by relatively few power-intensive activities representing a major share of energy use. About 100 energy users represent 80 per cent of the total. Electricity is the dominant energy carrier and accounting for about 55 per cent[13].

Investments in the mainland economy are still at a low level. Measured in relation to value creation in industry, investment activity is at its lowest rate in 40 years. This could be because lower international demand and loss of market shares for Norwegian enterprises had a negative impact on investment activity[14]. It could also be because capital has gone to more attractive investments in other sectors, including oil and gas.

Energy use has remained stable for several years, while the value of the production in the industry has increased[15]. Specific energy use has continuously improved over the years and the core processes have become more energy-efficient[16]. This is caused by both structural conditions and steady development of improved energy and climate technology.

The cost level, risk-willing capital, market access and official regulations are important drivers and barriers for industrial development and success in the market. Investments often compete for limited resources, such as capacity and capital. Low energy and climate quota prices weaken the profitability of energy and climate measures. Enova notices this through the higher funding level needed to trigger projects, and that the implementation of approved projects is also under pressure. Despite this, we are seeing increased optimism in power-intensive industry, such as aluminium and ferroalloy[17]. International companies are also showing interest in investing in Norway. One reason for this is Norway's stable and predictable framework conditions, which are key for making long-term investment decisions[18].

Use of new technology in power-intensive industry results in higher productivity and improved competitiveness. Though the potential for improving efficiency is major, it can be challenging to realize. Different types of financial stimulants are keys to realizing new energy and climate technology. Good support schemes for environmental and energy measures, such as Enova through the Energy Fund, NOX Fund, and the Process Industry Environment Fund help lift the investment environment in Norway and make it possible to realize many new projects that would not have been realized otherwise. Enova finds that many players are now concerned with driving innovation and further developing new energy and climate technology to secure future competitiveness.

Overall, Enova offered advisory service and support through seven programmes aimed at the market for industry and non-industrial plants and facilities in 2014. The activity will create awareness regarding the potential associated with restructuring of energy end-use and energy production, and prepare the ground for investments and actual realization of projects.

Prospects

Norway has a sound basis for further development of energy and climate-friendly industry. We believe the industry going forward will meet the energy and climate challenges and secure their competitiveness through increased efforts within renewable energy, improving energy efficiency, innovation and technology development.

The European economy has seen modest growth in the past year, which signals hope for improvement in the export markets. An improved economy could lead to increased energy consumption, an increased pace of investments and new energy and climate technology projects in industry. Slower growth in the Norwegian economy and continued low energy prices could have the opposite effect.

Enova will continue its efforts to help make Norway an attractive location for developing renewable, energy-efficient and climate-friendly industry. Through advisory service and financing, we will reduce the market players' risk and increase the pace of restructuring energy end-use and energy production in industry.

9 Statistics Norway (2014): Energy consumption in industry 2013.

10 Storting White Paper No. 21 (2011-2012)

11 Statistics Norway (2014): Investments in industry, mines and power supply, estimates for the 4th quarter 2014

12 Enova (2009). Potential for energy efficiency in Norwegian land-based industry. Climate and Pollution Agency Norwegian Environment Agency (2010): Measures and instruments to reduce greenhouse gas emissions from Norwegian industry

13 Statistics Norway (2014). Energy consumption in industry

14 NHO (2014). Financial overview 2/2014 and 3/2014.

15 Statistics Norway 2014: Energy consumption in industry 2013

16 Enova's Industry network. Statistics Norway (2014): Energy consumption in industry

17 http://www.tms.org/pubs/journals/jom/1108/tarcy-1108.html (13 november 2014 kl 15:00) og http://eydenettverket.sitegen.no/customers/eyde/files/Brandtzaeg.pdf (11 November 2014 at 09:00)

18 Carbon Limits (2014): Consequences of low quota prices in EU ETS

MARINE HARVEST

Marine Harvest ASA placed considerable emphasis on energy-efficient solutions in its new fish feed plant at Valsneset in Bjugn municipality

- **Project owner:** Marine Harvest ASA
- **Year funded:** 2013
- **Support amount:** 14,5 MNOK
- **Energy result:** 15,7 GWh
- **Completed:** 2014

The Fish Feed Manufacturer

Marit Engelstad
Food Safety & Technical Manager

Why did Marine Harvest choose to invest in energy-efficient solutions in this plant?
It is in line with Marine Harvest's environmental policy to focus on good solutions to minimize environmental impact. Large-scale operations and well-planned continuous production provide the largest energy gains and economy. A savings of 1KWh/tonne quickly results in savings of 1000 KWh/day for us.

What are the most important results from the project?
Since these were investments made from day one in a new plant, we do not have historical data to compare with. Compared with the design specification, energy consumption is lower. Benchmarking with other feed plants will help confirm this.

What is Marine Harvest's view of the future in light of the energy and climate challenges?
Marine Harvest uses "Leading The Blue revolution" as its motto. This means that we view aquaculture as a major future industry. This assumes that the players within feed production lead the way and forge ahead in the development of good and efficient energy solutions.

Non-residential buildings

More energy smart buildings

Market, potential and goals

The construction industry is one of Norway's largest and most complex industries, with a number of market players of varying natures and sizes. The market for non-residential buildings consists of private property and buildings owned by the Norwegian state, counties and municipalities. About 85 m2 of the buildings are privately owned. About 44 million m2 of all non-residential buildings have public owners[19].

Investments in the construction industry have remained at a stable and high level in recent years. Investments in new non-residential buildings amounted to NOK 75.3 billion in 2013, while NOK 68.7 billion were invested in ROT (reconstruction, renovation and maintenance) of non-residential buildings in the same year[20]. Studies in 2012 showed that the potential for improving energy efficiency in existing buildings is at about 7.5 TWh leading up to 2020[21].

The goal of Enova's focus here is to realize as much as possible of the energy efficiency potential in Norwegian buildings. This area includes new buildings, maintenance and renovation of existing buildings.

Market situation

Improving energy efficiency is a very important step on the road towards a future low emission society. Non-residential buildings and residential buildings represent nearly 40 per cent[22] of total energy consumption in Norway. Since energy use in Norwegian buildings is largely covered by electricity, the Norwegian buildings sector is considered to be climate-friendly compared with the same sector in most other countries. However, a number of studies have shown that Norwegian buildings have a significant energy efficiency potential.

The construction industry is highly dependent on the state of the market. Investments increase when times are good and are postponed or cancelled in bad times. The opportunities for investing in new technical solutions and energy-efficiency measures are closely linked with the investment level in the market. Slower growth in the Norwegian economy in 2014 led to a more uncertain situation in the construction and property market.

DNB's market report for the second half of 2014 notes that lower activity and a greater focus on costs in the oil sector will have consequences for the office rental market. The rental market is reporting increased vacancy and levelling off of rental prices. Figures from Statistics Norway[23] show that the number of permits to start commercial building works remained at about the same level in the third quarter of 2014, compared to the same period in 2013. An increase of 14.6 per cent was also recorded in the number of completed buildings compared to 2013.

Lessors, brokers and developers are reporting increased interest in investments in buildings that contribute to reduced energy use. Several companies are aware that their reputation can be impacted by the energy and environmental profile of the building they are located in. The increasing support for BREEAM-NOR[24] is one of several indications of this.

New buildings are becoming increasingly energy-efficient. In 2005, only a few innovators were able to build passive houses. In 2014, passive houses are being built all over the nation, and in 2013 alone, Enova supported nearly one million square metres of passive houses. Together with research and market players, Enova's work in passive houses has helped move the front in the direction of more energy and climate-friendly buildings in Norway.

An analysis of the real estate industry carried out by McKinsey for Enova, shows that the industry is characterized by major market players, where the 100 largest are responsible for five times more energy use than the next 400 put together. Many of the profitable measures to improve energy efficiency in existing buildings are not implemented. We work actively to get more building owners to renovate with a greater focus on energy and the environment.

Electricity is the primary source used to heat buildings. This means that the power price largely determines the financial incentive for improving energy efficiency and the desire to convert to alternative energy carriers. The price of electricity has remained low in recent years, which has led to reduced interest in energy efficiency projects.

Buildings have long lifetimes and eight out of ten properties that will be used in 40 years have already been built. There is a considerable potential for improving energy efficiency in existing buildings that can be realized e.g. through energy management, more efficient operation and implementation of new technological solutions.

Enova has supported the development of capacity for district heating, small heating plants and infrastructure for central heating in buildings. This has helped create a much bigger opportunity to choose renewable energy carriers. Enova will continue its work to increase the application of renewable heating and to the non-residential buildings market.

Prospects

Investments in the building and real estate business are expected to remain at a high level going forward. The signals we observe indicate a new building market that is changing in a positive direction. In the market for existing buildings, we are working to get major building owners to have an even greater focus on energy efficiency and the environment during renovation processes. There is a good response in the market for private non-residential buildings, and we are seeing increasing interest from public building owners. We will maintain the focus on the existing building mass in 2015. The offer will be expanded with mapping support for existing buildings. At the same time, we are developing Byggnett into a tool to compare energy standards and operating efficiency. Enova will continue to stimulate the market players leading by example, and will have a major focus on innovation and technology development in its programmes aimed at the new buildings market.

19 Prognosesenteret, 2014. Total market for buildings with prognoses 2014-2016.

20 Prognosesenteret, same as above.

21 Enova report 2012:01 Study of the potential and barriers; improving energy efficiency in Norwegian buildings.

22 Storting White Paper No. 28, 2011-2012. Good buildings for a better society

23 Construction area 3rd quarter 2014:https://www.ssb.no/bygg-bolig-og-eiendom/statistikker/byggeareal/kvartal

24 BREEM-NOR is an environmental certification scheme for buildings and construction processes in Norway.

COOP NORD

The Coop Bardu shopping centre at Setermoen has been renovated into a low energy building.

- **Project owner:** Coop Nord SA
- **Year funded:** 2012
- **Support amount:** 2,2 MNOK
- **Energy result:** 0,96 GWh
- **Completed:** 2014

The Energy Saver

Tor Langnes
Head of operations

Why did COOP choose to invest in an energy upgrade of this shop?
It had a high energy consumption and we wanted a more environmentally friendly and cost-efficient solution.

What are the most important results from the project?
Energy consumption has been slashed in half and the indoor environment was improved. Satisfaction among employees also increased.

What is COOP's view of the future in light of the energy and climate challenges?
Coop Bardu took part in an energy saving programme, which firstly focuses on the refrigeration and ventilation installations, but also the lighting in our shops. We are concerned with having all new shops use the latest technology and we have renovated a considerable number of shops since 2011. The results show that energy consumption has been cut in half, while the refrigeration units also increased in size. Over the next 3-4 years, we expect to have renovated all our shops for more environmentally friendly and energy saving operations.

Residential buildings
Major interest in rehabilitation

Market, potential and goals

The residential market includes construction of new residences and the market for renovation, modification and additions (ROT). There are about 260 million m2 of residences distributed between 2.45 million households in Norway[25]. Seventy-eight per cent of residences are privately owned[26]. Residences constitute a significant energy consumption sector. Energy consumption in residences is 45 TWh, which accounts for just under 30 per cent of total stationary energy end-use in Norway.

Investments in new residences constituted about NOK 64.8 billion in 2013[27]. The activity is reduced by about 10 per cent compared to 2012. Investments in residential rehabilitations (ROT) remained stable at around NOK 63.8 billion in 2013, and a growth of about four per cent was expected in 2014[28].

The technical potential for improving energy efficiency when upgrading all residences to the current construction standard is estimated at 13.4 TWh. 2.4 TWh are related to profitable measures where reduced energy costs will cover the investment expense[29].

Enova's goal is to stimulate more homeowners to carry out energy-related measures through extensive upgrades. More prototype projects for comprehensive upgrades will give the market the expertise needed to carry out challenging upgrade projects.

The subsidy scheme, *the Enova Subsidy*, will increase the application of technically mature energy solutions in the residential segment. The scheme will help reduce greenhouse gas emissions and will increase security of supply through restructuring of energy end-use and energy production in Norwegian residences.

Market situation

Electricity[30] covers about 80 per cent of energy use in residences. The major potential for improving energy efficiency that lies in the existing residences makes homeowners important contributors in the transition to a low emission society.

Construction of residences can vary significantly from year to year. Construction of apartments is mainly what ensures variation. Apartments and small houses are constructed by professional developers that operate with small profit margins and that are sensitive to changes in the market. Figures from Statistics Norway show that there were fewer granted permits to start residential building works in the third quarter of 2014 compared to the same period in the two previous years. The decline is greatest for apartments. Despite the decline, investments in new residences remained at a stable level in 2014, at just over NOK 60 billion. This trend is expected to continue in 2015.

The settlement pattern is changing. Figures from Statistics Norway show that the percentage of apartments and row houses among newly constructed residences is increasing faster than single-family dwellings and duplexes. Strong population growth is expected in and around the largest cities in upcoming years. This creates a substantial need for new residences, while also leading to pressure on areas and infrastructure, and poses challenges for climate, health and the environment. New guidelines for residences, area and transport planning were adopted in September 2014. Compact and energy-efficient future cities will reduce the strain on the climate and play an important role in the transition to a low emission society.

The results from Statistics Norway's household survey[31] show that energy consumption in Norwegian households has dropped in recent years. Thirty-six per cent of households in the surveys say they have carried out measures to reduce energy consumption. Of these, about 80 per cent say an important reason is to reduce energy-related expenses. About 40 per cent say the residence has been weatherized, while 61 per cent say that they have replaced their old windows with windows that provide better insulation. In addition, use of oil and paraffin in households has dropped by 14.3 per cent since 2009. The scheme "Enova Recommends" and programmes such as Enova's support programmes for renewable heating have contributed to this development.

While profitability is crucial for decisions in commercial contexts, comfort and trends are most highly prioritized by households. Most people renovate their residence to make it more comfortable and to make a better indoor climate, not to save money[32]. Energy smart decisions are made when energy and climate-friendly solutions have the best performance in the properties requested by users. This makes it attractive to be energy and climate-friendly, thus creating a positive trend in the residential market.

Enova provides advisory service and financing for homeowners through four subsidy programmes. The programmes contribute to an increased focus on energy-related measures during construction and rehabilitation. We work with both the supply and demand side in the residential market.

Prospects

The pace of construction of new residences and rehabilitation of residences is expected to remain at a high level in upcoming years, and the demand surplus for residences in city regions is expected to last.

We are strengthening our efforts in increased application of renewable heating solutions, and have developed a new rights-based programme for energy measures in residences that will be introduced in 2015. The work on upgrading residences will continue. The programmes for residential companies are also being developed further. Working together with other public instruments that affect energy use in residences, for example the Norwegian State Housing Bank and the Norwegian Water Resources and Energy Directorate, will still be prioritized.

25 Statistics Norway 2013. Household statistics and calculations carried out by Enova.

26 Statistics Norway This is Norway 2014.

27 Prognosesenteret, Analysis of the total market for buildings, September 2014.

28 Prognosesenteret 2013. Analyses and prognoses of buildings and construction activity.

29 Study of the potential and barriers: energy efficiency in Norwegian buildings. Enova report 2012:01

30 Statistics Norway 2011. Stationary energy end-use in Norway in 2009 according to end-user sectors.

31 Statistics Norway. Household survey: https://www.ssb.no/energi-og-industri/statistikker/husenergi/hvert-3-aar

32 NTNU 2014, Åsne Lund Godbolt, «Market, Money and Morals. The Ambiguous Shaping of Energy Consumption in Norwegian Households».

RESIDENTIAL BUILDINGS

This couple received support for an energy upgrade of their residence in Asker.

Aggregated figures based on 89 projects in 2014:

- **Project owner:** Privatpersoner i Norge
- **Projects:** Totalt 89 prosjekt støttet i 2014
- **Programme:** Støtte til oppgradering av bolig
- **Support amount:** 2014
- **Støttebeløp:** 9 MNOK
- **Energy result:** 4 GWh

The Homeowners

Jostein Ekre and Judith Schjønneberg
Dalebakken, Asker

Why did you choose to start a comprehensive upgrade of your residence?
We purchased an old house that had not been renovated since it was built in 1976. We wanted to change the layout in the house, which was an extensive job. As we were changing so much on the inside, we decided to tear down to the foundation and upgrade the entire house according to the current regulations.

What are the most important results of the upgrade?
We have a house constructed according to current regulations, that is environmentally friendly and that looks nice. We have two heat pumps and two ventilation systems that ensure we have fresh air and a steady, comfortable temperature throughout the year. It is very pleasant to live in an energy-friendly house, which we appreciate every day.

What do you think the climate challenges we are facing will mean for you and other homeowners?
We believe the climate challenges we are seeing today will impact many homeowners going forward. It is important that we focus on the environment and build environmentally friendly buildings.

New energy and climate technology
Market, potential and goals

Market, potential and goals

The development of new technology takes place through innovation processes in all sectors and in all parts of the value chain. The range of measures is vast. Processes, services, products and business opportunities are being developed that contribute to introduction and spread in the market of new technological solutions, which provide more energy and climate-friendly solutions.

There is a major potential in developing new technological solutions. Lack of knowledge, capacity and risk-willing capital make much of this potential challenging to realize. Enova's instruments are aimed at the last part of the innovation chain; market introduction. Our goal is to contribute to the realization of more highly innovative projects, and for more such ideas to reach the market.

Market situation

A low emission society will require changes in energy use and consumption and production patterns. The report, "The New Climate Economy"[33], shows how technological innovation and investments in efficient low emission solutions can create new possibilities for improved economic growth. A main conclusion from the report is that there is often no contradiction between economic growth and climate action. In order to achieve a combination of growth and fewer emissions, we need to use more renewable energy, while also developing new technological solutions. Innovation and technology development have a key role in transformation of energy systems from fossil to renewable.

The change process up to a low emission society is demanding, but also creates new growth opportunities. Norway is a major and important energy nation which, with our leading expert environments within energy and climate research, high industrial expertise from oil and gas, process and high power industry, is well-positioned to take a leading role in the development of new energy and climate technology.

Technology development takes place to varying degrees within different market segments. The market players range from major groups with designated development departments to individual enterprises and entrepreneur companies. Which players will drive technology development largely depends on how far along in the innovation chain the technology is, and varies for the different market segments. The large companies are important for driving development. The smaller and creative suppliers often provide new ideas.

Within *renewable power*, we can see that innovation is largely driven forward by the suppliers of the technology rather than the producers themselves. There are several major industrial companies with their own developed technology where the innovation processes are driven internally, aimed at developing and streamlining the efficiency of their own production of goods. Innovation in the construction sector is largely driven forward by regulatory standards and requirements for energy and environmental performance, and the innovation takes place in an interaction between the research environments, suppliers and contractors. The non-residential buildings area is ahead of the residential buildings area when it comes to using new solutions.

Private industry and business is the most important driver of technology development. They develop new technology when this is competitive with established solutions in the long term. If companies are to invest in innovation, there must be a signaled profit and a market that is willing to pay.

Technology development can also find fertile conditions during periods of recession. We can see examples of this in industry, where technology development often takes place internally in the company. The focus on production and cost activity is then greatest during strong economic periods, while the necessity of improving efficiency and innovation is stronger when competition gets tougher during periods with lower demand.

Public support for energy and climate technology has proven to be important. The range of policy instruments has continuity, covering the entire development course from research to demonstration of new technology, and thus ensuring that projects reach the commercialization phase. Enova increased its efforts in new energy and climate technology in 2014. Our support and advisory service is linked to four programmes. Through dialogue with many different players in the market, Enova is seeing a steadily increasing interest in energy and climate projects, and it is clear that an increasing number of market players see a commercial potential in investments in new green technology.

Prospects

Unique and good access to renewable power, high productivity and a high level of expertise in Norwegian companies, combined with stable politics and a well-functioning range of instruments, facilitate implementation of new energy and climate technology in Norway. For the individual player that will realize new technological solutions, goals such as increased competitiveness, lower greenhouse gas emissions and entry into new markets are important driving forces.

It takes time to develop new technological solutions. Without any profitability prospects, there is no basis for technology development. We will ensure that those with the ability and willingness to take the lead receive the necessary help along the way. Enova's instruments are at the end of the innovation chain where the need for capital is greatest. Through strengthened efforts in new technology, Enova will help ensure the realization of more demonstration projects, and that more technologies reach the market.

33 The Global Commission on the Economy and Climate, the synthesis report 2014 «Better growth, better climate».

RETURKRAFT/VIKING

Returkraft installed CraftEngine machines in their waste incineration plant in Kristiansand to exploit the waste heat for power production. The project is taking place in close cooperation with technology developer Viking Heat Engines.

- **Project owner:** Returkraft AS
- **Year funded:** 2013
- **Support amount:** 3,4 MNOK
- **Energy result:** 0,15 GWh
- **Status:** Planned completion 2015

The Partners

Ragnar Hauklien (left), *Technical manager Returkraft AS*
Trond Bjerkan (right), *Technical Director og Partner i Viking Development Group*

Why did Returkraft choose to invest in this technology? (Hauklien)
Returkraft has a proactive attitude when it comes to using new technology in its process. In this project, we are going one step further by testing technology that has not yet been fully developed. Returkraft has low temperature excess heat available in the form of hot water, and the CraftEngine units use parts of this energy to generate electricity.

What are the most important results of the project? (Hauklien)
The project shows that it is technically feasible to generate electricity from low temperature waste heat. This is important with regard to utilization of waste heat in society in general, but also for Returkraft as an energy producer.

What does this testing mean for the future of this technology? (Bjerkan)
It is very significant that we are able to test the technology in the field with a professional partner, as this gives us a unique opportunity to acquire empirical data from CraftEngine and the surrounding system in its right element. Acquired data is continuously validated, and implemented to optimize the technology.

Bioenergy

Small steps in the bioenergy market

Market, potential and goals

Bioenergy is biomass (trees, plants, organic waste) that is used for energy purposes. The biomass is refined in the form of solid or liquid fuels.

The theoretical resource potential for bioenergy in Norway is estimated at being more than 30 TWh per year34. The potential for biogas production in Norway towards 2020 is estimated to be around 2.3 TWh per year35.

Enova provides investment support for both establishment of biogas production plants, and establishment and distribution of renewable heating production. The support makes biogas available in the Norwegian market and increases the demand for biofuel. Renewable heating based on biomass is mainly related to waste incineration and biomass from forests.

Market situation

The bioenergy market is influenced by the price of alternative energy carriers. International oil prices have been rising since the downturn in 2009, and have remained at a high and stable level since 2011. However, the prices dropped in the second half of 2014. This development is also reflected in the price of fuel oil. Electricity prices in 2014 were low and falling36. Declining and low prices for alternatives such as fossil oil and electricity limit the profitability of bioenergy projects. A decision was made to remove the tax exemption for natural gas from 1 July in the National Budget37. This will give biogas increased competitiveness going forward.

Use of bioenergy declined in 2013 compared with the previous year. The decline was about 13 per cent38. The main reasons for the decline are, in part, the shutdowns within wood processing and less wood consumption in households. It can be assumed that the latter is related to the fact that 2013 was hotter than previous years. The use of bioenergy in the transport sector was three per cent lower than in 201239. 1.5 TWh of biofuel was used for road transport in Norway in 2012, corresponding to 3.6 per cent of the total energy consumption for road transport40.

Several biogas production plants have been completed in the last few years. Plants in Fredrikstad, Drammen and Jevnaker started producing in 2014. Plans are also under way for biogas plants around Bergen and Trondheim. Together with existing plants, these plants help increase the supply of biogas around the major cities. This enables increased use of biogas, for example in the transport sector.

We have observed an increase in use of district heating, and the percentage of biomass as fuel is increasing. This is also confirmed by the district heating statistics which show that there has been a steady increase in the use of district heating and percentage of biomass being used over several years.41.

Further development

Biogas is one of the measures that contribute to realization of the low emission society, and is an energy source with multiple uses, both within transport and heating supply.

Low electricity prices are expected to continue, along with a declining fuel oil price. Lower activity in the wood processing industry reduces the demand for biomass.

There is a considerable focus on second-generation biofuel, which in a Norwegian context is primarily based on cellulose from wood. If the efficiency and profitability of the chemical production process improve, a rising demand for forest materials used as fuel can be expected.

Industrial-size plants are important to trigger volumes within bioenergy. It has proven challenging to achieve large-scale plants, and it is Enova's perception of the market that this will continue in the next few years. Enova continues its bioenergy efforts through the heating and biogas programmes.

Bioenergy 2014

Biobasert varmeleveranse og produksjon av biobrensel støttet av Enova i 2014:	495 GWh
Of which:	
Biogas production	98 GWh
Waste energy	95 GWh
Chips	280 GWh
Pellets og briketter	21 GWh
Annen bio	1 GWh

34 NVE, Bioenergy in Norway http://webby.nve.no/publikasjoner/rapport/2014/-rapport2014_41.pdf. Various studies show that the potential for increased production of bioenergy for energy purposes is between 15-35 TWh per year

35 Support material for cross-sector biogas strategy. http://www.miljodirektoratet.no/old/klif/publikasjoner/3020/ta3020.pdf

36 http://www.ssb.no/energi-og-industri/statistikker/elkraftpris/kvartal/2014-09-19?fane=tabell&sort=nummer&tabell=197129

37 Storting White Paper No. 1 (2014-2015) National Budget 2015

38 Statistics Norway, Energy accounts and energy balance, 2012-2013

39 http://ssb.no/energi-og-industri/statistikker/energiregn

40 http://webby.nve.no/publikasjoner/rapport/2014/rapport2014_41.pdf

41 http://www.ssb.no/fjernvarme

BORREGAARD

Borregaard built a new biogas production facility at their plant in Sarpsborg municipality.

- **Project owner:** Borregaard Industries Limited
- **Year funded:** 2011
- **Support amount:** 30 MNOK
- **Energy result:** 39 GWh
- **Completed:** 2014

The environmental leader

Kjersti Galleg Gyllensteen
Head of HSE

Why did Borregaard choose to invest in a new biogas facility?
For a long time, Borregaard has had an investment strategy based on conversion to more climate-friendly energy sources. The company also needs to reduce its discharges to water. A biogas facility can do both by using organic material in discharge flows for biogas.

What are the most important results of the project?
The biogas produced corresponds to 35 GWh annually and is used as drying energy for lignine products. This results in a major CO_2 reduction. Other discharges to water and emissions to air are also reduced.

How does Borregaard view the future in light of the energy and climate challenges?
Borregaard uses natural, sustainable raw materials to produce advances and environmentally friendly biochemicals, biomaterials and bioethanol. Our products solve a lot of climate challenges in and of themselves as they replace oil-based alternatives. We also work continuously to reduce emissions/discharges associated with our processes

VI

ANNUAL ACCOUNTS

Comments from the management

Introduction
The Energy Fund shall be a predictable and long-term financing source for the work on promoting environmentally friendly restructuring of energy end-use and energy production, as well as development of energy and climate technology. The funds shall contribute towards strengthening the security of supply and reducing greenhouse gas emissions.

Enova SF manages the Energy Fund.

The annual accounts for the Energy Fund are reported according to the cash basis and show payments and disbursements to/from the Energy Fund in 2014, and well as the Fund capital at 31 December 2014. The accounts show a surplus of NOK 761 million. The surplus has been transferred to the Fund capital in its entirety.

From 2014, a new standard account plan and new statement for the annual accounts were introduced in line with changes in the regulations for financial management in the Norwegian state. This is why comparison figures from the previous year are not shown.

Transfer to the Fund
The Energy Fund's income in 2014 amounts to NOK 1 961 million. The Energy Fund's income consists of transfers from the national budget, interest revenue and income from a parafiscal charge on the grid tariff.

Transfers from the national budget are returns from the basic fund for climate, renewable energy and energy restructuring. The interest revenue comes from the Energy Fund's resources in Norges Bank. The parafiscal charge on the grid tariff is a fee imposed on withdrawal of power in the transmission grid. In 2014, the mark-up for electricity use in households was NOK 0.01/kWh. All other end-users pay NOK 800 per year per Test Point ID.

Subsidies
Total disbursed subsidies in 2014 amount to NOK 975 million. Subsidies from the Energy Fund are disbursed in arrears in line with incurred costs in the projects that received funding commitments. Enova has support programmes aimed at the private, commercial and public sectors, within energy production, energy conservation and new technology. Disbursement to non-financial enterprises of NOK 755 million constituted the majority of disbursements in 2014.

Contractual activities
In 2014, NOK 99 million was paid to contractual activities. In line with the agreement with the Ministry of Petroleum and Energy, the Fund's resources finance a nationwide programme of information and advisory services that support and facilitate achievement of the goals in the agreement.

Administration of the Fund
Pursuant to the statutes for the Energy Fund, administration related to management of Energy Fund resources must be covered by the Fund. In 2014, disbursement of administration fees was NOK 128.5 million to Enova SF.

Balance sheet
At 31 December 2014, the Energy Fund's capital was NOK 7 376 million. The funds are placed in Norges Bank in an account that is part of the Norwegian state's group account scheme. The Energy Fund's capital shall at all times cover the Energy Fund's commitments.

Liabilities
At 31 December 2014, net liabilities to the Energy Fund are NOK 5 931 million. The amount includes liabilities entered into reduced by disbursements that have been implemented.

Auditing
The Office of the Auditor General is the external auditor for the Energy Fund. Deloitte is also involved to provide an auditor's certificate for the Energy Fund's annual accounts. The auditor's certificate is enclosed with the annual accounts and confirms the submitted accounts for the Fund vis-à-vis Enova's's board.

Conclusion
The annual accounts are provided in accordance with provisions relating to financial management in the state, circulars from the Ministry of Finance, and requirements from the overlying Ministry. Enova has kept complete and separate accounts of all income and expenses for the Energy Fund, including funding commitments/liabilities. It is the view of the board that this provides an exhaustive picture of the Energy Fund's result and financial situation in 2014.

The Energy Fund also has a funding commitment authorization to commit NOK 400 million beyond the Fund capital.

Trondheim, 25 February 2015

Tore Holm CHAIR OF THE BOARD	Elizabeth Baumann Ofstad DEPUTY CHAIR OF THE BOARD	Eirik Gaard Kristiansen BOARD MEMBER	Olav Hasaas BOARD MEMBER	Dina Elverum Aune BOARD MEMBER
Einar Håndlykken BOARD MEMBER	Katharina Bramslev BOARD MEMBER	Håvard Solem BOARD MEMBER	Marit Sandbakk BOARD MEMBER	Nils Kristian Nakstad CEO

Subsidy reporting

Deposits reported in liquid assets report	Note	Accounts 2014
Opening balance on settlement account in Norges Bank		6 614 566 701
Changes during the period		732 231 099
Total closing balance settlement account in Norges Bank		**7 346 797 800**

Deposits reported to the capital accounts (31 Dec.)					
Account	**Text**	**Note**	**2014**	**2013**	**Change**
64.18.01	Ordinary funds (assets)		7 346 797 800	6 614 566 701	732 231 099
81.18.02	Deposits on account in Norges Bank		7 346 797 800	6 614 566 701	732 231 099

Note A Allocations of funds for the Energy Fund in the 2014 accounting year				
Expense chapter	**Chapter name**	**Item**	**Item text**	**Allocations of the year**
1825	Restructuring of energy end-use and energy production, energy and climate technology	50	Transfer to the Energy Fund	1 216 000 000

As of 31 Dec. 2014, the Energy Fund has a short-term receivable with the Ministry of Petroleum and Energy of NOK 29 209 487, which results in a fund capital at year-end of NOK 7 376 007 287.

Financial statement for the Energy Fund 2014

	Note	2 014
Transfer to the Fund		
Parafiscal charge on the electricity grid tariff		648 449 474
Transfers over the national budget		1 215 506 883
Return on deposits in Norges Bank		96 707 361
Total transfers to the Fund	**1**	**1 960 663 718**
Transfers from the Fund		
Subsidies for municipalities		93 564 947
Subsidies for county authorities		15 436 910
Subsidies for non-financial enterprises		755 120 982
Subsidies for financial enterprises		143 110
Subsidies for households		50 143 599
Subsidies for ideal organizations		12 692 436
Subsidies for public administration		47 674 082
Total subsidies	**2**	**974 776 067**
Contractual activities	3	98 780 519
Administration of the Fund	4	128 500 000
Total transfers from the Fund		**1 202 056 586**
Financial income		
Bank deposit rate Danske Bank		2 766 072
Interest income grid tariff		67 381
Net financial income	**5**	**2 833 453**
Annual profit/loss	**6**	**761 440 586**
Allocation of profit/loss for the year		
Transfer of the period's profit/loss to accrued fund capital		761 440 586

Balance sheet for the Energy Fund 2014

	Note	2 014
Cash balance Norges Bank		7 346 797 800
Short-term receivable MPE		29 209 487
Total assets	**7**	**7 376 007 287**
Energy Fund's capital		7 376 007 287
Total Fund capital and liabilities	**7**	**7 376 007 287**

Note 1
The Energy Fund's income in 2014 are derived from a parafiscal charge on the grid tariff, allocations over the national budget and accrued interest from Norges Bank.

Note 2
The amounts represent disbursements in connection with support projects approved by Enova SF on behalf of the Energy Fund, reduced by repaid support in connection with cancelled funding commitments.
New commitments entered into by Enova SF on behalf of the Energy Fund in 2014 amount to NOK 3 364 645 686. The remaining total liability at 31 December 2014 is NOK 5 930 689 362 and emerge in the following manner:

Commitment Energy Fund 1 Jan. 2014	4 562 806 071
New commitments in 2014	3 364 645 686
Cancelled commitments 2014	-794 705 810
Total disbursed from the Fund 2014	-1 202 056 586
Commitment Energy Fund 31 Dec. 2014	5 930 689 362
Cash balance Norges Bank 31 Dec. 2014	7 346 797 800
Unappropriated	-1 316 567 624
Interest income 31 Dec. 2014	-99 540 814
Other short-term receivables MPE	-29 209 487
Total transferred to 2015	-1 445 317 925

Note 3
The amounts represent disbursements in connection with required tasks in the MPE agreement, which mainly cover a nationwide answer service, market communication, attitude-shaping work, international activities, analysis activities and knowledge generation.

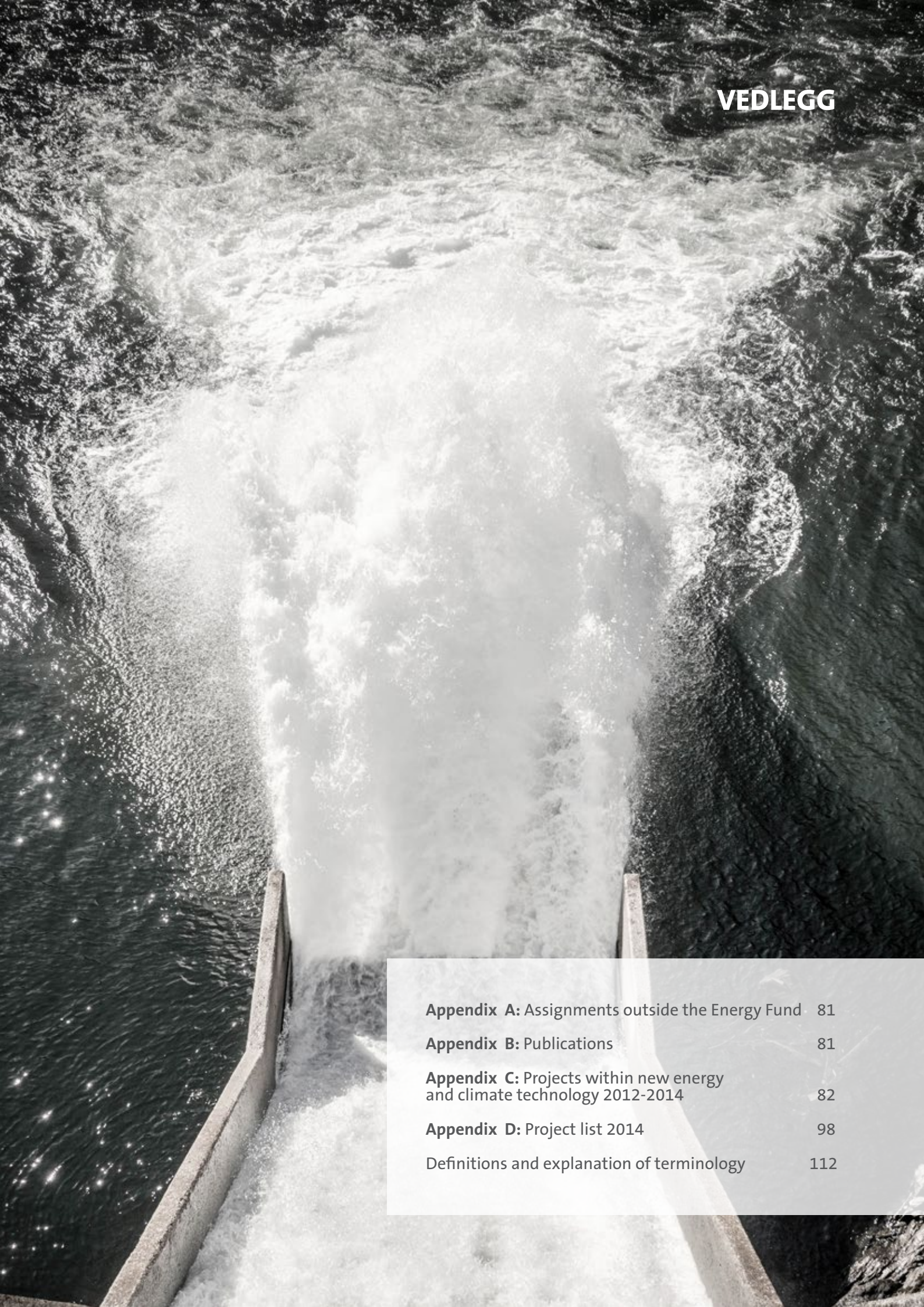
Note 4
The disbursed administration fees for Enova SF amount to NOK 128 500 000, incl. VAT, which constitutes NOK 102 800 000 ex. VAT. Real administration costs for the Energy Fund in 2014 totalled NOK 103 388 487. NOK 588 487 is financed by other equity for Enova SF.

Note 5
Paid interest comes from interest earned in the Energy Fund's account in Danske Bank and interest from the grid companies in connection with late grid tariff payments.

Note 6
The profit in 2014 shows a surplus of NOK 761 440 586. The surplus is the difference between payments and disbursements to the Energy Fund's account in Norges Bank in 2014.

Note 7
The amounts show the Energy Fund's capital at 31 Dec. 2014, which consist of the cash balance in Norges Bank and other short-term receivables MPE.

VEDLEGG



APPENDIX A:

Assignments outside the Energy Fund

Energy Technology Data Exchange (ETDE)
On behalf of the Ministry of Petroleum and Energy (MPE), Enova has administered the funds of the Energy Technology Data Exchange (ETDE) up to 2014. ETDE is the International Energy Agency's (IEA's) multinational information programme, which concerns collecting and providing access to energy-related literature through ETDEWEB's energy database. Enova was responsible for following up and funding work related to maintenance and operation of this database on the Norwegian side.

An external evaluation of ETDEWEB was carried out in 2012, which resulted in the decision for Norway to withdraw from this international cooperation from 2014. The assignment was terminated in 2014 and remaining funds have been returned to the public purse.

Natural gas
During the 2003-2009 period, Enova has administered the resources for the support programme for natural gas infrastructure on behalf of the Ministry of Petroleum and Energy (MPE). The last allocation over the national budget was in 2009.

The objective of this arrangement was to facilitate increased domestic use of natural gas, and particular emphasis has been placed on ensuring that the use of natural gas has a positive impact on the environment. Conversion from heavier fuels in industry, shipping and transport were prioritized market areas. Any remaining funds following completion of the projects must be returned to the public purse.

At year-end 2014, only one ongoing project remains with a residual commitment of NOK 38.5 million.

APPENDIX B:

Publications

Enova Annual Report – Results and Activities 2013
Enova 2014

Enova Annual Report 2013 – Results and Activities
Enova 2014

Enova's Building Statistics 2012
Enova 2014

Guideline for installation of energy measurement of heat pumps
Enova 2014

Market development 2014. An analysis of Enova's market areas
Enova 2014

Establishment of wind power in Norway
Enova 2014

Guideline for buying an air-to-air heat pump
Enova og Miljødirektoratet 2014

Guideline for buying an air-to-water heat pump
Enova 2014

Guideline for buying a liquid-to-water heat pump
Enova 2014

APPENDIX C: PROJECTS WITHIN NEW ENERGY AND CLIMATE TECHNOLOGY 2012-2014

CONTRACT YEAR	PROJECT OWNER	PROJECT DESCRIPTION	TECHNOLOGY SUPPLIERS	SUPPORT AWARDED [NOK]	PROJECT'S ENERGY RESULT [kWh/year]
Renewable heating					
2012	Nord-Trøndelag county authority	Dynamic thermal energy storage (DTES) in low-temperature local heating system at Mære Landbruksskole in Steinkjer	• Technology developer: Gether AS • Development of energy circulation system: Kværner Piping Technology AS • Management systems/cybernetics: Enoco AS • Energy tanks: Vangstad AS	6 756 755	1 400 000 Conversion from electricity, oil and natural gas
2013	Oslo Airport AS	Snow cooling plant at Oslo Airport Gardermoen	• Technology developer: Oslo Airport and Team-T AS (e.g. Norconsult and Cowi are partners) • Contractor: Veidekke AS	4 260 306	940 000 Production of free cooling, alternatively for electricity
2013	Agder Energi Varme AS	New solutions for heating from hydronic systems for low energy buildings in Kristiansand	• Developer of solution: Agder Energi Varme	3 813 750	810 000 New application of district heating (from waste), alternatively for electricity
Renewable power					
2012	Tjeldbergodden Kraft AS	Tjeldbergodden Gjenvinningskraftverk, low-pressure turbine for power recovery from waste water (seawater) from the methanol plant at Tjeldbergodden in Aure	• Turbine, generator: CleanPower AS • Runner: Oshaug Metall AS • Expertise runner: Evald Holmén Consulting AB • Generator configuration: InPower AS	4 774 792	2 500 000 Production of power
2012	Flumill AS	Flumill tidal mill – pilot plant for power production in Rystraumen in Troms	• Turbine: Flumill AS • Electromechanical system: Siemens AS • Composite parts: Sørkomp AS	57 304 504	5 100 000 Production of power
2013	Returkraft AS	Combined heat and power production from low-temperature waste heat from Returkraft's waste combustion facility in Kristiansand using CraftEngine piston engine	• Technology developer: Viking Heat Engines AS • Partners development piston engine: Insitut for Produktutvikling (IPU), AVL Schrick GmbH	3 361 526	150 000 Production of power
2013	Asker municipality	Combined heat and power production from disposal gas from Yggeset waste park in Asker using stirling engines	• Stirling engine: Cleanergy AB • Partner: Wärmeprozesstechnik Gmbh • Gas plant: MGE Teknikk	1 468 120	336 955 Production of power and heat
2013	Nordre Follo Renseanlegg IKS	Production of electricity and hot water from biogas using micro gas turbine at Nordre Follo's plant in Ås	• Technology developer: Adigo AS • Gas turbines: Capstone Turbine Corporation	1 310 000	600 000 Production of power
2013	Hønefoss Fjernvarme AS	Combined heat and power production through utilization of available excess heat from low-pressure steam from bio boiler at Follum in Hønefoss using Torcircle expander	• Technology developer: Tocircle Industries AS	6 571 344	4 698 268 Production of power
2014	Gjøvik, Land og Toten Interkommunale Avfallsselskap IKS	Energy utilization of landfill gas with installation of five stirling engines at Dalborgmarka Miljøpark	• Technology supplier: Cleanergy AB, MGE-Teknik AB	1 400 300	486 000 Production of power and heat, as well as conversion
Non-industrial plants and facilities					
2013	Digiplex Fet AS	Construction of cost-efficient, safe and environmentally friendly data centre in Heia Næringspark	• Total contractor and construction contractor: Miljøbygg • M&E contractor: Gunnar Karlsen/Totaltek	30 300 000	7 358 400 Energy efficiency
2013	Andersen Gartneri AS	Installation of AGAM dehumidifier in greenhouse in Råde municipality. Uses low-temperature regeneration of hydroscopic salt	• Technology developer: Agam FlexTechnic Aps	174 295	180 000 Energy efficiency and reduced use of propane
2014	Norwegian Public Roads Administration Region South	Installation of intelligent lighting system in the Gvammen/Århus tunnel. Traffic is registered using a camera, and light zones are activated and follow the car through the tunnel	• Technology supplier: not determined	499 920	114 066 Improving energy efficiency

Appendix C: The table shows projects within new energy and climate technology that received support in 2012-2014. Approved support and the contractual energy result have been corrected for the final reported result.

PROJECT'S CLIMATE RESULT IN NORWAY [kg CO_2-eq/year]	PROJECT STATUS	INNOVATION	EXPERTISE DEVELOPMENT
379 000 Conversion from oil and natural gas	Under development	• Dynamic thermal energy storage • Patenting new technology • New combination of technology with low-temperature local heating systems • Multiple innovations in system, individual technologies, storage and management for optimisation of performance and utilization of low-temperature surplus energy	• Cooperation with the Norwegian University of Science and Technology (NTNU), University of Oslo (UiO) and Bioforsk, as well as Nord-Trøndelag county authority, which is in turn building operative experience in relation to other market players • Research arena at Mære landbruksskole • Publication at national and international conferences • Master and doctorate degrees at NTNU; measurements in wells in cooperation with Christian Michelsen Research (Bergen)
0	Under development	• Utilization of snow as source of free cooling	• Demonstration facility • Knowledge about system development, functionality and suitability of the technology • Information dissemination with associations, e.g. Norsk VVS Energi- og Miljøteknisk Forening and Fjernvarmeforeningen • Presentations at various conferences • Project tasks associated with the project
0	Under development (two buildings, a total of 40 apartments, have been completed and are operational)	• Innovative composition of technology, introduced in new market segment • Simplified and more efficient hydronic system inside the building, suitable for industrialization • Utilization of structure for distribution of hot water for consumption for floor heating • Try new consumption points, e.g. washing machine and dishwasher for hot water from renewable sources	• Demonstration facility for the district heating industry, architects and property developers • Cooperation with other expertise environments (major contractors, the HVAC sector, Bellona) • Objective measurement of consumption for verification and analysis • Tailored measurement programme offered to end user for customer follow-up and increased awareness • Presentations in meeting arenas and at conferences
0	Completed, but was not operational in 2014	• Turbine and generator in the same unit makes gearbox unnecessary • Adapted tempered seawater with regard to corrosion • Replaceable runner for seasonal variation in water volume • Patenting of technology is under consideration	• Reference facility for the industry • Facilitated for monitoring, measurement and learning • Relevant for connection to research projects and education • Information dissemination through presentations at conferences, nationally and internationally • Applying for EU funds for further development of the technology in cooperation with Spanish Gas Natural Fenosa
0	Under establishment	• Design: Screw (helix) and configuration (articulated frame) • New application area for the composite material. Low cost. Liquid • No movable parts in the turbine and natural uplift system results in low wear • Patented technology	• Cooperation with the University of Tromsø and Asplan VIAK • Cooperation with the hydrodynamic environment in Southern Norway through the University of Agder, CFD Marine and Acona (calculation of effects, forces and behaviour in the water masses) • Information dissemination through presentations at conferences and to potential industrial partners • Master at the Norwegian University of Science and Technology (NTNU), several planned at the University of Tromsø (UiT) and University of Agder (UiA) • Has received technology award in China
0	Under commissioning	• Known motor technology (piston engine) adapted to new area of application • Simple design, very effective • Several patents, e.g. on heat recovery unit and valve system (injection system)	• Demonstration facility (Returkraft has about 3 000 visitors each year) • Several cooperation projects with research and educational institutions, e.g. Sintef, Teknova, Denmark Technical University (DTU) • Doctorate at DTU
0	Completed and operational	• Verification of stirling engines' suitability for power production from low-quality disposal gas with low methane content. Can tolerate impurities in gas • Several patents, e.g. for the burner, gas cooler and piston	• Demonstration facility. Premises facilitated for tours and courses in connection with the facility • Information dissemination to and via the industry organization and trade journals, as well as municipal professional journals • Several news stories in connection with opening of the facility • Continued major interest from the waste industry. About two visits at the facility per month from Norway and abroad
0	Under development	• Newsworthiness as this is first-time implementation of micro-turbine cleaning facility for production of power and heat (co-gen) • Development of complete management system	• Demonstration facility. Available for visitors from industry and academia • Web-based monitoring of the facility enables easy data acquisition and sharing
0	Under development	• Enables power production from steam with low pressure and temperature • Flexibility in using multiple machines adapted to seasonal fluctuations • Patented technology	• Demonstration facility • Included in Viken Skog's efforts in "Treklyngen" at Follum, a business cluster for comprehensive and coordinated utilization of forestry, including sharing of expertise
56 358 Conversion from oil	Under establishment	• Stirling engine can withstand polluted landfill gas • Can be run with landfill gas with a methane content down to 18%	• Learning arena for dissemination of experience and knowledge is established when needed or based on demand • Facility can be used for tours upon request
0	Under development	• Use of evaporation/adiabatic cooling units • Use of the building as a local route for ventilation air	• Company network established • Participating contractor is building expertise • Execution of tests at the University of Leeds to optimise the rack design to reduce PUE
19 000 Reduced use of propane	Completed and operational	• Reduces energy use for dehumidification by 25% due to energy-efficient low-temperature regeneration of hygroscopic salt	• Company network established • Continuous measurement and documentation ongoing • Publication in a scientific periodical is under consideration
0	Under establishment	• Connection of two familiar technologies; AID cameras and dimming system for LED lighting systems • Light level in the tunnel controlled based on need using AID cameras, where lighting zones are activated when there is traffic and follow the car through the tunnel • The lighting level will be reduced to 10% when there is no traffic	• Prestigious project where a future-oriented and energy conservation profile is selected • Project owner assumes expertise development and spread both internally and externally

REALIZED DISSEMINATION OF TECHNOLOGY	FURTHER DEVELOPMENT AND DISSEMINATION
• First implementation of full-scale facility in Norway and globally • Direct development cooperation has been entered into with the University of Oslo with regard to further cooperation at the Natural History Museum in Tøyen	• Particularly suited for buildings with glass/atriums, historical buildings, energy efficiency for buildings on small lots, cooling in supermarkets • Technology supplier estimates potential spread to several thousand plants in Norway. • National potential for reduced greenhouse gas emissions • International potential for spread that can result in conversion to renewable energy and reduced greenhouse gas emissions – the technology is also important for cooling
• First snow-cooling plant in Norway • Implemented in one hospital in Sweden	• Suitable for meeting cooling needs in buildings and facilities in areas with snow and frost in the winter and large areas available for snow harvesting and storage. • International potential for dissemination in areas with similar climatic conditions, which can yield greater use of renewable energy for cooling and reduced greenhouse gas emissions. • Master's theses and doctoral assignments relevant when facility is operational
• Parallel development courses underway through Enova's competition for simplified heating solutions. • A planned building wants a solution with only a tap water structure, where floor heating is taken from the tap water, planned construction start-up: Spring 2015	• This technology makes water-borne heating systems a more suitable solution in buildings with very low energy use. • Industrialization will make the solution suitable for water-borne facilities throughout Norway. • Relevant for major contractors, associations and the industry • Contact with several equipment producers that want to participate. Expecting several prototypes of integrated closet solutions in the near future • In negotiations with developer to test and further develop the solution with hot tap water as the energy carrier
• Pilot in the Nea watercourse is operational every summer (Statkraft) • Sales agent agreement with company in Puerto Rico (covers the Caribbean, Central America, and northern South America)	• Transferable to utilization of mandatory minimum release in watercourse. Potential increases with implementation of the EU's Water Directive • Transferable to water canals and dams connected to irrigation/ water supply • Technology supplier estimates spread potential at around 20 industry plants in Norway, with comparable water consumption • Approved two SkatteFunn (Tax Deduction Scheme) applications for further development of the technology • International potential for spread that can yield improved utilization of waste water for power production and reduced greenhouse gas emissions.
• First full-scale implementation in Norway and globally.	• Technology supplier estimates spread potential in Norway of 5 TWh • The international spread potential could be 100 to 300 systems over the next ten years. • International potential for spread that can yield increased production of renewable power, and reduced greenhouse gas emissions.
• First implementation globally • Developer signed agreement with BE Aerospace, the first test machines have been delivered • Two test machines delivered to Caterpillar in the US/Germany (exhaust heat) • One test machine delivered to Mitsui in Japan (geothermal)	• Suitable for other energy sources: solar thermal, biomass and geothermal energy • Technology supplier estimates own spread potential to 2000 units globally by 2015, increasing to 4000 units total by 2016 • Suitable for other energy sources; solar, thermal, biomass and geothermal energy • Technology supplier estimates own spread potential to 2000 units globally within 2016, including to a total of 4000 units by 2017 • International potential for spread that can yield increased production of electricity from renewable energy and energy recovery, and reduced greenhouse gas emissions
• First implementation of technology for this application area in Norway. • Implemented abroad. Used on landfill gas at one facility in Sweden. • Technology supplier will now deliver facilities in the UK	• Suitable for landfill facilities and methane gas plants. In Norway: 62 landfills in operation and 85 methane gas facilities • Generally suitable for biogas, natural gas, mixtures of natural gas and biogas, peak load solution • Technology supplier is in dialogue with several interested parties in Europe • International potential for dissemination that can yield increased production of electricity and reduced greenhouse gas emissions
• First implementation in Norway • Implemented in several facilities internationally, e.g. in the US and Europe	• Suitable for biogas plants, landfill facilities and facilities for handling food and other waste. • In Norway: 20 biogas facilities which treat drain mud from cleaning plants in Norway. 62 waste disposal sites in operation and 85 methane gas plants. • Primarily relevant for medium-sized facilities. • Suitable for large greenhouse facilities which need power, heating and CO2. • International potential for spread that can yield increased production of electricity from renewable energy and energy recovery, and reduced greenhouse gas emissions • Project owner is experiencing major interest from the market
• The project is a second-time implementation of a full-scale facility • Turbine previously implemented at Senja Avfall IK	• The project creates a platform for further dissemination of steam expanders in the Nordic countries, and then internationally. • Repetition of expander production and run-time enables roll-out of other energy solutions with similar technology, e.g. ORC systems • Technology supplier estimates spread potential at about 20 district heating plants in Norway, and 90 plants in the rest of the Nordic countries • International potential for dissemination that can yield increased production of electricity from waste heat, and reduced greenhouse gas emissions.
• Second-time implementation of technology in this application area in Norway	• Suitable for biogas, natural gas and a mix of natural and biogas • National and international potential for dissemination that can yield increased production of electricity and reduced greenhouse gas emissions • Further spread of the technology could take place through information on the project's owners website and tours of the facility
• First-time implementation in Norwegian data centres • Implemented in Sweden • Corresponding technology will be used in ongoing development of Digiplex data centre in Sweden	• Several construction steps are under consideration • Potential unclarified, but growing Norwegian industry and several establishments are expected • Transferable to Nordic data centres • International potential for spread that can yield improved energy efficiency and reduced greenhouse gas emissions
• First-time implementation in Norway • Implemented abroad (Denmark and Israel) • Installation of eight identical machines due to good results after a brief time in operation	• Suitable for implementation in greenhouses • Project owner estimates that technology is relevant for 60% of all Norwegian greenhouses • National potential for reduced greenhouse gas emissions
• First-time implementation of the combination of AID cameras and lighting management in Norway and globally	• Project owner estimates a future national potential for improved energy efficiency of 3 GWh/year, based on the Norwegian Public Roads Administration's manual (N500) • International potential for spread that can yield improved energy efficiency and reduced greenhouse gas emissions

50

Projects in 2012-2014

New energy and climate technology is essential for adaptation to a low emission society. The work in new energy and climate technology will help reduce greenhouse gas emissions and support the development of restructuring of energy end-use and energy production in the long term through developing and utilizing technologies and new solutions that can contribute towards this.

In the 2012-2014 period, Enova supported a total of 50 projects with a total of NOK 2.013 billion.

APPENDIX C: PROJECTS WITHIN NEW ENERGY AND CLIMATE TECHNOLOGY 2012-2014

CONTRACT YEAR	PROJECT OWNER	PROJECT DESCRIPTION	TECHNOLOGY SUPPLIERS	SUPPORT AWARDED [NOK]	PROJECT'S ENERGY RESULT [kWh/year]
Industry					
2012	Hydro Aluminium AS	Hal4e Amperage Increase Project – Reduced specific energy use in aluminium production through increase of the amperage on the HAL4e cells at the test centre in Årdal	• Technology developer: Hydro Aluminium	16 230 000	1 506 000 Energy efficiency
2013	Vulkan Infrastruktur og Drift	Heat recovery plant for using steam from bakery ovens in a new production site for Mesterbakeren AS in Oslo	• echnology developer: Foodtech Bakeri og Industry AS • HVAC engineering: Erichsen & Horgen AS	467 003	58 897 Heating production
2013	Mostad Mekaniske AS	Energy cap on existing building in Oppdal, for insulation and capture and storage of solar heating, with energy storage in well for utilization of varying seasonal production and consumption in building	• Technology supplier: Mostad Mekaniske	42 580	30 000 Production of heating, alternatively for electricity
2013	Solin Devlopment BV	Simplified, energy-conserving value chain for production of solar cell grade silicone at Elkem Solar's production facility in Kristiansand	• Technology developers: Elkem Solar, BSB Cooperatieve UA • Production, development: Pillar JSC • Design, development: Tesys Ltd. • Engineering, analysis: University of Konstanz • Modelling: Ife	25 292 509	1 428 000 Energy efficiency
2013	ReSiTec AS	Improved energy utilization through recovery of silicone from the waste flows from silicone production at Elkem Solar's facility in Kristiansand	• Technology supplier: ReSiTec	4 766 500	8 665 200 Improved energy efficiency through recovery
2013	Nøsted Kjetting AS	New continuous process for production of high-strength chain at Nøstad Kjetting's facility in Mandal	• Technology developer: Nøsted Kjetting • Welding technology: ESAB • Robotics: ABB • Heat treatment and automation: SINTEF Raufoss Manufacturing AS • Project development: Enøk Total AS • Adiabatic cutting: Schubert, EFT Induction technology	12 000 000	5 000 000 Energy efficiency
2013	Metallco Aluminium AS	Use of induction for drying aluminium shavings for aluminium recycling at Metallco Aluminium's facility in Toten	• Technology developer: Plasma Kraft AS and Metallco Aluminium AS	283 463	0 Reduced use of propane
2013	Hydro Aluminium AS	HAL4e Pilot Plant – Further development and prototype testing of the next generation HAL4e cells at the reference centre in Årdal	• Technology developer: Hydro Aluminium	39 181 500	5 100 000 Energy efficiency
2013	Scanbio Bjugn AS	New energy-efficient drying process of fish peptides at Scanbio Bjugn in Bjugn	• Technology developer: Scanbio Ingredients • Management system: VisionTech AS • Engineering: Multiconsult AS	11 350 000	19 018 000 Reduced use of heating from fuel oil
2014	Enpro AS	Technology to reduce energy consumption and greenhouse gas emissions through use of CO2 from impure exhaust in production of industrial mineral products. The pilot will be installed at BKK's plant outside Bergen	• Technology development: Enpro in cooperation with ENGSL Minerals DMCC	40 000 000	6 800 000 Energy efficiency
2014	Moelven Mjøsbruket AS	Rehabilitation and isolation of drying plant for timber at Moelven Mjøsbruket in Gjøvik	• Technology developer: Drytec Sverige AB	443 121	529 400 Energy efficiency
2014	Hydro Aluminium AS	Construction of an industrial pilot on Karmøy for next generation energy-efficient primary aluminium production based on a new technological platform, called HAL4e	• Technology developer: Hydro Aluminium	1 555 000 000	96 000 000 Energy efficiency
2014	Elkem AS Bremanger	Pilot facility for dry classification in silicone production at Elkem in Bremanger	• Technology developer: not determined	3 825 025	13 555 100 Energy efficiency

Appendix C: The table shows projects within new energy and climate technology that received support in 2012-2014. Approved support and the contractual energy result have been corrected for the final reported result.

PROJECT'S CLIMATE RESULT IN NORWAY [kg CO_2-eq/year]	PROJECT STATUS	INNOVATION	EXPERTISE DEVELOPMENT
39 000 Reduced process emissions	Under development	• Improved anode production technology • Next level process management and operating procedures	• Included in Hydro's reference centre in Årdal • Increasing expertise in Hydro's technology environment and with external partners such as the Norwegian University of Science and Technology (NTNU) and SINTEF • Related projects have several doctorates in subjects highly relevant to the project • Experience with improved production technology and use of next level procedures • Expecting to publish important operating results after a verification period
0	Completed and operational	• Verification of possible achievable energy recovery and energy utilization	• Demonstration facility • Case study for the industry must be prepared to communicate and highlight the possibilities • Relevant to provide experience data to SINTEF's project INTERACT (supported by NFR) • Meetings with the bakery industry and technology supplier to present operating results that will arise over time
0	Under commissioning	• Embedding hydronic heating pipes for solar heating on roofs. • The heating system is connected to energy storage in existing well • It is being investigated whether the method can be patented	• Tailored measurement and follow-up forms the basis for further development and optimisation • Planned publication of results in professional journal • Company is open to student theses, and other connections from expertise environments
0	Under development	• Simplification of solidification process from two to one steps • Transition from batch to continuous mode • More patents connected to the technology • Publication of results in final report from the project	• Included as part of Elkem Solar's overarching R&D within production of solar cell silicone and use of solar cell electricity, e.g. internal research unit • Several doctorates, as well as cooperation with the University of Agder (UiA)
3 320 000 Reduced process emissions	Under development	• Use of known separation methods applied in a new way to clean waste flows from silicone production and upgrading it to silicone powder with a high value and multiple applications • Added substance to prevent oxidation for cuttings • Separation and cleaning in several stages • Briquetting of silicone powder without mentionable pollution	• Close cooperation with the Eyde network, e.g. in the "zero waste" project • Cooperation with Teknova and others, where results from this project will be shared and used • Planned publication of application and result at an international conference (EuroPM or EU PVSEC) • Project is used actively in the company's marketing • Two applications for EU projects (EuroStar and Horizon2020)
30 000 Reduced use of fuel oil	Under commissioning	• Reducing number of production steps from 19 to 10 steps, of which the number of heating steps is reduced from five to two • Transition from production machines to integrated process. There is no commercial equipment for this	• Important lessons are energy management, new processes with reduced resource consumption, energy and raw material utilization • Collaboration with the University of Agder (UiA) and Umoe: Establishment of centre for innovative design for smart production • Expertise sharing between the involved expertise suppliers through an extensive test programme • Two Master's degrees completed (UiA)
0 Reduced use of propane	Completed, not operational	• Verification of suitability for use of induction for drying metal • Increased material and energy utilization • Combustion of undesirable organic elements on ingoing materials	• Building expertise through experience with testing and operation • Planned development of contract network with various expertise and certification environments in the industry • Experience from the pilot project will be used towards a full-scale installation • When the facility is operational, it will be published and the facility will be sold to other users • Have verified the technology
510 000 Reduced process emissions	Under development	• Innovative cathode and anode design solutions • Next level procedures for process management and operation	• Included in Hydro's reference centre in Årdal • Increasing expertise in Hydro's technological environment and with external partners such as the Norwegian University of Science and Technology (NTNU) and SINTEF • Related projects have several doctorates in subjects highly relevant to the project
5 762 000 Reduced use of fuel oil (diesel)		• New specially designed evaporator • New system for washing with extraction substance • Regeneration of electricity in one of the process systems • Patenting of process is under evaluation	• Possibility to licence the technology to others in the same sector in Norway and abroad, alternatively enter into a joint venture with the partners that want to use the technology
14 400 000 Reduced emissions compared with best available technology	Under establishment	• Use of CO2 from industrial exhaust with a concentration of 4-5% • No other impurities than CO2 are collected during the process • Production of superior mineral products • Known elements individually, composed in a new way • Patent for technology has been applied for	• Expertise development related to process efficiency, CO2 utilization in value chain, production of "green" minerals and chemicals • Verification of the technology in an industrial scale • Detailed results from the facility will be given to the ISO 14000 series (lifecycle analysis) and thus contribute to the best practice database globally
0	Completed and operational	• New method for maintenance of timber dryer with concrete structures • New type of isolation (polyurethane) is sprayed on all outer walls/ ceiling of the dryer followed by flexible sealing layer	• Cooperation with the Norsk Treteknisk Institutt with a large group of contacts within wood processing in Norway, expertise will be developed and disseminated in this environment • Durability of this technology will be judged in 3-5 years
7 000 000 Reduced process emissions	Under establishment	• New design of technological platform for aluminium production with low energy consumption, high production efficiency and low environmental impact • New principles for cathode design • Several technology elements have been patented • Larger cells an increase in electricity strength and productivity	• Demonstration project for verification of technology • Expertise development internally in Hydro and external expertise environments in Norway • Project is part of Hydro's long-term vision for development of the electrolysis technology • Related projects have several doctorates on topics that are highly relevant to the project
0	Under establishment	• Verification of technology for dry classification of silicone products • Energy use is reduced in relation to delivered end product per produced unit • Opens for a superior product, and more new products	• Suitable for removing barriers in further roll-out of the technology • Cooperation with Sintef/NTNU and Comex AS • Expertise dissemination internally in the Elkem system

REALIZED DISSEMINATION OF TECHNOLOGY	FURTHER DEVELOPMENT AND DISSEMINATION
• First implementation of the technology in Norway and globally • Technology forms the basis for the Karmøy Technology Pilot project	• Part of an internal technology development course, for use in Hydro's future plants in Norway and globally • Spin-off potential for transfer to Hydro's existing plants • National and international potential for dissemination which could improve energy efficiency and reduce greenhouse gas emissions
• First implementation of the technology in Norway • Previously tested in Germany	• Suitable for implementation in industrial bakeries and restaurants • Technology's profitability increases with the size of the bakery/installation • Expansion of the installation is under way to see if it is possible to increase the energy result with new implementations • Technology supplier estimates dissemination to 30-40 facilities in Norway • International potential for dissemination which could provide increased utilization of waste heat and reduced greenhouse gas emissions • Using the technology in new projects is being considered due to the project results
• First implementation in Norway • Not aware of any other corresponding system solutions internationally	• Suitable for large existing and new buildings with a heating demand and energy storage possibilities (e.g. large business buildings, shopping centres, storage buildings, public buildings, industry buildings and agricultural buildings) • National potential for increased utilization of renewable energy
• First full-scale implementation in Norway and globally • Pilot tested in Ukraine	• Technology developer and partial owner in the project, Elkem Solar, estimates a dissemination potential to all of Elkem Solar's production in Norway, as well as potential new facilities • National energy efficiency potential • International potential for dissemination which could increase energy efficiency and reduce greenhouse gas emissions • Further roll-out of technology depends on set results of product quality
• First implementation of the technology in Norway and globally	• Suitable for implementation in connection with solar cell silicone production and kerf • International potential for dissemination which could increase efficiency and increased material utilization and reduce greenhouse gas emissions • Contact with several interested market players
• First implementation in Norway and globally	• Project owner estimates a dissemination potential to own production, as well as globally to about 100 installations (of which five are in Scandinavia, 20 in Europe) • National potential for reduced greenhouse gas emissions • International potential for dissemination which can increase efficiency, as well as reduced consumption of raw materials (steel), and reduced greenhouse gas emissions
• First implementation of the technology in Norway and globally	• The technology can be transferred to industry that uses drying technology on semiconductive materials • Suitable for combustion of several types of organic elements (lacquer, hydrocarbons) on inbound material in the same process • Project owner estimates that the technology could be implemented in its entire production • Technology supplier estimates an international dissemination potential, focusing on aluminium producers in Russia, the EU and US/CND • National potential for reduced greenhouse gas emissions • International potential for dissemination which can increase energy efficiency and reduce use of propane, and reduce greenhouse gas emissions • Planned full-scale facility
• First implementation of the technology in Norway and globally • Technology forms the basis for the Karmøy Technology Pilot project	• Included as part of the technology development course in Hydro Aluminium, very significant for future facilities • Spin-off potential for transferring to Hydro's existing facility • National potential for reduced greenhouse gas emissions • International potential for dissemination which can increase energy efficiency and reduce greenhouse gas emissions
• First implementation of the technology in Norway and globally	• Suitable for all drying processes where proteins are involved, both marine (for example fish feed) and animal (for example slaughterhouse waste), etc. • Project owner/technology developer estimates a dissemination potential to their facilities nationally and internationally • National potential for reduced greenhouse gas emissions • International potential for dissemination which could reduce use of fossil fuels, and reduce greenhouse gas emissions
• First implementation in a commercial scale globally • Technology tested in a downscaled size in Dubai	• Technology is suitable for stationary CO2 emission sources with access to saltwater • Spread potential is global, but with a primary focus on developing geographical areas, where consumption of end-products is major • Expansion facility, which is four times larger, planned in the same area with the same CO2 source • National potential for energy efficiency and reduced greenhouse gas emissions • International potential for dissemination which could provide increased energy efficiency and reduced greenhouse gas emissions
• First implementation in Norway • Previously tested in Sweden	• Suitable for timber mills that are isolated in the "traditional" manner • National potential for more implementation is considered great (there are many timber dryers consisting of concrete/concrete elements) • International potential for dissemination which could provide increased energy efficiency and reduced greenhouse gas emissions
• First implementation in Norway and globally • Technology platform has been tested at Hydro's reference centre in Årdal	• Possibility for spread of the technology beyond Hydro's own smelting plants • Installation of test cells with the goal of further developing the technology • National potential for energy efficiency and reduced greenhouse gas emissions • International potential for dissemination which could provide increased energy efficiency and reduced greenhouse gas emissions
• First implementation in Norway and globally • Small-scale tests and trials have been carried out	• Interesting and relevant for players also outside the process industry • Goal to build an industrial-scale plant based on the pilot • National potential for energy efficiency and reduced greenhouse gas emissions • International potential for dissemination which could provide increased energy efficiency and reduced greenhouse gas emissions • The market has provided very good feedback in connection with the test deliveries

Hydro Aluminium

Hydro is planning to develop an industrial pilot plant on Karmøy in Rogaland County. They will use their own developed technology and new principles to speed up development, verification and implementation of next generation primary aluminium production. The technology, called HAL4e, contributes to aluminium production with low energy consumption, high efficiency and low environmental impact. Greenhouse gas emissions are reduced through reduced process emissions. The ripple effects from the project with regard to energy conversation are significant.

Enova supported the project with NOK 1.555 billion in 2014.

APPENDIX C: PROJECTS WITHIN NEW ENERGY AND CLIMATE TECHNOLOGY 2012-2014

CONTRACT YEAR	PROJECT OWNER	PROJECT DESCRIPTION	TECHNOLOGY SUPPLIERS	SUPPORT AWARDED [NOK]	PROJECT'S ENERGY RESULT [kWh/year]
Industry					
2014	Elkem AS Bremanger	Pilot facility for dry classification in silicone production at Elkem in Bremanger	• Technology developer: not determined	3 825 025	13 555 100 Energy efficiency
2014	Nutrimar AS	Energy optimization of production process for processing offal from salmon at Nutrimar on Frøya	• Technology developer: Nutrimar AS	18 500 000	7 500 000 Energy efficiency and conversion from oil
2014	Rørosmeieriet AS	CADIO energy system with CO2 as the cooling medium will be installed at Rørosmeieriet in Røros	• Technology supplier: CADIO • Ventilation system: Omicron Automasjon AS	1 577 500	471 000 Energy efficiency
2014	Norsk Titanium AS	Demonstration plant with two machines for 3D printing of titanium at Norsk Titanium in Ringerike	• Technology developer: Norsk Titanium • Supplier of main components: Tronrud Engineering • Welding solution: SBI	7 715 700	747 000 Energy efficiency
Buildings					
2012	Lerkendal Invest AS	Lerkendal Hotel in Trondheim, energy-efficient hotel at a passive house level and comprehensive system solution w/ focus on needs based management and regulation, decentralized ventilation, solar collector, LED lighting	• Principal design: Rambøll Norge AS, HENT AS • Management system: GK Norge AS, Bravida Norge AS • Cooling: GK Norge AS, K.Lund AS • Ventilation: GK Norge AS	14 000 000	1 968 200 Energy efficiency (electricity and heating)
2012	Rema Eiendom Nord AS	Use of new energy technology and development of comprehensive energy system for the future's grocery stores, implemented at Rema Kroppanmarka in Trondheim	• Principal design: SINTEF Energi AS • Management system: Danfoss AS • Cooling system: Carrier Refrigeration AS • Ventilation: Systemair AS • Façade: Aerogel Norge AS	1 000 000	123 750 Energy efficiency (electricity and heating)
2012	City of Oslo, Kulturbyggene in Bjørvika	The new public library in Oslo. Heating and cooling with TABS (Thermoactive building elements), reduces energy and effect for cooling and heating, in addition to passive house design	• TABS and façade (advisors and developers): Lund Hagern Arkitekter, Atelier Oslo, Asplan Viak, Multiconsult AS • Suppliers: not determined	10 839 144	325 300 Energy efficiency (electricity and heating)
2013	Kjørboparken AS	Rehabilitation of Powerhouse Kjørbo in Bærum into an energy-plus office building. The building will produce more energy over the course of its lifetime than is used for construction and operation. Innovative total concept, with a focus on building structure, technical installations and local production of energy	• Concept solutions: Skanska Norge AS, Snøhetta AS, SAPA Building System AB, Asplan Viak AS, Multiconsult AS and ZEB. • Total contractor: Skanska Norge AS • Suppliers: Hubro, Stokkan lys Systemair, Sunpower, Bærum Byggmontering, KlimaControl, Johnsen Control, Thermocontrol AS, SAPA Building Systems	12 960 447	349 364 Energy efficiency, conversion, as well as production of power, heating and cooling
2013	Skanska Norge AS	Skarpnes Boligfelt in Arendal with a passive house standard for houses and apartment buildings that produce as much energy as they consume over the year, with local storage and deliveries to the grid	• Principal design: Skanska Norge AS, ZEB	5 271 853	271 800 Energy efficiency, as well as production of power and heating
2013	Aktivhus Entreprenør AS	Huldra Økogrend in Hurdal, Eco-village consisting of 34 buildings and 44 dwelling units	• Principal design: Aktivhus AS/Aktivhus Entreprenør AS • Management system, ventilation, solar cell, LED lighting, windows w/blinds: Isoreflect Energy Products AS	12 866 302	497 710 Energy efficiency (electricity and heating), and electricity production
2014	Orkla Elektronikk Lomundal	Solar roofing on villa rooftops in Orkdal	• Technology supplier: SED Photovoltaik • Partners: Orkdal Energi AS, Jøla Takservice AS	80 242	1 195 Production of power
2014	Kjeldsberg Sluppen ANS	Sluppenveien 17bc (offices) in Trondheim will be erected with high ambitions, including several innovative energy solutions	• Total contractor: NCC Construction AS • Technical sub-contractors: K.Lund AS, Tekniske Ventilasjon and Vintervoll AS	737 000	187 000 Energy efficiency
2014	Fantoft Utvikling AS	A combined retail building and office building in Bergen is being built with high energy ambitions; 50% lower delivered energy compared with energy label A (will be rented to Sweco and Meny)	• Engineering group: Sweco • Architect: Lund&Partners • Total contractor: Lars Jønsson • Electrical: BI Elektro • Ventilation: GK • Piping: Vestrheim	5 400 000	1 099 429 Energy efficiency, as well as production of power and heating

Appendix C: The table shows projects within new energy and climate technology that received support in 2012-2014. Approved support and the contractual energy result have been corrected for the final reported result.

PROJECT'S CLIMATE RESULT IN NORWAY [kg CO_2-eq/year]	PROJECT STATUS	INNOVATION	EXPERTISE DEVELOPMENT
0	Under establishment	• Verification of technology for dry classification of silicone products • Energy use is reduced in relation to delivered end product per produced unit • Opens for a superior product, and more new products	• Suitable for removing barriers in further roll-out of the technology • Cooperation with Sintef/NTNU and Comex AS • Expertise dissemination internally in the Elkem system
2 272 500 Conversion from oil to LPG gas	Under development	• Known technologies are put together and used in new ways to optimize the production process • Production of more superior end-products	• Learning about system development and the suitability of the technology • Sharing expertise with Pescatech, Entro, Project Development Central Norway and internally in the company • NTNU will be contacted regarding project and master's theses connected to the project
142 713 Reduction of oil	Under establishment	• New type of facility with CO2 as the working medium; in addition to cooling, hot water can also be delivered • CO2 provides the opportunity for achieving a temperature difference on the hot side • In combination with propane, the facility will also be efficient at high temperatures	• Training of employees. Cadio will train employees that will operate the system • Project owner is positive to establishment of arena to share knowledge • System will be open for tours
0	Under establishment	• Reduced use of titanium and need for machining • Goal for pilot to become the first commercial 3D printer for major, complex titanium components • Enables local production with few process steps, as well as lower energy use through less waste • Several patents related to the concept	• Dissemination of expertise internally in the company • One of the goals of the project is to establish an arena to spread experience and knowledge, as well as training for future commercial production units
0	Completed and operational	• Sum of many measures focusing on needs based management and regulation, goal is 50 kWh/m2 • Decentralized ventilation systems, two on each floor • Solar collectors with accumulation • Energy recovery from lift	• Demonstration building • Reference project for the hotel industry • Information dissemination through presentations in industry networks and at conferences
0	Under comm-issioning	• Waste heat utilization from cooling to heat floors, ventilation. Stored in accumulator tanks • Ventilation solutions with bypass. Reduced fan energy • Very advanced integrated SD facility • Nanomaterial in translucent façade connected together with light management (façade solution)	• Measurements after commissioning show a 30% reduction in energy use • Spin-off from the CREATIV research project • Master and doctorate at the Norwegian University of Science and Technology (NTNU), to continue internationally • Carried out publications nationally and internationally • Continuation of the work with Snøhetta and development of the Technical Function Description
0	Under development	Passive house level supported by Enova, as well: • Newly developed transparent façade with increased exposure to daylight • Reduced cooling need due to TABS (concrete core activated cooling)	• Participating parties are building expertise • New Oslo Public Library is part of a training programme for young employees in Multiconsult • The project is being published on Kulturbyggene i Bjørvika's website and FutureBuilt's website
0	Under comm-issioning	• Low energy use for construction, reuse of materials, better insulation and airtightness than passive house level, innovative façade solutions • State of the art lighting and management system • Energy-efficient hybrid ventilation system • Energy production covers energy for operation and construction (solar cells, heat pump and waste heat utilization)	• Demonstration building and flagship building • Spin-off from the Powerhouse Alliance and ZEB • Important expertise development for all players, advisers, producers, suppliers • Masters and doctorates at the Norwegian University of Science and Technology (NTNU) associated with the project • Several presentations at courses and conferences; the ZEB conference, Enova conference, VVS-dagene, etc. • Established extensive network of technology suppliers to develop better solutions for energy-plus buildings
0	Under development	• 100% renewable energy supply, solar collectors, heat pump, energy well, heat storage, solar cells • App for controlling own energy use • Development of the Plus customer programme • Hot fill dishwasher and washing machine	• Demonstration area • Connected to R&D, EBLE, pilot in ZEB, solar irradiation measurement Teknova/Sintef, grid connection cooperation with Agder Energi, sustainable buildings (Agder Wood) • Master at the University of Agder (UiA)
0	Under development	• ZENShome advanced management and regulation system for ventilation and heating via a pipeline grid • Dwelling units equipped with several technical elements in a unique combination • Satisfies passive house energy level without balanced ventilation	• Reference project with an entire neighbourhood will make it possible to conduct comparative studies • Zensehome provides the opportunity for collecting detailed knowledge regarding energy use, usage pattern, etc. • Master's theses at NTNU and University of Southern Denmark related to the project • Research project: "Power from the people"
0	Under establishment	• Building-integrated solar cells in roofing with natural cooling of the solar cells • Installation of measurement station for solar radiation, to measure efficiency	• Demonstration and showcase facility aimed at interested market players • Suitable for removing barriers for further implementation in the Norwegian market • Learning project to acquire experiences and expertise • Verification of product properties
0	Under development	• Thermal covers to improve the indoor climate while also reducing energy use and power draw • Covers cast in place provide the possibility of increasing the capacity of energy storage through cast-in water pipes • For added energy, a combined heat pump/cooling machine to provide heating and cooling from outdoor air is used	• Testing and verification of thermal cover in a large-scale • Experiences and documentation from the project will be used in future construction projects • Carried out lectures on concrete associations at Gløshaugen • A course in COWI AS is planned • Work on a technical article in several periodicals about the project and concept have started
0	Under development	• Interaction between all components and building parts, where energy efficiency is an important focus (e.g. needs-based ventilation solution with exchanger, adiabatic cooling for reduced cooling need, utilization of waste heat between the two building parts	• Prototype project across industries with regard to exploiting joint operation of technical facilities • Meny will use the project as a reference for the Meny shop of the future • Sweco will open the building for showings, and is marketing the building nationally

REALIZED DISSEMINATION OF TECHNOLOGY	FURTHER DEVELOPMENT AND DISSEMINATION
• First implementation in Norway and globally • Carried out tests and trials in a smaller scale	• Interesting and relevant for players also outside the process industry • Goal to build an industrial-scale building based on the pilot • National potential to improve energy efficiency • International potential for dissemination which could increase energy efficiency and reduce greenhouse gas emissions • The market has provided very good feedback in connection with the test deliveries
• First implementation in Norway and globally	• The technology developer considers the spread potential major, both nationally and internationally • Transferable to other industries • National and international potential for increased energy efficiency and reduced greenhouse gas emissions • Nutrimar will continue development and investment in the technology in connection with the industry's further development
• First implementation in Norway and globally • Carried out testing for more than two years	• Potential for application in the food industry, other process industry, hotels and housing cooperatives • Technology supplier estimates construction of two facilities per year in a ten-year period • Technology supplier will develop market activities in cooperation with relevant partners • National and international potential for increased energy efficiency and reduced greenhouse gas emissions
• First implementation in a commercial scale in Norway and globally • Multiple-year test production and development of prototype and pilot machines • Production of (a considerable volume) of components for qualification of the technology vis-à-vis aviation	• This facility will form the basis for construction of more production units • Very relevant for the aviation industry, which is experiencing major growth • Could eventually become relevant for the car industry, defence, oil/gas, maritime and other areas • National and international potential for spread that could increase energy efficiency • Potential for increased use of titanium in new areas when the cost of production of titanium components is reduced
• First implementation in Norway • Not aware of any other corresponding system solutions internationally	• Comprehensive concept relevant for hotels in Norway • All or parts of concept interesting internationally • International potential for dissemination which could increase energy efficiency and reduce greenhouse gas emissions
• First implementation of TABS in Norway. Has been implemented abroad • First implementation of façade solution in Norway and globally	• Suitable for implementation in several types of non-residential buildings • Technology indicates an international potential for selling the façade solution • National potential for increased energy efficiency • International potential for dissemination which could increase energy efficiency and reduce greenhouse gas emissions
• First implementation of TABS in Norway. Has been implemented abroad • First implementation of façade solution in Norway and globally	• Suitable for implementation in several types of non-residential buildings • Technology indicates an international potential for selling the façade solution • National potential for increased energy efficiency • International potential for dissemination which could increase energy efficiency and reduce greenhouse gas emissions
• The world's first energy-plus house in a lifetime perspective globally, first Norwegian which incl. bound energy	• Relevant for all future Norwegian rehabilitation and new buildings • Particularly interesting for rehabilitation in cold areas • International potential for dissemination which can increase energy efficiency and conversion, and reduce greenhouse gas emissions • The solutions are followed up in the operations phase. Relevant technology suppliers are involved
• First implementation in Norway • No identical projects tested internationally, but elements have been tested	• Testing of various production methods (buildings), as well as technical solutions • Relevant for future residential area development • International potential for dissemination which could increase energy efficiency and increase production of renewable electricity and reduce greenhouse gas emissions
• First combination of the technologies in Norway and globally	• Relevant for housing development • Project owner and technology developer indicate a potential in further development locally, as well as nationally in Finnmark County • The active house concept combined with eco-society models have a considerable potential as sustainable local communities • Deliveries are planned in other construction projects and stages
• First implementation in Norway and Scandinavia (previously implemented in Austria)	• Relevant for the building materials of the future, the market potential here is nearly unlimited (estimated 250 million m2 residential area in Norway) • Solar roofing can replace ordinary roofing on all types of roofs, which makes the project interesting in projects where roofing is being replaced • National potential for increased production from renewable energy • International potential for dissemination which could result in increased production of electricity from renewable energy, as well as reduced greenhouse gas emissions
• First implementation of TABS system in Norway, but has been used somewhat on the Continent	• The builder considers such a concept to be the solution of the future • Thermal covers are being used to an increasing extent in Europe • National potential for reduced energy consumption • The concept is under consideration in other places by Uponor • The results of Sluppenvegen 17bc can impact sales/the market's interest in chosen solutions
• Interaction between these components has not been previously tested in Norway	• Relevant for the entire construction industry • National potential for increased energy efficiency, and increased utilization of renewable energy • International potential for dissemination which could increase energy efficiency, increased utilization of renewable energy sources and reduce greenhouse gas emissions

Enpro

In cooperation with ENGSL Minerals DMCC, Enpro developed a new technology to reduce greenhouse gas emissions through more environmentally friendly production of industrial, superior mineral products. The pilot plant will be installed at BKK's cogen facility in Øygarden, outside Bergen. Here, exhaust from BKK will enter Enpro's pilot and the main product from the process is sodium carbonate. This is the first implementation in a commercial scale globally. The technology is suitable for stationary CO_2 emission sources with access to saltwater.

Enova supported the project with NOK 40 million in 2014.

Gardermoen Campus

Aspelin Ramm Eiendom AS, through Gardermoen Campus Utvikling AS, is the builder in an exciting new construction project at Ullensaker. An ambitious low energy hospital will be built here, with an A energy rating, for rental to LHL. The innovation lies in the combination of several technical solutions, e.g. ventilation systems divided by phase, energy-efficient heat exchangers, low temperature heating, high-temperature cooling and energy-efficient hospital equipment. The project is a prototype project within energy, indoor climate and universal design.

Enova supported the project with NOK 29.9 million in 2014.

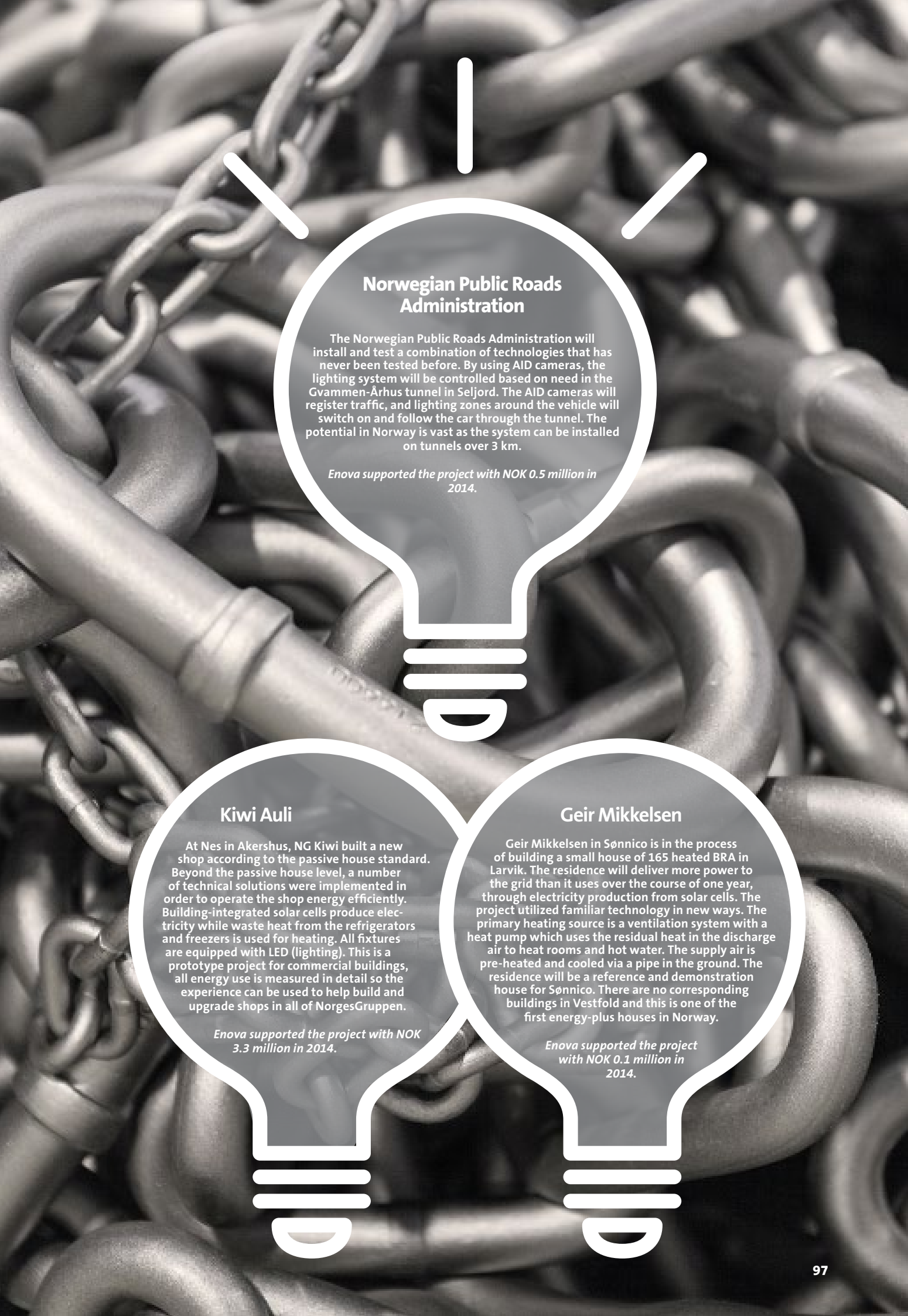
APPENDIX C: PROJECTS WITHIN NEW ENERGY AND CLIMATE TECHNOLOGY 2012-2014

CONTRACT YEAR	PROJECT OWNER	PROJECT DESCRIPTION	TECHNOLOGY SUPPLIERS	SUPPORT AWARDED [NOK]	PROJECT'S ENERGY RESULT [kWh/year]
Buildings					
2014	NG Kiwi Oslo Akershus AS	New Kiwi shop in Nes, Akershus, with several technical solutions that will be coordinated to run the shop, and also achieve a passive house standard	• Contractor: Panelbygg • Refrigeration system: Carrier Refrigeration Norway • Solar cell system: Sol og Vind AS	3 328 170	502 658 Energy efficiency, and production of power and heating
2014	Norwegian Defence Estates Agency (OSLO)	Construction of a zero energy office building, "Haakonsvern" in Bergen (according to SINTEF ZEB's requirements) through optimization of technical solutions	• Total contractor: Veidekke Entreprenør • Builder: Norwegian Defence Estates Agency • Control function: Multiconsult AS and LINK arkitektur AS • Project development: SINTEF/NTNU	2 350 000	273 396 Energy efficiency, and production of power and heating
2014	Bjørkheim Senter AS	Construction of low energy business building with a grocery shop part and residential block in Samnanger. New solutions for interaction between cooling and heating system in addition to utilization of seawater	• Builder: Bjørkheim Senter AS through Finn Moen • Architect: Architect Helge Christiansen AS • Advisers: Energi, Kulde og VVS, Energi og miljøutvikling AS • Total contractor: Montasje Kompaniet AS	3 000 000	352 127 Energy efficiency, and production of heating
2014	Gardermoen Campus Utvikling AS	Construction of ambitious low energy hospital in Ullensaker, for rent to LHL, with energy rating A	• Builder: Aspelin Ramm Eiendom AS, through Gardermoen Campus Utvikling AS • Contractor: HENT AS • Technical subcontractors: not determined	29 900 000	4 882 200 Energy efficiency
2014	City of Oslo Kulturbyggene i Bjørvika	A new Munch museum will be built in Oslo with a passive house standard, with new solutions for solar screening and technical systems	• Advisers and developers: eStudio Herreros, LPO Arkitekter AS, Asplan Viak, Multiconsult AS • Suppliers: not determined	13 391 000	2 060 157 Energy efficiency
2014	Våler Distribusjonslager AS	Expansion of storage building with extensive measures on energy supply, advanced technical systems and optimal management of this	• Total contractor: Peab AS • Architect: Meter Arkitekter AS • Construction manager: Brick AS	11 427 800	1 705 639 Energy efficiency, and production of power, heating and cooling
2014	Entra Eiendom	Papirbredden 3 in Drammen; new office building of 7 floors with energy demand below "passive house level" and 0% heating supply based on fossil fuels or direct electricity	• Builder: Papirbredden Eiendom AS • Total contractor: Strøm Gundersen AS • Architect: LPO Arkitekter AS • Advisers: EvoTek AS, EM Teknikk AS, EM Teknikk Energi AS, Rambøll Norge AS and ECT AS	3 393 441	869 803 Energy efficiency, and production of cooling
2014	Undervisnings-bygg Oslo KF	New primary school (Brynsengfaret skole) in Oslo with ambitious environmental and energy goals. Energy need will be reduced beyond regulatory requirements, as well as production of electricity for own use	• Total contractor: not determined	4 556 000	660 386 Energy efficiency, and production of power and heating
2014	Bergen municipality	Rehabilitation of Varden school in Bergen; "State of the art" energy system using multiple renewable energy sources	• Technology supplier: not determined	551 802	60 000 Energy efficiency, and production of power and heating
2014	Wergelandsveien 7 ANS	Rehabilitation of Wergelandsveien 7 in Oslo: Reduction of real energy use in commercial buildings through a newly developed, innovative façade (Qbiss)	• Technology developer: Trimo	16 212 000	1 180 000 Energy efficiency
2014	Haram municipality	Construction of a care centre in Haram municipality where both construction and energy use must fulfil the requirements according to NS3701 as a minimum	• Total contractor: not determined	3 400 000	1 251 741 Energy efficiency, and production of power and heating
Residential buildings					
2014	Mikkelsen, Geir	Construction of a house in Larvik. The house will deliver more electricity to the grid than it uses over one year, through electricity production from solar cells	• Electrical system: Sønnico AS • Architect: French Touch • Lighting: SG AS • Building contractor: TS-Elementer AS • Plumber: Rørleggermester Lysebo AS	115 600	16 284 Energy efficiency, and production of power and heating

Appendix C: The table shows projects within new energy and climate technology that received support in 2012-2014. Approved support and the contractual energy result have been corrected for the final reported result.

PROJECT'S CLIMATE RESULT IN NORWAY [kg CO_2-ekv/year]	PROJECT STATUS	INNOVATION	EXPERTISE DEVELOPMENT
0	Under commissioning	Passive house level supported by Enova, as well as: • Combination and coordination of technical solutions, such as building-integrated solar cells, aerogel panels and light management, and utilization of waste heat	• Experience and learning from the project are used when constructing and upgrading shops in NorgesGruppen's chains • Prototype project for commercial buildings • Increase expertise within comprehensive solutions for shops • Shop is available for inspection
0	Under development	• Unique interaction between the best available passive measures in combination with optimized technical solutions and own production of energy (e.g. the orientation of the building, solar screening, solar cell system) ensure a delivered energy figure down to 16 kWh/m2	• If the building is completed with the stated ambition, information about the project will be provided locally and nationally • The project provides considerable learning and expertise for the involved players and research environment • The building's results will be followed up, published and analyzed • SINTEF ZEB has contributed to development of the pre-project and will contribute in the continuation with the contractors
0	Engineering	• LED lighting in grocery shop and rental area • Comprehensive solutions in interaction through use of seawater collectors, recovery of waste heat from the grocery shop, as well as use of energy-efficient equipment	• The project has a considerable learning and demonstration potential for NorgesGruppen internally • Provides learning and expertise to advisers and executors • Prototype project for how renters can contribute in the most energy-efficient building possible • The project will be open to tours • Learning arenas for sharing of information and expertise are planned
0	Under establishment	Sum of multiple technical solutions • Ventilation system divided by façade • Detailed, coordinated room management logic • Energy-efficient cross flow heat exchangers with separated air flows • One-pipe system for heating and cooling • Low temperature heating and "high temperature" cooling • Directly cooled, energy-efficient hospital equipment	• Prototype project within energy, indoor climate, and universal design • Annual results in Aspelin Ramm's projects are published in an environmental report • Information dissemination through conferences, seminars and inspections • Cooperation with Sintef energy research in the Interact project • Consultants discuss the project in their environments
0	Engineering	Meets requirements for energy efficiency, greenhouse gas emissions, as well as storage of art • Division into zones according to the building's function and need • Airborne heating and cooling with a high level of heat recovery • Use of low emission materials • Electricity-producing lift, and energy-efficient escalators • Innovative solutions for solar screening	• The building will become an attractive landmark in Oslo • A lot of media attention regarding the innovative solutions is expected • Mention in professional journals that will contribute to a focus on the energy and environmental results • The building will be made available to visitors • Cooperation with FutureBuilt will function as a learning arena
0	Under establishment	Combination of various measures and a high degree of energy self-sufficiency: • Large solar cell system in combination with large freezer installations • Utilization of excess heat from freezer installations • Heat recovery unit with 85% recovery	• Prototype project within energy use and energy supply • Frequent inspections of the building • Cooperation with educational institutions is under consideration • Storebrand Eiendom is an owner, and there is a possibility of transfer of expertise
0	Under establishment	Combination of solutions to fulfil requirements beyond the passive house level: • Heating from heat pump and energy wells • Heat recovery unit • Measures to satisfy thermal conditions without using mechanical cooling • Special measures to reduce internal load • Direct use of well water for comfort cooling	• Included in Drammen's Kunnskapspark (Innovation Centre) • Increase of expertise with involved parties • Demonstration effect
0	Under establishment	Combination of solutions to achieve high energy goals: • Façade-integrated solar cell panels • Liquid-to-water heat pump with energy well for heating production, as well as free cooling • Placement of sports centre on the roof • Aerogel walls in the sports centre	• Could become an important reference for other buildings • Experience with new energy requirements • Application to become a prototype project in Future Built is under consideration • Advisers, architects and other enterprises in the City of Oslo will be invited for tours • Relevant to link the project with research forums
0	Under establishment	Energy system that combines several renewable energy sources: • Hybrid solar collector/solar cell panel (PVT) in synergy with heat pump with a well as the heat source	• Demonstration project • Increasing expertise of the involved parties • The building will be open for tours and presentations to spread expertise
0	Under establishment	• Façade system with up to seven layers of glass/aluminium in a framework • Pressure equalization system that reduces the impact from physical forces, particularly temperature variations • Increased isolation effect through reflective isolation • Qbiss is a new element façade with very good U values compared to the thickness of the façade elements	• The building will be open for tours • Developers, contractors and architects will get useful knowledge from the project
0	Under establishment	Comprehensive solution with known technology composed in new ways to achieve ambitious energy goals: • Water-to-water heat pump connected to discharge air and energy wells • Solar heat collector for e.g. heating tap water • Fans and ventilation with need management	• A lighthouse will be built locally with a focus on energy efficiency and renewable energy sources • Contributes to learning locally, and somewhat nationally • The building will be open for tours • The contractor chosen will increase its expertise in constructing energy-efficient buildings • Marketing in a local and national scale is planned
0	Under development	• Known technology is to some extent put together in new ways • Ventilation system with heat pump for heating ventilation air and tap water. Heating of supply air via ventilation duct in the ground. This will also provide "free" cooling during summer	• Tour and reference residence for Sønnica and building contractor • Experiences will be shared on the project's website • Established contact with the electrical department at Thor Heyerdal Upper Secondary School • Article about the project in the local paper, as well as a planned article in a national media

REALIZED DISSEMINATION OF TECHNOLOGY	FURTHER DEVELOPMENT AND DISSEMINATION
• First implementation of the solutions together in a grocery shop in Norway	• The potential is primarily related to new shops/renovation by Kiwi and NorgesGruppen Eiendom • Relevant for new buildings/renovations within the entire grocery retail industry
• First implementation of the comprehensive interaction in Norway	• If the energy goals are reached, the solutions could contribute premises for new building regulations • The project could be a template for other projects in the Norwegian Defence Estates Agency and others who are interested
• Known technologies, but the comprehensive solutions is very newsworthy • First implementation of such a comprehensive solution in Norway	• Major national grocery retail players are involved, as well as advisers who work nationally • Such a comprehensive concept will be of great value for future solutions • National potential that could improve energy efficiency • International potential for spread which could result in reduced energy use, as well as reduced greenhouse gas emissions
• Solutions are unknown in connection with construction of a hospital in Norway and globally	• Relevant for the industry, but interest beyond this industry is also assumed • The project will have significant media coverage regarding detailed engineering, recruitment of other renters and during the development phase
• Parts of the solution have previously been tested • First implementation of the solutions within the category Kulturbygg	• Cooperation with FutureBuilt can function as a dissemination arena nationally and internationally • National potential for energy efficiency • International potential for spread which could result in energy efficiency and reduced greenhouse gas emissions
• First implementation of the solution in a storage building in Norway	• Demonstration effect through the involved players • National potential for energy efficiency and increased utilization of renewable energy
• First implementation of an office building with this combination of technical solutions in Norway	• Experience from the project could be continued as general knowledge in the long term • Helps develop the Drammen area as an expertise and innovation area • National potential for energy efficiency • International potential for spread which could result in energy efficiency and reduced greenhouse gas emissions
• First implementation of a school with façade-integrated solar cells	• Solution is considered to have a major potential for spread/ripple effects • National potential for energy efficiency and increased production from renewable energy • International potential for spread which could result in energy efficiency, increased utilization of renewable energy and reduced greenhouse gas emissions
• First implementation of the technology in Norway, there are fully developed products from e.g. Sweden, the Netherlands and Germany	• Relevant for large buildings where a compromise between the available area and desired energy production is necessary • Considered to have major ripple effects • National potential for energy efficiency and increased production from renewable energy • International potential for spread which could result in energy efficiency, particularly in southern areas with considerable sunlight
• First implementation in Norway, the façade solution has been implemented twice before in Europe (Slovenia and Spain)	• National potential for energy efficiency from using the technology is considered significant • International potential for spread which could result in energy efficiency and reduced greenhouse gas emissions • The global market potential is expected to be large • Applicant estimates that the ripple effects of the project will be 19.55 GWh/year (estimates on a national basis for 2015) by choosing this solution. • Façade solution was presented to several projects and developers
• No care facilities in Norway with corresponding energy ambitions	• National potential for spread which could result in energy efficiency • International potential for spread which could result in energy efficiency and reduced greenhouse gas emissions • Major interest among local contractors
• No corresponding buildings in Vestfold, one of the first energy-plus houses in Norway	• Relevant for parties who are building from scratch or implementing energy measures • Focus on construction of energy-efficient residences without costs being too high, as well as increased comfort • Want to increase the focus on solar power



Norwegian Public Roads Administration

The Norwegian Public Roads Administration will install and test a combination of technologies that has never been tested before. By using AID cameras, the lighting system will be controlled based on need in the Gvammen-Århus tunnel in Seljord. The AID cameras will register traffic, and lighting zones around the vehicle will switch on and follow the car through the tunnel. The potential in Norway is vast as the system can be installed on tunnels over 3 km.

Enova supported the project with NOK 0.5 million in 2014.

Kiwi Auli

At Nes in Akershus, NG Kiwi built a new shop according to the passive house standard. Beyond the passive house level, a number of technical solutions were implemented in order to operate the shop energy efficiently. Building-integrated solar cells produce electricity while waste heat from the refrigerators and freezers is used for heating. All fixtures are equipped with LED (lighting). This is a prototype project for commercial buildings, all energy use is measured in detail so the experience can be used to help build and upgrade shops in all of NorgesGruppen.

Enova supported the project with NOK 3.3 million in 2014.

Geir Mikkelsen

Geir Mikkelsen in Sønnico is in the process of building a small house of 165 heated BRA in Larvik. The residence will deliver more power to the grid than it uses over the course of one year, through electricity production from solar cells. The project utilized familiar technology in new ways. The primary heating source is a ventilation system with a heat pump which uses the residual heat in the discharge air to heat rooms and hot water. The supply air is pre-heated and cooled via a pipe in the ground. The residence will be a reference and demonstration house for Sønnico. There are no corresponding buildings in Vestfold and this is one of the first energy-plus houses in Norway.

Enova supported the project with NOK 0.1 million in 2014.

APPENDIX D: LIST OF PROJECTS 2014[1]

Please note: The list of projects is not translated to English.

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
Fornybar varme						
Program: Støtte til biogassproduksjon						
14/26	Biokraft Industrisamarbeide Norske Skog (ECSB)	19 460 000	22 380 000	Biokraft AS	Levanger	Nord-Trøndelag
14/27	Biokraft Biodrivstoff Skogn	71 396 000	60 000 000	Biokraft AS	Levanger	Nord-Trøndelag
14/1045	Utvidelse av biogassanlegg på Rygg til industrielt anlegg for mottak og prosessering av 60.000 tonn husdyrgjødsel.	7 200 000	4 490 000	Tønsberg kommune	Tønsberg	Vestfold
Program: Fjernvarme						
14/81	Fjernvarme Nordnes	8 512 000	11 000 000	BKK Varme AS	Bergen	Hordaland
14/97	Lillehammer (Sentrum Sør for jernbanen)	1 092 500	1 500 000	Eidsiva Bioenergi AS	Lillehammer	Oppland
13/1097	Fjernvarmeutbygging Årnes	1 804 000	2 688 000	Akershus Energi Varme AS	Nes	Akershus
13/1664	Søknad om investeringsstøtte til utvidelse av bioenergianlegg ved Lundehaugen i Sandnes.	282 400	225 000	Sandnes kommune	Sandnes	Rogaland
13/1706	Utnyttelse av spillvarme ved Alcoa Lista aluminiumsverk	2 012 799	2 900 000	Farsund kommune	Farsund	Vest-Agder
14/100	Bjørvika A10 - Energisentral	3 562 000	5 000 000	Hav Eiendom AS	Oslo	Oslo
14/278	Fjernvarmeutbygging i Steinkjer sentrum	2 800 000	3 500 000	InnTre Energi Steinkjer AS	Steinkjer	Nord-Trøndelag
14/284	Jørstadmoen leir	3 036 000	3 700 000	Oplandske Bioenergi AS	Lillehammer	Oppland
14/299	Biovarme Sørborgen i Klæbu kommune	1 425 000	1 685 000	Nord Energi AS	Klæbu	Sør-Trøndelag
14/342	Lena Fjernvarme utbygging 2014-16	3 930 000	4 460 000	Lena Fjernvarme	Østre Toten	Oppland
14/461	Utvidelse av fjernvarmeanlegget i Namsos	12 121 456	19 680 000	Statkraft Varme AS	Namsos	Nord-Trøndelag
14/466	Byfjordparken Energi	2 789 000	3 500 000	Byfjordparken AS	Stavanger	Rogaland
14/468	Erleveien/Landåstorget	665 000	800 000	BKK Varme AS	Bergen	Hordaland
14/470	Fjernvarmetrase CO Lundsgt	480 000	680 000	Drammen Fjernvarme KS	Drammen	Buskerud
14/490	Utbygging til Seljestad - utvidet område i Harstad	1 126 238	1 550 000	Statkraft Varme AS	Harstad	Troms
14/545	Langseth	931 000	1 300 000	Oplandske Bioenergi AS	Eidsvoll	Akershus
14/563	Mohagen - Gran Tre	7 669 260	7 000 000	Miljøvarme Hadeland AS	Gran	Oppland
14/587	Fjernvarmeutbygging Storhove - Lillehammer	5 795 000	6 310 000	Eidsiva Bioenergi AS	Lillehammer	Oppland
14/694	Fjernvarme Lundåsen B8	262 062	270 000	Statkraft Varme AS	Trondheim	Sør-Trøndelag
14/695	Lundåsen B10	288 453	340 000	Statkraft Varme AS	Trondheim	Sør-Trøndelag
14/696	Fjernvarme Nyhavna trinn 1	408 024	600 000	Statkraft Varme AS	Trondheim	Sør-Trøndelag
14/719	Fjernvarme til Kronos Titan	441 000	550 000	Fredrikstad Fjernvarme AS	Fredrikstad	Østfold
14/788	Fjernvarme og fjernkjøling i Førde- Ny søknad	17 972 291	26 500 000	Sunnfjord Energi AS	Førde	Sogn og Fjordane
14/808	Fornybar varmesentral og utvidelse av fjernvarmenett	5 100 000	7 340 000	Fauske Fjernvarme AS	Fauske	Nordland
14/825	Ny bio kjel	5 000 000	2 810 000	Sameiet Fjell Fyrings- og Servicesentral	Drammen	Buskerud
14/834	Utvidelse prosjekt Skedsmo	3 100 000	3 380 000	Pemco Trepellets AS	Skedsmo	Akershus
14/846	Søknad om støtte til påkobling av nye bygg Fjordgata 66-80	312 600	260 000	Statkraft Varme AS	Trondheim	Sør-Trøndelag
14/859	Varme frå skogsflis på Vossavangen	13 500 000	12 000 000	Hordaland Bioenergi AS	Voss	Hordaland
14/870	Permanent varmesentral med utvidelse av fjernvarmenett i og rundt Mjøndalen sentrum	27 500 000	33 190 000	Trebio AS	Nedre Eiker	Buskerud
14/883	Oppgradering av sekundært fjernvarmenett for borettslagene Sloreåsen og Storfjellet	4 128 448	5 300 000	Hafslund Varme AS	Oslo	Oslo
14/903	Sentrum Stakkevollsveien i Tromsø	31 062 419	43 400 000	Kvitebjørn Varme AS	Tromsø	Troms
14/1069	Fjernvarmerør Svelgen sentrum	1 500 000	1 360 000	Miljøvarme AS	Bremanger	Sogn og Fjordane
14/1086	Fjernvarmeutbygging - Slora (Skedsmo kommune)	572 000	850 000	Akershus Energi Varme AS	Skedsmo	Akershus
14/1294	Thermokraft utbygging 2014-15	855 000	460 000	Thermokraft AS	Notodden	Telemark
14/1328	Utvidelse fjernvarmeanlegget Levanger	696 193	808 000	Statkraft Varme AS	Levanger	Nord-Trøndelag
14/1335	Fortetting Stjørdal	137 092	126 000	Stjørdal Fjernvarme AS	Stjørdal	Nord-Trøndelag
14/1336	Fortetting fjernvarme Stjørdal Dregsethveien	459 258	464 000	Stjørdal Fjernvarme AS	Stjørdal	Nord-Trøndelag
14/1337	Fortetting fjernvarme Stjørdal Vernesgt	421 185	444 000	Stjørdal Fjernvarme AS	Stjørdal	Nord-Trøndelag
14/1367	Biovarme Vikhammer i Malvik kommune	1 389 250	2 030 000	Nord Energi AS	Malvik	Sør-Trøndelag
14/1507	Fjernvarme overføringsledning Ranheim i Trondheim	3 022 400	4 169 000	Statkraft Varme AS	Trondheim	Sør-Trøndelag
14/1568	Ferdigvarmeanlegg Straumen ved Inderøy kommune.	2 768 300	2 260 000	A-R Helgemo AS	Inderøy	Nord-Trøndelag
14/1622	Søknad om støtte utbygging av fjernvarme til Vestre Rosten i Trondheim	1 073 937	1 000 000	Statkraft Varme AS	Trondheim	Sør-Trøndelag
14/1644	Stryn Fjernvarme - utviding av infrastruktur	180 000	200 000	Stryn fjernvarme AS	Stryn	Sogn og Fjordane
14/1693	Hovedledning Skattøra Breivika samt ledninger til flyplassen og til Åsgård sykehus.	53 657 909	57 100 000	Kvitebjørn Varme AS	Tromsø	Troms
14/1710	Akkumulator ved Trehørningen	7 000 000	8 920 000	Eidsiva Bioenergi AS	Hamar	Hedmark
Fornybar kraft						
Program: Støtte til introduksjon av ny teknologi						
14/1576	Energiutnyttelse av deponigass ved hjelp av stirlingmotorer.	486 000	1 400 300	Gjøvik, Land og Toten Interkommunale Avfallsselskap IKS	Gjøvik	Oppland
Industri						
Program: Støtte til energitiltak i industrien						
13/1577	Energieffektivisering og konvertering til fonybar energi	21 748 000	7 200 000	Denofa AS	Fredrikstad	Østfold
13/1918	Nye kjøleveksler likeretter L2	122 000	150 000	Alcoa Norway ANS	Farsund	Vest-Agder
13/2093	Varmegjenvinning i Bergen	300 000	206 000	Berendsen Tekstil Service AS avd Bergen	Bergen	Hordaland
13/2106	Energispareprosjekt ØPD Group	590 000	600 000	ØPD Group AS	Bamble	Telemark
13/2124	Energitiltak Nova Sea	1 370 000	1 400 000	Nova Sea AS	Lurøy	Nordland

1 *Tiltak støttet gjennom Energitiltak i bolig (totalt 4 466 tiltak) samt Støtte til energirådgiving (590 prosjekter) er ikke inkludert i prosjektlisten.*

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/167	Egerund Seafood - enøk-tiltak ved utvidelse av frysekapasitet	2 070 000	2 500 000	Egersund Seafood AS	Eigersund	Rogaland
14/232	Nye kanaltørker ved Moelven Soknabruket AS	5 000 000	6 520 000	Moelven Soknabruket AS	Ringerike	Buskerud
14/257	Varmegjenvinning	170 000	140 000	Bengt Stangeland	Klepp	Rogaland
14/312	Energitiltak Wiig Gartneri AS / Wiig AS	285 200	380 000	Wiig Gartneri AS	Klepp	Rogaland
14/326	Søknad om økonomisk støtte til investering i enøk tiltak	120 000	120 000	Lofoten Industri AS	Vestvågøy	Nordland
14/407	Økt energigjenvinning Elkem AS Bjølvefossen	45 000 000	54 000 000	Elkem AS Bjølvefossen	Kvam	Hordaland
14/411	Portefølje lavtemperatur energi	60 000 000	45 000 000	Borregaard AS	Sarpsborg	Østfold
14/412	Enovasøknad Rapp Bomek	500 000	560 000	Kvitberget Eiendom AS	Bodø	Nordland
14/484	Gjenvinning av spillvarme frå produksjonen med SPP Highlift varmepumper.	2 100 000	3 220 000	Lerum Fabrikker AS	Sogndal	Sogn og Fjordane
14/494	Energi effektivisering tiltak hos Lerøy Aurora	1 119 500	840 000	Lerøy Aurora AS avd Skjervøy	Skjervøy	Troms
14/508	Energo varmeveksler	166 000	200 000	Storvask AS	Trondheim	Sør-Trøndelag
14/528	Frikjøling	250 000	116 668	Schutz Nordic AS	Kongsvinger	Hedmark
14/544	Ombygging av oppvarmingsystem	4 200 000	930 000	Glomma Pall AS	Fredrikstad	Østfold
14/554	Likeretter 5	3 744 000	6 800 000	Hydro Vigelands Brug AS	Kristiansand	Vest-Agder
14/560	Hood reduction	2 020 000	952 000	Celsa Armeringsstål AS	Rana	Nordland
14/561	TUNELL	1 150 000	980 000	Umicore Norway AS	Larvik	Vestfold
14/597	Energireduksjon i kyllinghus, varmegjenvinning	120 000	165 000	Sigbjørn Rød	Andebu	Vestfold
14/711	Moelven - Langmoen, konvertering til varmtvann	3 200 000	2 000 000	Moelven Langmoen AS	Ringsaker	Hedmark
14/714	Prosjekt P200	50 000 000	40 000 000	Boliden Odda AS	Odda	Hordaland
14/721	Varmegjenvinning med luft/vann varmeveksler	3 500 000	1 800 000	Norgips Norge AS	Svelvik	Vestfold
14/739	Energigjenvinning Tine Frya	5 800 000	5 800 000	Tine SA avd Frya	Ringebu	Oppland
14/782	Energiprogram for Aven Holmestrand	533 000	310 000	Aven Holmestrand AS	Holmestrand	Vestfold
14/797	Ranheim Energi	120 000 000	55 600 000	Peterson Energi AS	Trondheim	Sør-Trøndelag
14/803	Agam avfuktere til 9000 m2 veksthus	500 000	538 000	Sørby Gartneri AS	Øvre Eiker	Buskerud
14/926	Bruk av bioenergi til bruvekter og innkjøringsparti for lastebiler	133 000	166 800	Felleskjøpet avd. Stange	Stange	Hedmark
14/930	Metallco Aluminium AS - Energieffektivisering og spillvarmeutnyttelse	15 500 000	7 200 000	Metallco Aluminium AS	Vestre Toten	Oppland
14/997	Hot Charging	30 700 000	29 000 000	Celsa Armeringsstål AS	Rana	Nordland
14/1014	Energigardin1920m2-2014	105 000	93 000	Ra Gartneri AS	Stokke	Vestfold
14/1019	Utnyttelse av overskuddsenergi fra dampanlegg	524 000	140 000	Norsk protein As avd. Mosvik	Inderøy	Nord-Trøndelag
14/1035	Energiøkonomisering ved Fiskå Mølle	2 300 000	2 200 000	Fiskå Mølle AS	Strand	Rogaland
14/1057	Energiprogram Nor Element AS	1 423 500	1 600 000	Nor Element AS	Mandal	Vest-Agder
14/1063	Topplast varmepumpe i Astafjordmolt AS anlegg	740 000	550 000	Astafjord Smolt AS	Gratangen	Troms
14/1074	ENØK Vifter, spillvarmeutnyttelse og andre tilleggstiltak	19 217 200	28 000 000	Elkem AS Bremanger	Bremanger	Sogn og Fjordane
14/1093	Redusering av energiforbruk i kyllinghus ved hjelp av varmeveksler	110 000	110 000	Bones Hans	Midtre Gauldal	Sør-Trøndelag
14/1151	Nikkelverket - 16 GWh prosjektportefølje 2014-2016	16 200 000	21 000 000	Glencore Nikkelverk AS	Kristiansand	Vest-Agder
14/1212	Energigardin - 4300 m2 veksthus	234 000	303 000	Ra Gartneri AS	Stokke	Vestfold
14/1220	8 stk AGAM avfuktere til 20800 m2 veksthus	1 092 000	582 000	Andersen Gartneri AS	Råde	Østfold
14/1248	Varmegjennvinning i rugeegg produksjon	115 000	235 000	Hans Olav Moskvil	Horten	Vestfold
14/1255	Engergieffetivisering lys	115 000	100 000	AS Rockwool avd Trondheim	Trondheim	Sør-Trøndelag
14/1259	Konvertering til flisfyrt dampanlegg	7 000 000	8 000 000	Strand Unikorn AS	Ringsaker	Hedmark
14/1279	Energiøkonomisering hetvannsanlegg	2 800 000	1 650 000	Moelven Van Severen AS	Namsos	Nord-Trøndelag
14/1295	Varmegjenvinning fra varmt avløpsvann	127 000	143 954	Orkla Foods Norway AS	Rygge	Østfold
14/1311	Energiprogram for Glassfabrikken	338 000	400 000	Glassfabrikken AS	Larvik	Vestfold
14/1366	Investering Energitiltak Industri - Økt andel biogass til transportformål	3 000 000	3 000 000	FREVAR KF	Fredrikstad	Østfold
14/1376	Energi- og miljøtiltak i Yara Porsgrunn Bamboo prosjekt	54 000 000	52 000 000	Yara Porsgrunn	Porsgrunn	Telemark
14/1459	Biokjel 500 kW -2014	1 500 000	530 000	Gjennestad Gartnerskole	Stokke	Vestfold
14/1513	Lavere energiforbruk gjennom investering i nye autoklaver	4 000 000	4 500 000	Orkla Foods Norway AS	Fredrikstad	Østfold
14/1563	Energitiltak Mandal Castings	1 196 000	1 500 000	Mandal Castings AS	Mandal	Vest-Agder
14/1573	Energitiltak Coldwater Prawns	5 036 000	6 500 000	Coldwater Prawns Production AS	Berg	Troms
14/1577	Energigardin i avdeling 6000m2	381 000	299 031	Sørby Gartneri AS	Øvre Eiker	Buskerud
14/1617	Energigardin til 2200 m2 veksthus	194 000	232 800	Anette Skarstad	Kongsvinger	Hedmark
14/1679	Energiøkonomisering ved Scanbio Ingredients AS	3 500 000	3 200 000	Scanbio Ingredients AS	Bjugn	Sør-Trøndelag
14/1726	Energieffektivisering SiMn ovn 1	27 765 000	25 000 000	Glencore Manganese Norway AS	Rana	Nordland
14/1771	Redusering av energiforbruk i kyllinghus ved hjelp av varmeveksler	155 000	170 000	Åse Sundvor	Stange	Hedmark
14/1785	Ny Defibrator	20 000 000	21 750 000	Huntonit AS	Vennesla	Vest-Agder
14/1948	Etterbrennerprosjekt - økt utnyttelse av spillvarme	7 360 000	7 600 000	AS Rockwool avd Trondheim	Trondheim	Sør-Trøndelag
14/1975	Energieffektivisering av papirproduksjon	2 600 000	3 440 000	Peterson Packaging AS	Trondheim	Sør-Trøndelag
14/2012	Støtte til ny pelleteringslinje med siloanlegg	545 000	600 000	Fiskå Mølle Etne AS	Etne	Hordaland
Program: Støtte til introduksjon av energiledelse i industri og anlegg						
13/2101	Søknad om økonomisk støtte til energiledelse	100 509	100 000	Lofoten Industri AS avd. Leknes	Vestvågøy	Nordland
13/2103	Enøk Kristiansand Havn KF	473 100	200 000	Kristiansand Havn KF	Kristiansand	Vest-Agder
13/2133	Introduksjon av Energiledelse - Kongsvinger Bioenergi AS	1 814 300	600 000	Kongsvinger Bioenergi AS	Kongsvinger	Hedmark

APPENDIX D: LIST OF PROJECTS 2014

Please note: The list of projects is not translated to English.

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/10	Introduksjon av Energiledelse - Lyse Neo	8 092 300	1 000 000	Lyse Neo AS	Stavanger	Rogaland
14/28	Energiledelse Macks Ølbryggeri AS	789 689	700 000	Macks Ølbryggeri AS Produksjon Nordkjosbotn	Balsfjord	Troms
14/32	Myklebust Verft Energiledelse	380 300	200 000	Myklebust Verft AS	Sande	Møre og Romsdal
14/52	Energiledelse Ekornes Tynes	862 170	200 000	J E Ekornes AS avd. Tynes	Sykkylven	Møre og Romsdal
14/67	Energiledelse Sandvik Møbler AS	325 000	200 000	Sandvik Møbler AS	Ørsta	Møre og Romsdal
14/68	Introduksjon til Energiledelse	285 210	200 000	Storvask AS avd. Lensvik	Agdenes	Sør-Trøndelag
14/118	Introduksjon til Energiledelse i Storvask avd Trondheim	277 319	200 000	Storvask AS avd. Trondheim	Trondheim	Sør-Trøndelag
14/136	Innføring av energiledelse ved Elkem AS Technology Kristiansand - Forenklet	673 000	200 000	Elkem AS Technology Kristiansand	Kristiansand	Vest-Agder
14/146	Introduksjon av Energiledelse - Lillestrømsanlegget	7 295 300	1 000 000	Akershus Energi Varme AS	Skedsmo	Akershus
14/163	Energiledelse på Mongstadbase	1 355 013	1 000 000	Mongstadbase AS	Lindås	Hordaland
14/165	Introduksjon av Energiledelse	159 587	106 000	Furene AS	Ørsta	Møre og Romsdal
14/243	Introduksjon av Energiledelse	19 966 000	1 000 000	Statoil Petroleum AS Oseberg	Bergen	Hordaland
14/249	Energiledelse ved Nortura avd Sarpsborg	2 833 459	900 000	Nortura AS avd. Sarpsborg	Sarpsborg	Østfold
14/267	Energiledelse ved Umicore	2 338 990	700 000	Umicore Norway AS	Larvik	Vestfold
14/334	Introduksjon av energiledelse ved Vik Ørsta AS, avd. Vik	616 900	200 000	Vik Ørsta AS avd. Vik i Sogn	Vik	Sogn og Fjordane
14/337	Introduksjon av energiledelse ved Vik Ørsta AS, avd. Ørsta	1 297 000	1 000 000	Vik Ørsta AS avd. Ørsta	Ørsta	Møre og Romsdal
14/344	Energiledelse Nutrimar	659 621	200 000	Nutrimar AS	Frøya	Sør-Trøndelag
14/374	Introduksjon til energiledelse Stiftelsen Trondheim Pirbad	962 943	200 000	Stiftelsen Trondheim Pirbad	Trondheim	Sør-Trøndelag
14/404	Introduksjon av Energiledelse - Follo Fjernvarme	4 220 200	800 000	Follo Fjernvarme AS Oslo	Ski	Akershus
14/431	Energiledelse Brunstad AS	282 500	200 000	Brunstad AS	Sykkylven	Møre og Romsdal
14/435	Energiledelse ved Hydro Al Rolled Products AS	4 250 540	1 000 000	Hydro Aluminium Rolled Products AS avd Holmestrand	Holmestrand	Vestfold
14/464	Energiledelse ved Moelven Granvin Bruk AS	1 566 368	600 000	Moelven Granvin Bruk AS	Granvin	Hordaland
14/519	Miljø- og energikartlegging hos Måsøval Fiskeoppdrett AS	276 500	200 000	Måsøval Fiskeoppdrett AS	Frøya	Sør-Trøndelag
14/552	Innføring av Energiledelse hos Brynildgruppen AS, Fredrikstad	1 259 100	1 000 000	Brynild Gruppen AS	Fredrikstad	Østfold
14/553	Innføring av energiledelsessystem på Kjeldstad Trelast i Selbu	3 396 500	1 000 000	Kjeldstad Trelast AS	Selbu	Sør-Trøndelag
14/590	Introduksjon til Energiledelse på Biri	475 850	200 000	Tekstilvask Innlandet AS	Gjøvik	Oppland
14/637	Introduksjon av Energiledelse - Kongsberg Teknologipark (anlegg)	3 088 000	1 000 000	Kongsberg Teknologipark AS	Kongsberg	Buskerud
14/638	Introduksjon av Energiledelse - Statkraft Varme avd. Harstad	2 380 600	1 000 000	Statkraft Varme AS avd. Harstad	Harstad	Troms
14/660	Innføring av Energiledelse ved Nortura Hærland	2 191 000	1 000 000	Nortura SA avd. Hærland	Eidsberg	Østfold
14/776	Energiledelse ved Mo Industripark AS	4 990 800	1 000 000	Mo Industripark AS	Rana	Nordland
14/795	Støtte til introduksjon av energiledelse	3 300 000	1 000 000	Sporveien Oslo AS	Oslo	Oslo
14/832	Energiledelse Teknisk Sentral ved HUS	2 640 917	500 000	Helse Bergen HF Haukeland Universitetssykehus	Bergen	Hordaland
14/845	Introduksjon av Energiledelse - Norsk Protein AS avd Hamar	7 189 600	1 000 000	Norsk Protein AS avd. Hamar	Hamar	Hedmark
14/852	Energiledelse Ekornes Grodås	608 256	200 000	J E Ekornes AS avd. Grodås	Hornindal	Sogn og Fjordane
14/858	Innføring av Energiledelse og EOS, Store Norske Spitsbergen Grubekompani AS, avd, Svea Nord	10 623 330	1 000 000	Store Norske Spitsbergen avd. Svea Nord Gruva	Svalbard	Svalbard
14/862	Introduksjon av Energiledelse - Norsk Protein AS avd Grødaland	2 677 600	1 000 000	Norsk Protein AS avd. Grødaland	Hå	Rogaland
14/998	Introduksjon av Energiledelse - Hønefoss Fjernvarme	4 410 160	1 000 000	Vardar Varme AS	Ringerike	Buskerud
14/999	Introduksjon av Energiledelse - Øvre Eiker Fjernvarme	410 000	200 000	Øvre Eiker Fjernvarme AS	Øvre Eiker	Buskerud
14/1041	Energiledelse i AIM Norway SF	1 838 738	200 000	Aerospace Industrial Maintenance Norway SF	Skedsmo	Akershus
14/1042	Energiledelse hos Astafjordsmolt AS	161 000	150 000	Astafjord Smolt AS	Gratangen	Troms
14/1044	Introduksjon av Energiledelse - Fredrikstad Fjernvarme	8 116 100	800 000	Fredrikstad Fjernvarme AS	Fredrikstad	Østfold
14/1066	Energi- og miljøstyring i bygg og anlegg	502 400	200 000	Trondheim Havn IKS	Trondheim	Sør-Trøndelag
14/1111	Energiledelse hos Skardalen Settefisk AS	150 000	150 000	Skardalen Settefisk AS	Gáivuotna Kåfjord	Troms
14/1118	Innføring av energiledelse ved Glencore Manganese Norway AS	10 125 160	1 000 000	Glencore Manganese Norway AS	Rana	Nordland
14/1120	energi effektivisering hos Lofotprodukt	462 672	200 000	Lofotprodukt AS	Vestvågøy	Nordland
14/1196	Energiledelse - Wacker Chemicals Norway AS	6 874 300	1 000 000	Wacker Chemicals Norway AS	Hemne	Sør-Trøndelag
14/1247	Energiledelse hos Vajda-Papir AS Scandinavia AS	5 754 400	1 000 000	Vajda-Papir Scandinavia AS	Drammen	Buskerud
14/1333	Innføring av energiledelsessystem på Bergene Holm Haslestad	2 938 460	600 000	Bergene Holm AS avd. Haslestad	Hof	Vestfold
14/1410	Introduksjon av Energiledelse i Hafslund Varme (Oslo-anlegget)	34 002 400	1 000 000	Hafslund Varme AS	Oslo	Oslo
14/1526	Energiledelse A/S Røra Fabrikker	541 687	180 275	A/S Røra Fabrikker	Verdal	Nord-Trøndelag
14/1527	Introduksjon av Energiledelse	249 740	200 000	Norgesplaster AS	Vennesla	Vest-Agder
14/1633	Energiledelse i Norbar avd. Karmøy	856 367	200 000	Norbar Minerals AS avd Karmøy	Karmøy	Rogaland
14/1634	Energiledelse i SLB DT og R	218 812	200 000	Schlumberger Norge AS avd Utleie	Stavanger	Rogaland
14/1635	Energiledelse Tromspotet AS	190 000	118 500	Tromspotet AS	Lenvik	Troms
14/1685	Innføring av energiledelse i Celsa Armeringsstål	5 562 400	1 000 000	Celsa Armeringsstål AS	Rana	Nordland
14/1695	Innføring av energiledelse hos Nøsted Kjetting AS	568 700	200 000	Nøsted Kjetting AS	Mandal	Vest-Agder

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/1773	Energiledelse Arcus Gjelleråsen	1 103 888	200 000	Arcus AS	Nittedal	Akershus
14/1812	Introduksjon av Energiledelse	865 684	200 000	Skaland Grephite AS	Berg	Troms
14/1813	Energiledelse i Onesubsea Processing AS	774 098	200 000	Framo Engineering AS	Askøy	Hordaland
14/1850	Energiledelse i Overhalla Betongbygg	212 100	200 000	Overhalla Betongbygg AS	Overhalla	Nord-Trøndelag
14/1946	Innføring av EOS og Energiledelse	749 246	200 000	Westcon Yard Florø AS	Flora	Sogn og Fjordane
14/1976	Energiledelse Lerøy Midt Hestvika	282 000	200 000	Lerøy Midt AS avd. Produksjon og administrasjon	Hitra	Sør-Trøndelag
Program: Støtte til ny energi- og klimateknologi i industrien						
13/612	EnPro Pilot Plant Project	6 800 000	40 000 000	Enpro AS	Øygarden	Hordaland
13/1302	HAL4e Pilot Plant	96 000 000	1 555 000 000	Hydro Aluminium AS	Karmøy	Rogaland
14/750	Utbedring av trelastørker med ny teknologi ved Moelven Mjøsbruket AS	500 000	443 121	Moelven Mjøsbruket AS	Gjøvik	Oppland
14/948	Energioptimalisering av produksjonsprosess	7 500 000	18 500 000	Nutrimar AS	Frøya	Sør-Trøndelag
14/983	Pilotanlegg tørrklassering	13 555 100	3 825 025	Elkem AS Bremanger	Bremanger	Sogn og Fjordane
Program: Støtte til introduksjon av ny teknologi						
14/1402	Demonstrasjonsanlegg for 3D-printing av titan	747 000	7 715 700	Norsk Titanium AS	Ringerike	Buskerud
14/1697	Cadio Energianlegg med CO_2 som kuldemedium	471 000	1 557 500	Rørosmeieriet AS	Røros	Sør-Trøndelag
Program: Varmesentral utvidet						
13/605	Varmesentral Åseral	86 897	69 518	Eikerapen Gjestegard AS	Åseral	Vest-Agder
13/1752	Vannbåren Gulvvarmeanlegg for kontor butikk og lagerlokaler	40 000	32 000	Smølabygg AS	Smøla	Møre og Romsdal
13/1944	Varmesentral Holli	250 000	200 000	Jarle Villumstad	Spydeberg	Østfold
14/106	Tine Elnesvågen	12 500 000	8 207 000	Bio Energy AS	Fræna	Møre og Romsdal
14/443	Åkra - Karmøy	1 152 000	921 600	Norsk Bioenergi AS	Karmøy	Rogaland
14/454	Varmesentral vaskehall	370 000	296 000	Kjernlie AS	Våler	Hedmark
14/777	Ny varmesentral Ålesund lufthavn Vigra	489 610	489 610	Avinor AS	Giske	Møre og Romsdal
14/829	Varmesentral utvidet. Ny flisfyr Hantoveien 300	905 000	470 567	Hantoveien 300 AS	Nome	Telemark
14/925	Forsvarsbygg - Skjold	8 400 000	8 336 000	Bio Energy AS	Målselv	Troms
14/1197	Bytte av varmekilde til sjøvannsvarmepumpe	522 750	522 750	Servi Cylinderservice AS	Rissa	Sør-Trøndelag
Program: Varmesentral industri						
13/2095	Overgang til flisbasert varmesentral ved Nortura SA sitt rugeri i Våler.	4 998 000	1 785 000	Nortura SA	Våler	Hedmark
13/2113	Prosjekt biovarme Stock AS	699 855	414 375	Stock AS	Valle	Aust-Agder
14/19	Flisbasert varmesentral	1 160 000	616 250	LC Production AS	Rissa	Sør-Trøndelag
14/142	59 kW luftbåren varme i veksthus	100 005	125 375	Graff, Thor	Røyken	Buskerud
14/152	Veske-vann varmepumpe i Nybygg verksted 2014	223 516	88 000	Erling Myklebust Mek Verksted AS	Sandøy	Møre og Romsdal
14/237	Varmepumpe til oppvarming	221 400	120 000	Aktiv Lek AS	Fyresdal	Telemark
14/459	Varmepumpe Luft- vann Aasen Kjetil	588 830	222 200	Aasen Kjetil	Songdalen	Vest-Agder
14/489	Varmepumpe luft-vann	437 250	165 000	Asbjørn Kulien Gartneri ANS	Songdalen	Vest-Agder
14/510	Ny fliskjele hos Berhard Olsen AS	1 584 000	615 176	Bernhard Olsen AS	Rana	Nordland
14/517	Fornying av flisfyringsanlegg	576 000	127 500	Saltdal Snekkeri AS	Bodø	Nordland
14/527	Varmepumpe luft vann	874 500	330 000	J. Kristiansens Gartneri AS	Grimstad	Aust-Agder
14/531	Flisbasert varmesentral	960 000	680 000	B Innvær AS	Bømlo	Hordaland
14/536	Nytt flisfyringsanlegg plassert i seperat nybygg	4 800 000	4 250 000	Ekornes ASA	Ålesund	Møre og Romsdal
14/814	WLB Myra 6	345 000	345 000	M Trade AS	Rana	Nordland
Program: Støtte til forprosjekt for energitiltak i industrien						
13/2051	Forprosjekt dampledning i Gjøvik	-	1 000 000	Eidsiva Bioenergi AS	Gjøvik	Oppland
13/2094	Tynnstøping av Si	-	229 158	Elkem AS Thamshavn	Orkdal	Sør-Trøndelag
13/2102	Forprosjekt hybrid energieffektiviseringsløsning	-	225 000	Synnøve Finden AS	Alvdal	Hedmark
14/41	Effektivisering av dampnettet ved Boliden Odda AS	-	323 750	Boliden Odda AS	Odda	Hordaland
14/53	Frikjøling av datasenter	-	1 000 000	Eidsiva Bioenergi AS	Gjøvik	Oppland
14/176	Forprosjekt - investeringstiltak energisparing	-	410 000	Nordox AS	Oslo	Oslo
14/476	Portfølgesøknad forprosjektering, benytte CO gass i finknuseri og til øsevarming	-	1 000 000	Tizir Titanium og Iron AS	Odda	Hordaland
14/736	Søknad om forprosjektstøtte til ny fabrikk for produksjon av trefiber som isolasjon	-	600 000	Hunton Fiber AS	Gjøvik	Oppland
14/754	HAL4e Pilot Line. Utnyttelse av spillvarme	-	639 904	Hydro Aluminium AS	Karmøy	Rogaland
14/769	Forbedret størkningsforløp for Silgrain feedstock	-	950 000	Elkem AS Bremanger	Bremanger	Sogn og Fjordane
14/771	Forprosjekt fjernvarme til sentrum	-	75 000	Eramet Norway AS avd. Kvinesdal	Kvinesdal	Vest-Agder
14/959	Oslo Kommune EGE Klemetsrud Avfallsforbrenningsanlegg - Hybrid Energi Gjenvinningsystem	-	300 000	Oslo kommune Energigjenvinningsetaten	Oslo	Oslo
14/1090	Søknad om støtte til forprosjekt OFN avd. Fredrikstad og Rygge	-	455 000	Orkla Foods Norway AS	Fredrikstad	Østfold
14/1204	SynEnergi - Spare damp for inndamping/matevann i Borregaard Synthesis, Sarpsborg	-	1 000 000	Borregaard AS	Sarpsborg	Østfold
14/1278	Ebony	-	1 000 000	Arbaflame AS	Hole	Buskerud
14/1340	Ironman et foredlingsverk for jernmalm med grønn miljøprofil, og med naturgass som reduksjonsmedium	-	500 000	Ironman Development AS	Aure	Møre og Romsdal
14/1627	Felles Biovarme 8 MW på Vik	-	1 000 000	Wiig Gartneri AS	Klepp	Rogaland
14/1678	Støtte til forprosjekt for energitiltak i industrien	-	325 000	Glasitt AS	Skjåk	Oppland
14/1718	Energieffektivisering av produksjon hos Normilk	-	310 000	Normilk AS	Levanger	Nord-Trøndelag
14/2008	Energigjenvinning og optimalisering ho Vital Seafood avd Stranda	-	281 575	Vital Seafood AS	Stranda	Møre og Romsdal

APPENDIX D: LIST OF PROJECTS 2014

Please note: The list of projects is not translated to English.

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
Anlegg						
Program: Støtte til energitiltak i anlegg						
13/1196	Gatelys i Trondheim kommune - videreføring av fornyelse med LED	1 392 500	1 400 000	Trondheim kommune	Trondheim	Sør-Trøndelag
14/141	Energieffektiviseringstiltak i Trysilfjellet	525 000	525 000	Skistar Norge AS	Trysil	Hedmark
14/46	Kjøp og montering av LED-armatur for veilysalegg	1 248 000	1 200 000	Skedsmo kommune Teknisk sektor	Skedsmo	Akershus
14/498	Energieffektivisering i Jernbaneverket	8 700 000	8 700 000	Jernbaneverket	Landsdekkende	Landsdekkende
14/839	Grefsen Stadion - Geovarme basert anlegg for undervarme til kunstgress bane	400 000	300 000	Kjelsås Idrettslag	Oslo	Oslo
14/881	Landstrøm Bergen Havn, Jekteviken	2 299 500	2 000 000	Bergen og Omland Havnevesen	Bergen	Hordaland
14/911	Drammen Kommune installasjon av 4000 LED armaturer	1 596 190	1 600 000	Drammen kommune	Drammen	Buskerud
14/1062	Sjøvannsbasert varmesentral Sistranda	276 000	215 000	Frøya kommune	Frøya	Sør-Trøndelag
14/1178	Elektrifisering av alle matfiskanlegg hos Måsøval Fiskeoppdrett	4 314 160	4 700 000	Måsøval Fiskeoppdrett AS	Frøya	Sør-Trøndelag
14/1284	ENØK-tiltak i veibelysningen i Bærum kommune	3 234 000	3 300 000	Bærum kommune kommunaltekniske tjenester	Bærum	Akershus
14/1483	E134 Gvammen - Århus-LED som tunnelbelysning	467 311	470 000	Statens Vegvesen Region Sør	Seljord	Telemark
14/1522	Avinor, støtte til utskiftning av halogenpærer og skiltinnmat med energieffektiv belysning	190 800	190 800	Avinor AS	Bergen	Hordaland
14/1549	Konvertering fra dieseldrevne Reachstackere til elektriskdrevne RTG kraner	530 000	600 000	Risavika Terminal AS	Sola	Rogaland
14/1628	Nye Gamlingen - støtte til energitiltak i anlegg	1 220 515	1 220 000	Stavanger kommune	Stavanger	Rogaland
14/1629	Støtte til oppgradering av Østensjøbanen	3 083 000	3 000 000	Sporveien Oslo AS	Oslo	Oslo
14/1636	Elektrifisering av Ervik laks og ørret AS sine matfiskanlegg	922 623	930 000	Erviks Laks og Ørret AS	Frøya	Sør-Trøndelag
14/1680	ENØK tiltak i kommunal veibelysning Os kommune	357 000	360 000	Os kommune	Os	Hordaland
14/1686	Landstrøm på fôrflåte	369 241	270 000	Gratanglaks AS	Gratangen	Troms
14/1724	Gjennomføring av hovedplan for gatelysnettet i Rygge kommune	462 000	460 000	Rygge kommune	Rygge	Østfold
Program: Støtte til introduksjon av ny teknologi						
14/1601	E134 Gvammen - Århus-Lysstyring med AID-kamera	114 066	499 920	Statens Vegvesen Region Sør	Seljord	Telemark
Yrkesbygg						
Program: Støtte til eksisterende bygg						
13/1516	ENØK-prosjekt Skoleskipet MS Gann	806 628	1 005 262	Unge Sjømenns Kristelige Forening	Stavanger	Rogaland
13/1562	Ombygging Toyota Sogn	170 892	125 295	ANI Anlegg AS	Sogndal	Sogn og Fjordane
13/1575	Åmotsdalen gård	21 402	14 400	Orkelbog Laft og Skifer	Trondheim	Sør-Trøndelag
13/1603	Enøk investering i Skulane på Stranda	1 506 938	969 045	Stranda kommune	Stranda	Møre og Romsdal
13/1613	Ny brann og driftsstasjon	156 469	111 044	Lindås kommune	Lindås	Hordaland
13/1763	Engeset	84 050	757 500	Din Bolig AS	Ørsta	Møre og Romsdal
13/1833	Studentboliger Sørhauggate 100	63 991	615 750	Studentsamskipnaden Stord / Haugesund	Haugesund	Rogaland
13/1835	Studentboliger i Skogveien Äs	176 046	1 281 000	Studentsamskipnaden i Ås	Ås	Akershus
13/1838	Studentboliger Bjølstad	192 266	1 346 800	Studentsamskipnaden i Østfold	Fredrikstad	Østfold
13/1876	Moholt 50/50, barnehage	238 623	1 031 900	SiT Bolig	Trondheim	Sør-Trøndelag
13/1960	Henie Onstad Kunstsenter	610 006	697 456	Sonja Henies og Niels Onstads Stiftelse	Bærum	Akershus
13/1963	Olav Thon Gruppen Energiprogram, 3 første kjøpesentre, 2014 - 2017	23 092 788	26 305 649	Thon Holding AS	Landsdekkende	Landsdekkende
13/1984	Sem samfunnshus og idrettspark nye ventilasjonsanlegg	108 222	75 588	Tønsberg kommunale Eiendom KF	Tønsberg	Vestfold
13/2008	Rehabiltering av eksisterende bygningsmasse med tanke på energiøkonomiserende tiltak-	322 389	267 424	Sandøy kommune	Sandøy	Møre og Romsdal
13/2016	Investering etter energikartleggingen	2 098 659	1 592 627	Haram kommune	Haram	Møre og Romsdal
13/2042	Energitiltak Høstbakken 11, 1793 Halden	693 200	440 000	Østby Eiendom AS	Halden	Østfold
13/2056	Restaurering Næringsbygg	75 389	41 760	Vetrinærene Nedre Hallingdal DA	Gol	Buskerud
13/2061	Installering av varmepumpe luft - vatn	277 280	176 000	Svenor AS	Stryn	Sogn og Fjordane
13/2080	E-bygget Fløyveien 12. 4838 Arendal	434 639	394 333	Aust-Agder fylkeskommune	Arendal	Aust-Agder
13/2085	Rehabilitering - Storgaten 2-4-6 NAF - Huset	1 269 478	1 277 158	AS Storgaten 6	Oslo	Oslo
13/2090	Varmepumpe Rendalen Sjukehjem	713 400	480 000	Rendalen kommune	Rendalen	Hedmark
13/2092	Høyenhall bo- og rehabiliteringssted	493 355	334 583	Høyenhall Bo- og Rehabilitering AS	Hole	Buskerud
13/2096	Potensielle energispareprosjekter i Fortins eiendomsportefølje 2014-2015	1 325 170	988 986	Fortin AS	Landsdekkende	Landsdekkende
13/2097	Klingenberggaten 4 - Energiøkonomisering	1 145 008	1 216 297	Klingenberggaten 4 AS	Oslo	Oslo
13/2099	Enøk tiltak - installasjon av Luft-vann varmepumpe ved Bjerkely Folkehøggskole	173 300	105 600	Bjerkely Folkehøgskole	Alvdal	Hedmark
13/2100	Energieffektivisering av kontorbygg i Jernbaneveien 2, Ski	88 498	23 754	Rutheim AS	Ski	Akershus
13/2107	Energisparing hos Seafood Farmers of Norway. (Eksisterende Bygg)	639 015	538 093	Seafood Farmers of Norway AS	Ålesund	Møre og Romsdal
13/2108	Teknisk rehabilitering av Vollsveien 13 H	1 437 193	1 132 715	Mustad Eiendom AS	Bærum	Akershus
13/2116	Jonas Reinsgate 19	142 406	135 775	Friends Living AS	Bergen	Hordaland
13/2127	Lavenergi Sluppenveien 15	290 657	871 971	Kjeldsberg Sluppen ANS	Trondheim	Sør-Trøndelag
13/2131	Børgefjellskolen - Vannbårent varmeanlegg	95 120	64 000	Koa Børgefjell AS	Grane	Nordland

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/9	Rehabilitering av Oslo Business Park, Bygg 3 - Idem	216 992	650 976	Østre Aker Vei 90 AS	Oslo	Oslo
14/12	Solberg og Killingrud skole	1 284 647	942 438	Nedre Eiker kommune	Nedre Eiker	Buskerud
14/16	Teknologiveien 4, 8517 Narvik. Energitiltak	1 337 292	1 244 633	Nobu Eiendom AS	Narvik	Nordland
14/18	Hovedvegen 53, 9152	33 146	39 432	Joda Eiendom AS	Tromsø	Troms
14/23	Energireduserende tiltak i kommunale bygninger i Rygge kommune	5 233 134	3 892 189	Rygge kommune	Rygge	Østfold
14/24	Enøk Bingsa Miljøpark	552 995	431 312	Bingsa Miljøpark AS	Ålesund	Møre og Romsdal
14/57	Messehall A rehabilitering	724 752	665 292	Tønsberg kommune	Tønsberg	Vestfold
14/75	Energiprogrammet Step 3	5 315 957	6 227 650	Kristiansand kommune	Kristiansand	Vest-Agder
14/80	BAS, masterstudio ombygging	113 384	340 152	Stiftelsen Bergen Arkitekthøgskole	Bergen	Hordaland
14/84	Energiøkonomisering i Rica Hotels, Fase 3	1 330 302	1 414 008	Rica Hotels AS	Andebu	Vestfold
14/91	Rehabilitering Engelsvoll skole	266 473	106 259	Klepp kommune	Klepp	Rogaland
14/105	Rehabilitering av E-bygget	473 872	584 036	O. Mustad og Søn Eiendom AS	Gjøvik	Oppland
14/107	Enøktiltak i Drammensveien 97	247 552	210 420	Drammensveien 97 AS	Oslo	Oslo
14/159	Konvertering til vassboren varme	137 355	92 028	Sogn og Fjordane Energi AS	Gloppen	Sogn og Fjordane
14/161	Sandhaug, fyrkjele 75 kW	90 000	66 150	Den Norske Turistforening (DNT) Oslo og Omegn	Bergen	Hordaland
14/166	Ørsta Torg	300 052	183 811	Eiksundregionen Eigedom AS	Ørsta	Møre og Romsdal
14/175	Hamna 20	387 740	110 000	Coop Vest Eigedom AS	Volda	Møre og Romsdal
14/192	Bergvarme	123 952	67 200	Holter Assets AS	Nittedal	Akershus
14/202	Installering av vannbåren varme og tilknytning til fjernvarme - Nedre Slottsgate 11	344 651	230 917	Nedre Slottsgate 11 AS	Oslo	Oslo
14/229	Energieffektiviseingstiltak i kommunale bygg i Flekkefjord kommune	1 157 994	1 017 166	Flekkefjord kommune	Flekkefjord	Vest-Agder
14/245	Ombygging Bygg B og C	359 244	418 343	KVS - Lyngdal AS	Lyngdal	Vest-Agder
14/247	Ljosheimveien 14 - enøk-tiltak	535 121	645 663	IKM Testing AS	Stavanger	Rogaland
14/248	Enøk i Osloskolene, sone syd	3 194 240	2 959 150	Undervisningsbygg Oslo KF	Oslo	Oslo
14/256	Varmepumpe Måløy VGS	356 700	240 000	Sogn og Fjordane fylkeskommune	Vågsøy	Sogn og Fjordane
14/262	Håkon den Godes gate 31 Levanger. Rehabiltering 2014	421 118	336 321	Norigon Eiendom AS	Levanger	Nord-Trøndelag
14/277	Bygningsmessige forbedringer i eksisterende bygg, Alutec Os	398 451	316 879	Industribygget AS	Bergen	Hordaland
14/293	Energitiltak Kirkenes Videregående skole	1 307 900	825 000	Finnmark Fylkeskommune	Sør-Varanger	Finnmark
14/297	Vik skole, Sømna kommune - rehabilitering 2014	322 186	273 612	Sømna kommune	Sømna	Nordland
14/300	Ny varmesentral verksted	78 474	52 800	Lars Høyem AS	Trondheim	Sør-Trøndelag
14/302	Andslimoen Bil AS	754 445	462 409	Oddli AS	Målselv	Troms
14/303	Rehabilitering med energibruk i fokus	1 595 262	1 781 823	Ragde Eiendom AS	Oslo	Oslo
14/306	Åmli Menighetsenter AS	110 253	89 873	Åmli Menighetssenter AS	Åmli	Aust-Agder
14/322	Energitiltak Bryne Mølle Sekkelager	125 141	115 507	Time kommune	Time	Rogaland
14/327	Fjernvarme Udland kirke	142 680	96 000	Haugesund Kirkelige Fellesråd	Stavanger	Rogaland
14/360	Lillehagen Oppvekstsenter - Varmepumpeinstallasjon	71 340	48 000	Statsbygg	Bærum	Akershus
14/365	Sandetun sjukeheim	427 974	404 467	Sande kommune	Ålesund	Møre og Romsdal
14/394	Støtte til tiltak i eksisterende bygg Romsalskvartalet ifm. deltakelse i Energinettverk Istad	294 610	179 300	Angvik Eiendomsforvaltning AS	Molde	Møre og Romsdal
14/401	Ølen vgs og Sauda vgs - Enøktiltak	1 029 376	993 473	Rogaland fylkeskommune	Stavanger	Rogaland
14/406	Energitiltak i kommunale bygg - Trinn 1	7 206 853	6 234 872	Stavanger kommune	Stavanger	Rogaland
14/420	Energiøkonomisering - Hemne hotell	714 177	783 252	Hemne Eiendom AS	Trondheim	Sør-Trøndelag
14/425	Energispareprosjekt for Grenland Næringspark	642 086	689 167	Grenland Næringspark AS	Skien	Telemark
14/433	Høiensalsodden	71 340	48 000	Høienslodden Ekely ANS	Alvdal	Hedmark
14/437	Ombygging /rehablitering av eksisternde lagerhall til bilverksted, med personalrom, teknisk rom, og delelager, riving av gammelt bygg, oppføring nytt bygg	96 052	115 827	Aarhus AS	Nes	Akershus
14/442	Rica Saga - Rehabilitering med miljøambisjoner	654 277	742 976	ANS Sagahuset	Sarpsborg	Østfold
14/480	Enøk tiltak i Venabu fjellhotell	639 302	257 183	Venabu Fjellhotell AS	Ringebu	Oppland
14/556	Melhus EPC - fase 2, pulje 1	3 133 063	2 927 955	Melhus kommune	Trondheim	Sør-Trøndelag
14/557	Nye Breivang, ombygging og renovering	248 520	730 193	Universitetet i Tromsø, Norges Arktiske Universitet	Tromsø	Troms
14/573	Hovedkontor Varner-gruppen	1 236 560	780 000	ANS Nesøyveien 4	Asker	Akershus
14/574	Hovedkontor Varner-gruppen	728 382	2 185 146	ANS Nesøyveien 4	Asker	Akershus
14/582	SD-anlegg og opplæring - Kjølsdalen Montessoriskule SA	41 515	40 887	Kjølsdalen Montessoriskule SA	Årdal	Sogn og Fjordane
14/591	1. Solgaard Skog 3 - Rehabilitering av kontor og lagerarealer, 2. Hølenbygget - Oppgradering automatikk til vannbåren varme	340 338	326 493	Bulk Eiendom AS	Landsdekkende	Landsdekkende
14/618	Sola kulturhus - oppgradering av tekniske anlegg	956 440	761 241	Sola kommune	Sola	Rogaland
14/622	Sørbø skole/sørbøhallen	449 821	564 406	Sandnes Eiendomsselskap KF	Stavanger	Rogaland
14/625	Vollan 4 As	354 334	249 186	Vollan 4 AS	Rauma	Møre og Romsdal
14/643	Enovasøknad nr. 2	769 360	958 320	Hordaland Fylkeskommune	Bergen	Hordaland
14/644	Vestlandshallen	370 462	338 668	Stiftelsen Vestlandshallen	Bergen	Hordaland
14/659	Energieffektive tiltak eksisterende bygg Kræmer Brygge AS	474 907	592 768	Kræmer Brygge AS	Tromsø	Troms
14/661	Skjervøy EPC - Fase 2	1 315 568	1 351 201	Skjervøy kommune	Skjervøy	Troms
14/662	Fritzøe Mølle - Kornsiloen	686 754	485 343	Fritzøe Møller AS	Larvik	Vestfold

APPENDIX D: LIST OF PROJECTS 2014

Please note: The list of projects is not translated to English.

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/664	ENØK-tiltak Peppes AS	231 407	279 242	Peppes Pizza avd. Hovedkontor	Landsdekkende	Landsdekkende
14/668	Panorama Konferansehotell	1 501 017	1 121 616	AS Marsteinen Eiendomsselskap	Bergen	Hordaland
14/678	Pir 1 nr. 7. Kjøle- og Fryselager.	190 331	171 833	Trondheim Havn	Trondheim	Sør-Trøndelag
14/683	UiB SD anlegg m.m	7 999 208	6 705 389	Universitetet i Bergen	Bergen	Hordaland
14/684	Rehabilitering av eksisterende bygg. 2. og 3. etg (Kontorbygg)	168 539	141 725	Kongens gate 27 AS	Steinkjer	Nord-Trøndelag
14/703	Karl Johans gate 12	1 758 966	1 486 283	Karl Johans gate 12 AS	Oslo	Oslo
14/718	Renovering Holviga barneskole	86 196	107 746	Grimstad kommune	Åmli	Aust-Agder
14/734	Rom ble ikke bygd på en dag	2 943 582	3 105 090	Rom Eiendom AS	Landsdekkende	Landsdekkende
14/747	Energiledelse i Møllergruppen Eiendom	4 928 230	4 359 721	Møllergruppen Eiendom AS	Oslo	Oslo
14/768	Enøk tinn 2 Burger King	2 954 156	3 695 825	King Food AS	Landsdekkende	Landsdekkende
14/774	Porteføljesøknad 1	3 617 917	4 295 196	West Coast Invest AS	Landsdekkende	Landsdekkende
14/785	Kvænangen EPC - fase 2	983 852	1 034 692	Kvænangen kommune	Kvænangen	Troms
14/787	Vanvikan skole, ombyggingsarbeider	106 102	132 628	Leksvik kommune	Leksvik	Nord-Trøndelag
14/792	Varmesentral ved Ekrehagen skole	95 120	64 000	Ekrehagen skole	Tromsø	Troms
14/799	Enovasøknad EPC Oppland	4 776 727	5 432 394	Oppland Fylkeskommune Sentraladministrasjonen	Landsdekkende	Landsdekkende
14/819	Rehabilitering 4. etasje	20 536	25 671	Baker Østbys vei 5-13 AS	Bærum	Akershus
14/822	Hovedvegen 43 - foretningsbygg	98 727	80 190	Joda Eiendom AS	Tromsø	Troms
14/823	Brundalen skole (Konvertering til fjernvarme)	81 399	54 538	Trondheim kommune	Trondheim	Sør-Trøndelag
14/833	Energiledelse i Mustad Eiendom	2 748 256	2 767 639	Mustad Eiendom AS	Oslo	Oslo
14/848	Utskifting og modernisering av ventilasjonsanlegg i Helsebygget	53 651	67 064	Mo Industripark AS	Rana	Nordland
14/851	Uskifting av lys og vinduer i salgshallen, strømsparende lys/ lamper i resten av bygget.	35 498	44 373	Gumpens Auto Mandal AS	Mandal	Vest-Agder
14/876	Stig Ragnar Eiendom AS	521 251	425 394	Stig Ragnar Eiendom AS	Trondheim	Sør-Trøndelag
14/897	Rissa EPC Fase 2, Helsetunet	840 813	921 733	Rissa kommune	Trondheim	Sør-Trøndelag
14/909	Oppgradering og Enøk Støtenhallen	510 361	637 952	Midtre Gauldal kommune	Midtre Gauldal	Sør-Trøndelag
14/913	Rehabilitering Kongsvatnveien 15	562 267	524 409	Vågan Eiendom KF	Vågan	Nordland
14/922	SD anlegg Holvika hallen	121 724	92 360	Grimstad kommune	Åmli	Aust-Agder
14/944	Rehabilitering av Koppang meieri	401 346	413 006	Firkanten Eiendom AS	Stor-Elvdal	Hedmark
14/947	Støtte til tiltak i eksisterende bygg, Brunvoll Årø	586 392	732 991	Brunvoll AS	Molde	Møre og Romsdal
14/955	EPC -Skien Fritidspark	3 900 838	2 314 862	Skien Fritidspark KF	Skien	Telemark
14/956	Energisparing hos Sperre Industrier AS (Eksisterende Bygg)	546 885	477 731	Sperre Industri AS	Ålesund	Møre og Romsdal
14/960	Entra-portefølje - 10 eiendommer	2 024 811	2 531 014	Entra Eiendom AS	Landsdekkende	Landsdekkende
14/961	Stromness Eiendom - ventilasjon og enøktiltak.	769 840	962 300	Stromness Eiendom AS	Horten	Vestfold
14/969	Narvik kommune. Gjennomføring av tiltak i EPC-prosjekt	8 345 106	8 114 866	Narvik kommune	Narvik	Nordland
14/987	Stovner sykehjem	1 330 878	1 663 598	Omsorgsbygg Oslo KF	Oslo	Oslo
14/988	Sarpsborg sykehus	2 809 862	3 019 755	Sarpsborg kommune	Sarpsborg	Østfold
14/989	Stavanger Lufthavn Sola	3 425 753	4 282 191	Avinor AS	Sola	Rogaland
14/995	Ekornes Beds AS - ENØK	744 236	930 296	Ekornes Beds AS	Ås	Akershus
14/1007	Bogstadveien 54	977 068	908 073	Bogstadveien 54 AS	Oslo	Oslo
14/1010	Tune adm. bygg 3	353 680	346 137	Sarpsborg kommune	Sarpsborg	Østfold
14/1011	Energireduksjon i I K Lykke	18 793 523	23 491 904	I K Lykke AS	Trondheim	Sør-Trøndelag
14/1039	Bilverksted	186 512	118 432	Momrak Verksted AS	Fyresdal	Telemark
14/1055	Raulandsakademiet - energispareprosjekt	214 784	268 481	Raulandsakademiet AS Norsk Senter for Folkekultur	Vinje	Telemark
14/1080	EPC Halsa kommune	1 265 654	1 454 118	Halsa kommune	Halsa	Møre og Romsdal
14/1084	Varmepumpe Ringebu ungdomsskole	428 040	288 000	Ringebu kommune	Dovre	Oppland
14/1089	R-senteret	75 023	77 785	R-senteret AS	Ørsta	Møre og Romsdal
14/1091	Sektor Gruppen - Grønt Lederskap ENØK 3.0	12 431 546	15 411 484	Sektor Gruppen AS	Landsdekkende	Landsdekkende
14/1092	Energieffektivisering 2014 - 2017 Sykehuset Innlandet - utvalgte lokasjoner.	4 681 700	4 121 455	Sykehuset Innlandet HF	Landsdekkende	Landsdekkende
14/1099	Omlegging til fjernvarme	245 336	164 375	Sehestedsgt 6 Eiendom AS	Oslo	Oslo
14/1117	Renovering Fjordgata 14	296 267	285 387	Fjordgata 14 Harstad AS	Harstad	Troms
14/1121	Ljosheimveien 14, Målebygget - enøk-tiltak	148 067	185 294	Målebygget AS	Stavanger	Rogaland
14/1126	Damp til oppvarming	751 962	445 673	Bilfinger Industrial Services Norway AS	Meløy	Nordland
14/1128	Jarlen Eiendom AS	270 040	230 705	Jarlen Eiendom AS	Hemne	Sør-Trøndelag
14/1134	EPC Sunndal kommune	3 210 776	3 641 697	Sunndal kommune	Sunndal	Møre og Romsdal
14/1138	EPC Skaun kommune	3 283 985	2 812 021	Skaun kommune	Trondheim	Sør-Trøndelag
14/1152	Varmepumpeanlegg	512 632	382 916	Hovedlageret AS	Odda	Hordaland
14/1176	Ny ventilasjon og etterisolering	96 081	84 793	AS Grønnegt 74-76	Tromsø	Troms
14/1208	EPC Hjalmar Johansen vgs	328 188	397 441	Telemark fylkeskommunes Eiendomsselskap FKF	Skien	Telemark
14/1215	Skei omsorgsenter, oppgradering tekniske anlegg	174 748	208 800	Jølster kommune	Årdal	Sogn og Fjordane
14/1218	Energisentral	1 493 840	1 012 396	Oslo Idrettskrets	Oslo	Oslo
14/1221	Overgang fra el kjele til flisfyring	591 000	340 000	Storeholmen VTA AS	Bergen	Hordaland
14/1239	Nordlandet ungdomsskole - Rehabilitering	1 669 504	2 086 881	Kristiansund kommune	Kristiansund	Møre og Romsdal
14/1240	Energiøkonomisering av Stranda Hotel	890 832	1 111 579	Stranda Hoteleiendom AS	Ålesund	Møre og Romsdal
14/1251	Nygårdshaugen dagsenter	302 182	292 428	Sarpsborg kommune	Sarpsborg	Østfold
14/1269	Energiefektivisering av Gratangen Kirke	111 108	101 567	Gratangen kommune	Tromsø	Troms

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/1299	Oppgradering Raveien 2	1 014 454	978 569	Ås Senter AS	Ås	Akershus
14/1321	Isolering og oppvarming av kirkene i Risør	501 094	548 136	Risør Kirkelige Fellesråd	Risør	Aust-Agder
14/1346	Varmeanlegg Buråsen 21	347 370	280 674	VMS Kristiansand AS	Kristiansand	Vest-Agder
14/1358	Oppussing av administrasjonsbygg Vinstra	170 472	213 091	Gudbrandsdal Energi AS	Nord-Fron	Oppland
14/1365	Enøktiltak på Brandbu barneskole	541 076	554 508	Gran kommune	Gran	Oppland
14/1377	Enøk i Siva Narvik Eiendom, Narvik4, Narvik 5, Kautokeino, Moelv	1 149 997	1 437 497	SIVA Eiendom Holding AS	Landsdekkende	Landsdekkende
14/1382	EPC Hadeland - gjennomføring av enøktiltak i Lunner kommune	1 388 840	1 616 630	Lunner kommune Eiendom og Infrastruktur	Lunner	Oppland
14/1383	Skjærvaveien 22	109 388	73 600	P. R. Holding AS	Skedsmo	Akershus
14/1385	Rehab Høyblokka Sykehusbukta	439 875	485 869	Vesterålen Eiendom AS	Hadsel	Nordland
14/1408	Clarion Collection Hotel Astoria	1 456 159	952 875	Nordic Property Management AS	Hamar	Hedmark
14/1418	Enøk-prosjekt Etne kommunes bygningsmasse	1 239 819	1 330 175	Etne kommune	Bergen	Hordaland
14/1424	Sartor Senter - energieffektivisering av eksisterende bygg	4 437 463	4 725 246	Sartor Senter AS	Fjell	Hordaland
14/1436	Enøk gjennomføring Thorvald Meyers gate 7-9-11	1 303 707	1 172 601	Thv. Meyersgate 7-9-11 AS	Oslo	Oslo
14/1441	Enovasøknad Origobygget	271 000	338 750	Vestvågøy Eiendomsdrift KF	Vestvågøy	Nordland
14/1477	Enovasøknad Jordbruksveien 46 i Bodø	261 234	276 862	Multigården AS	Bodø	Nordland
14/1486	Fr. Nansens vei 17-19	1 296 970	693 651	Fr Nansensvei 17-19 AS	Oslo	Oslo
14/1488	Dovre Vgs	540 562	456 103	Dovre kommune	Dovre	Oppland
14/1516	Søknad om støtte til Enøktiltak Harbitzalleen 2a	925 015	1 156 269	Sameiet I/S Klaveness Kontor	Oslo	Oslo
14/1517	Akersgata 34 - Rehabilitering	572 013	715 016	Entra Eiendom AS	Oslo	Oslo
14/1520	Enebakk kommune. Gjennomføring av energitiltak i EPC-prosjekt	3 858 621	4 306 146	Enebakk kommune	Enebakk	Akershus
14/1523	Rindal kommune-gjennomføring av energitiltak i EPC-prosjekt	1 608 034	1 583 543	Rindal kommune	Rindal	Møre og Romsdal
14/1528	LED lys Vakåsveien 9, Trippelbygg	130 628	163 286	ANS Trippelbygg	Ås	Akershus
14/1540	EPC Tingvoll kommune	1 540 912	1 852 904	Tingvoll kommune	Ålesund	Møre og Romsdal
14/1553	Ullensaker Rådhus - Ombygging plan 2 gammel fløy	151 650	189 563	Ullensaker kommune	Ullensaker	Akershus
14/1555	EPC Hadeland-gjennomføring av enøktiltak i Gran kommune	3 430 170	2 759 782	Gran kommune	Gran	Oppland
14/1565	Oskar Braatens gate 31	1 098 864	1 246 213	Olav Thon Eiendomsselskap ASA	Oslo	Oslo
14/1566	Kjemi 3, Realfagbygget,	2 649 953	3 312 442	NTNU	Trondheim	Sør-Trøndelag
14/1574	Toppsystem for styring og overvåking	83 653	104 567	Fritzøe Eiendom AS	Andebu	Vestfold
14/1584	Nygårdsgaten 112	965 608	2 896 824	Odfjell Eiendom AS	Bergen	Hordaland
14/1587	Energiøkonomisering ved Meråker Kjøtt AS	1 155 570	964 088	Meråker Kjøtt AS	Meråker	Nord-Trøndelag
14/1589	Enøk Møre Trafo AS	754 358	942 948	Møre Trafo AS	Ålesund	Møre og Romsdal
14/1594	Ny og mer miljøvenlig løsning på oppvarming - Hafrsfjord Tre, Trappefabrikk.	167 632	209 540	Hafrsfjord Tre AS	Stavanger	Rogaland
14/1595	Melhus EPC- fase 2, Pulje 2	1 388 559	1 387 417	Melhus kommune	Trondheim	Sør-Trøndelag
14/1613	Enøkprosjekt Mekjarvik 12	631 169	617 350	Stiftelsen Rogalandsforskning	Stavanger	Rogaland
14/1637	Sektor Gruppen ENØK 3.1 - Stovner Senter oppgradering av eksisterende senter	5 045 885	4 180 188	Sektor Stovner Eiendom AS	Oslo	Oslo
14/1639	Rehabilitering av eldre, mindre bygård, Wieses gate 3, Lillehammer.	145 520	66 868	Lecardio AS	Lillehammer	Oppland
14/1640	Næringsbygg Trekanten 6, Levanger	154 665	141 755	Elman AS	Levanger	Nord-Trøndelag
14/1643	Skarbøvik, Åsetorget	591 129	361 863	H I Giørtz Sønner AS	Ålesund	Møre og Romsdal
14/1659	Norsk Fjordsenter	190 240	127 999	Norsk Fjordsenter AS	Ålesund	Møre og Romsdal
14/1660	Bygge om eksisterende lokaler for å få plassert ny biokjel.	124 212	125 154	Strand Unikorn AS	Ringsaker	Hedmark
14/1667	Vard Electro AS - 79981 - Tennfjord Næringsbygg	1 117 134	1 396 419	Vard Electro AS	Ålesund	Møre og Romsdal
14/1681	SLB Energiprogram Næringsbygg 2014-2016	1 170 648	1 463 311	Schlumberger Norge AS	Stavanger	Rogaland
14/1683	SI-bygget - Energitiltak	566 790	620 799	HHO Holding AS	Rana	Nordland
14/1700	Enøk i Osloskolen sone syd Lofsrud skole	482 216	602 770	Undervisningsbygg Oslo KF	Oslo	Oslo
14/1704	Ny varmestyring	192 300	148 352	Logi Trans AS	Stavanger	Rogaland
14/1708	Energiprogrammet Marnardal Kommune	1 474 001	1 650 576	Marnardal kommune	Kristiansand	Vest-Agder
14/1713	Utskifting av vindu i fasade.	69 712	87 141	Nygårdsporten AS	Bergen	Hordaland
14/1715	Lysenergieffektivisering Årnes Tekniske Verksted	524 868	436 486	Than Eiendom AS	Nes	Akershus
14/1723	Surnadal kommune - gjennomføring av energitiltak i EPC-prosjekt	2 471 972	1 350 915	Surnadal kommune	Surnadal	Møre og Romsdal
14/1735	Utskifting av lysanlegg og andre energisparende tiltak i Industrivegen 12 på Verdal	142 356	177 945	Vitec AS	Verdal	Nord-Trøndelag
14/1736	Utskifting av oljefyr til produksjon Valdres Trebehandling AS	149 450	160 554	Valdres Trebehandling AS	Øystre Slidre	Oppland
14/1747	Smøla kommune - gjennomføring av energitiltak i EPC-prosjekt	1 058 131	953 114	Smøla kommune	Smøla	Møre og Romsdal
14/1755	Energifokus i Aspelin Ramm 2014-2016	4 554 492	5 599 285	Aspelin Ramm Eiendom	Oslo	Oslo
14/1759	TKS-energieffektivisering i byggene	1 791 101	2 078 939	TKS Eiendom AS	Stavanger	Rogaland
14/1766	Lofsrud Barnehage	75 024	93 780	Omsorgsbygg Oslo KF	Oslo	Oslo
14/1767	Modum Sparebank 1 Vikersund, oppgradering 2014	126 818	158 523	Modum Sparebank	Modum	Buskerud
14/1772	Energisparende tiltak Helse Bergen HF 2014 - 2017	10 687 168	10 652 087	Helse Bergen HF	Bergen	Hordaland
14/1774	Møglestuhallen/Idrettshall	129 187	161 485	Lillesand kommune	Lillesand	Aust-Agder
14/1776	LED på COCO stasjoner Statoil Fuel and Retail	714 556	893 196	Statoil Fuel and Retail Norge AS	Landsdekkende	Landsdekkende
14/1787	Grand Hotell - rehabiliteringsprosjekt	6 392 789	6 758 862	Grand Hotel AS	Oslo	Oslo

APPENDIX D: LIST OF PROJECTS 2014

Please note: The list of projects is not translated to English.

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/1797	Energisparing hos Fjordlaks AS (Eksisterende Bygg)	1 352 676	1 687 718	Fjordlaks AS	Ålesund	Møre og Romsdal
14/1810	Nytt klimaskall på Hole Ungdomsskole	165 377	206 722	Hole kommune	Hole	Buskerud
14/1816	NorgesGruppen Eiendom AS - Fossekallen 1.0	2 946 221	3 472 614	NorgesGruppen ASA	Oslo	Oslo
14/1864	Nordreisa EPC	840 904	1 045 799	Nordreisa kommune	Tromsø	Troms
14/1905	Brodahlbygget - Grønland 57	929 870	822 710	Union Eiendomsutvikling AS	Drammen	Buskerud
14/1942	Vannbasert oppvaming av menighetshuset	101 738	79 984	Risør Kirkelige Fellesråd	Åmli	Aust-Agder
14/1958	Energisparing ved oppgradering	288 495	244 399	Karlandergården DA	Fredrikstad	Østfold
14/1982	Oppgradering av diverse bygg	4 634 157	5 280 672	Thon Holding AS	Landsdekkende	Landsdekkende
14/1988	ENØK Norlandiabarnehagene	38 754	35 648	Mogreina Barnehage	Ullensaker	Akershus
Program: Støtte til ny teknologi for fremtidens bygg						
14/186	Sluppenveien 17BC - Bruk av termodekke for energilagring	187 000	737 000	Kjeldsberg Sluppen ANS	Trondheim	Sør-Trøndelag
14/751	KIWI Auli Miljøbygg	502 658	3 328 170	NG Kiwi Oslo Akershus AS	Nes	Akershus
14/1562	Wergelandsveien 7 - Rehabilitering av fasade	1 180 000	16 212 000	Wergelandsveien 7 ANS	Oslo	Oslo
14/1620	Varden skole	60 000	551 802	Bergen kommune	Bergen	Hordaland
Program: Støtte til energieffektive nybygg						
14/701	Forbildeprosjekt Bjørkheim senter	352 127	3 000 000	Bjørkheim Senter AS	Samnanger	Hordaland
14/707	Swecobygget	1 099 429	5 400 000	Fantoft Utvikling AS	Bergen	Hordaland
14/912	Lavenergisykehus LHL klinikkene	4 882 200	29 900 000	Gardermoen Campus Utvikling AS	Ullensaker	Akershus
14/710	Haakonsvern - nytt administrasjonsbygg - ZEB	273 396	2 350 000	Forsvarsbygg (OSLO)	Bergen	Hordaland
14/949	Nytt Munch-museum	2 060 157	13 391 000	Oslo Kommune Kulturbyggene I Bjørvika	Oslo	Oslo
14/1250	Nytt energieffektivt tilbygg UNIL	1 705 639	11 427 800	Våler Distribusjonslager AS	Våler	Østfold
14/1460	Papirbredden 3, søknad om støtte til energieffektivt nybygg.	869 803	3 393 441	Papirbredden Eiendom AS	Drammen	Buskerud
14/1238	Brynsengfaret skole	660 386	4 556 000	Undervisningsbygg Oslo KF	Oslo	Oslo
14/1742	Omsorgsenter på Eidet i Haram kommune	1 251 741	3 400 000	Haram kommune	Haram	Møre og Romsdal
Program: Støtte til introduksjon av ny teknologi						
13/1969	Solartakstein	1 195	80 242	Orkla Elektronikk Lomundal	Orkdal	Sør-Trøndelag
Program: Varmesentral utvidet						
13/1786	Alta caravan jordvarme vann-vann	66 426	53 141	ASC Eiendom AS	Alta	Finnmark
14/79	Holten barnehage	26 235	20 988	Stiftelsen Holten Barnehage	Alta	Finnmark
14/265	Nærvarmeanlegg Treskjæråsen	362 850	290 000	Kniplefjellet Eiendom AS	Fredrikstad	Østfold
14/314	Varmepumpe installasjon med Væske/vann varmepumper og energibrønner.	131 696	105 357	Voss Folkemuseum	Voss	Hordaland
14/336	Energisentral KLP Stavanger Airport Hotel væske/vann varmepumpe	215 250	172 000	KLP Stavanger Airport Hotel AS	Sola	Rogaland
14/388	Ny varmepumpe med spisslast gasskjel i ny varmesentral	593 434	474 748	Ru Eiendom AS	Ringsaker	Hedmark
14/534	Luft/vann varmepumpe boligblokk Støperigata	37 312	29 850	Svein Roar Andersen Eiendom AS	Øvre Eiker	Buskerud
14/924	Flisfyringsanlegg hos XL Bygg Tverberg og sønner AS	853 809	853 809	XL-Bygg Tverberg og Sønner AS	Bergen	Hordaland
14/964	Energisentral basert på varmepumpe og geoenergi, Kringsjå Studentby, OSLO	2 398 500	2 398 500	Studentsamskipnaden i Oslo og Akershus	Oslo	Oslo
14/1129	Bergvarmebasert varmepumpe på Falkhytten	984 000	984 000	Aukra kommune	Aukra	Møre og Romsdal
14/1362	Salhus Skole og Flerbrukshall varmesentral	397 905	397 905	Brønnøy kommune	Brønnøy	Nordland
Program: Varmesentral forenklet						
13/2089	Luft-vann varmepumpe	39 865	25 300	Navestad Idrettsforening	Sarpsborg	Østfold
14/156	Væske-vann varmepumpeanlegg og energibrønner i berg	23 776	16 000	Museumsvegen 6	Molde	Møre og Romsdal
14/160	Båtsfjord Brygge	38 041	25 600	Finnmark Mat og Kulturopplevelser AS	Båtsfjord	Finnmark
14/211	Varmepumpe som erstatning for oljefyr	17 333	11 000	Jehovas Vitner Lillehammer Menighet	Lillehammer	Oppland
14/225	Utfasing av oljefyr og oljetank	55 464	35 200	Aase Eigedom AS	Førde	Sogn og Fjordane
14/226	Væske-væske varmepumpe	47 552	32 000	Tron Ungdomssenter	Tynset	Hedmark
14/241	Væske væske varmepumpe	38 041	25 600	Geir Espen Bye Echer	Grong	Nord-Trøndelag
14/268	Vekk med Oljefyr	20 799	13 200	Forbord Invest AS	Verdal	Nord-Trøndelag
14/269	Luft/vann	24 266	15 400	John Ole Bakheim	Stjørdal	Nord-Trøndelag
14/271	Væske-væske varmepumpe	71 328	48 000	ØBEB Eiendom AS	Horten	Vestfold
14/273	Væske-væske varmepumpe	123 635	83 200	Ørje Byggmarked AS	Marker	Østfold
14/328	Veske-vann varmepumpe hovedbygg	68 950	46 400	Tonstadli AS	Sirdal	Vest-Agder
14/340	Flisfyringsanlegg til oppvarming av industribygg	196 520	100 000	Energilåven Svenkerud	Skien	Telemark
14/368	Bergvarmesentral i Seljeholtet 17	64 195	43 200	Sameiet Seljeholtet 17	Bærum	Akershus
14/375	Luft-væske varmepumpe servicebygg	15 599	9 900	Hevle Eiendom AS	Oppdal	Sør-Trøndelag
14/408	Hybelhus	61 817	41 600	Jan Auen Hafskjold	Lier	Buskerud
14/410	Varmepumpe Væske/vann	23 776	16 000	Mjeldalen U.L	Bergen	Hordaland
14/424	Varmeanlegg Solhaug Selskapslokaler	34 665	22 000	Lauvsprett SA	Bærum	Akershus
14/441	Rehabilitering av varmeanlegg i Steinsfjellet barnehage 2014	59 440	25 600	Steinsfjellet Barnehage SA	Haugesund	Rogaland
14/462	Varmepumpe K	39 865	25 300	Tojo AS	Sørreisa	Troms
14/495	Varmepumpe luft til vann Larsen eiendom	29 465	18 700	Larsen Eiendom AS	Oslo	Oslo
14/516	Varme sentral Varmepumpe Væske/vann	142 655	96 000	Sameiet Fæster Brygge	Bergen	Hordaland
14/538	Varmepumper for oppvarming av basseng, varmt tappevann og gulvvarme	69 330	44 000	Kihl Hans Christian	Råde	Østfold
14/551	Væske - vann varmepumpe	332 863	200 000	Grovfjord Industrier AS	Skånland	Troms

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/586	Bergvarme	23 776	16 000	KBuss Knut-Georg Sandvik	Lierne	Nord-Trøndelag
14/601	Luft-vann varmepumpe	344 919	200 000	Stabburveien 18 AS	Fredrikstad	Østfold
14/602	Varmesentral hovedbygg	173 326	110 000	Lundeneset VGS AS	Vindafjord	Rogaland
14/603	Varmesentral gymbygg	138 661	88 000	Lundeneset VGS AS	Vindafjord	Rogaland
14/627	Etablering av ny frittstående flisbasert varmesentral	354 600	200 000	Museet Midt ISK	Namsos	Nord-Trøndelag
14/635	Luft - vann varmepumpe	138 661	88 000	Tveiten Invest AS	Kongsberg	Buskerud
14/658	Flisbasert varmesentral	132 975	76 500	Tommy Fanebost	Andebu	Vestfold
14/672	Væske-væske varmepumpe - Bergvarme - Ny Barneskole	76 083	40 000	Rakkestad kommune	Rakkestad	Østfold
14/676	Luft-væske varmepumpe	103 996	66 000	O H Slåke invest AS	Frogn	Akershus
14/679	Installering av luft-vann varmepumpeteknologi for produksjon av gourmetsalt/fingersalt. 2 stk Daikin Altherma Høytemperatur 16kW	55 464	35 200	Artic Salt AS	Bodø	Nordland
14/690	Hørte Gård, kantine, sosialerom og møterom	40 419	8 500	Hørtegård, Anders Hørthe	Lier	Buskerud
14/726	Bergvarme varmepumpe	356 638	200 000	Sameiet Doyen Eidsvoll I	Eidsvoll	Akershus
14/738	Varmepumpe installasjon Skogkanten Barnehage	42 797	28 800	Skogkanten Barnehage SA	Sørum	Akershus
14/789	Varmesentral Forenklet	64 195	43 200	Sameiet Seljeholtet 15	Bærum	Akershus
14/805	Varmepumpe Berg Væske - væske	161 676	108 800	Sameiet Glitnegården	Lørenskog	Akershus
14/812	Luft/vann varmepumpe	65 864	41 800	Storgata 52 Molde AS	Molde	Møre og Romsdal
14/818	Flisbasert varmesentral	147 750	55 394	Våle Antirustverksted Per Wike	Re	Vestfold
14/841	Luft/vann varmepumpe	27 732	17 600	OSO-Maritim AS	Andøy	Nordland
14/857	Grandal veistasjon - nybygg	38 517	13 500	Grandal Eiendom AS	Lillesand	Aust-Agder
14/875	Omlegging av oljekjel til bergvarmepumpe	78 460	52 800	Høydahl Eiendom AS	Sande	Vestfold
14/894	Bergvarme/Varmepumpe	71 328	48 000	Konvallveien 29 Sameie	Oslo	Oslo
14/898	Væske/vann varmepumpe for Slettebø idrettshall, svømmehall og Slettebø barnehage	190 207	128 000	Eigersund kommune	Eigersund	Rogaland
14/916	120kW- Varmepumpe- luft til vann	207 991	132 000	Toppe Gartneri Nils Gunnar Toppe	Bergen	Hordaland
14/932	Borring kollektorbrønn og installering av veske til vann varmepumpe til industribygg størrelse ca 400m2 med eksisterende varmesløyfer i gulv	40 419	27 200	Storegga Eiendom AS	Målselv	Troms
14/937	Solfanger anlegg	9 900	6 633	Skandinavisk yoga og meditasjonsskole	Askøy	Hordaland
14/946	Bergvarmepumpe Ullevålsalleen 37	190 207	128 000	Christiania Opfostringshus	Oslo	Oslo
14/963	Bergvarme Bolteløkka Alle 7	71 328	48 000	Sameiet Bolteløkka Alle 7	Oslo	Oslo
14/968	Veske - veske varmepumpe	23 776	16 000	Heggelund og Elisenberg AS	Alvdal	Hedmark
14/974	Væske-væske varmepumpe	161 676	108 800	Sameiet Drammensveien 68	Oslo	Oslo
14/975	Varmesentral Riska bo og aktivitetssenter	205 899	133 100	Sandnes kommune	Sandnes	Rogaland
14/982	Væske-væske varmepumpe (bergvarme)	142 655	96 000	Sameiet Gabelsgate 25	Oslo	Oslo
14/985	Væske-væske varmepumpe (bergvarme)	142 655	96 000	Boligsameiet Gabels gt 27	Oslo	Oslo
14/1006	Konvertering fra oljefyring til varmepumpe i Herredshuset i Gjerdrum kommune	190 207	128 000	Gjerdrum kommune	Gjerdrum	Akershus
14/1013	Vennesla svømmehall	81 789	43 000	Vennesla kommune	Vennesla	Vest-Agder
14/1048	Luft til vann JKS Bygg	86 663	55 000	JKS Bygg AS	Lillesand	Aust-Agder
14/1073	Varmepumpe med energibrønner for nye Eiganes skole	85 593	45 000	Stavanger kommune	Stavanger	Rogaland
14/1095	Installasjon av varmepumpe	90 348	60 800	Sameiet Niels Juelsgate 12	Oslo	Oslo
14/1124	Veske-vann varmepumpe	109 369	73 600	Kanten AS	Alta	Finnmark
14/1130	Varmepumper Yrkesvegen 5	69 330	44 000	Namdal Eiendom AS	Namsos	Nord-Trøndelag
14/1163	97 kW fliskjele	286 635	164 900	Dagsrud Gård og hagebruk ANS	Skien	Telemark
14/1186	Varmesentral Thaulows vei 4 B	38 041	25 600	Sameiet Thaulowsvei 4b	Oslo	Oslo
14/1187	Grefsenveien 94	40 419	27 200	AS Grefsentorget 4	Oslo	Oslo
14/1191	Energisentral Gjerpenkollen bygg E + F	38 041	20 000	Gjerpenkollen AS	Drammen	Buskerud
14/1199	Varmepumpeanlegg	62 397	39 600	Kr. A. Vik AS	Stryn	Sogn og Fjordane
14/1206	Etablering av ny sjøvannsvarmepumpe	41 845	22 000	Peter Hepsø Rederi AS	Osen	Sør-Trøndelag
14/1219	Varmepumpe hovedbygg Lovisenberg (Inneholder kiosk, butikk, lager, sanitæranlegg, restaurant, gjestekjøkken m.m.)	161 676	108 800	Hamre Familiecamping AS	Kragerø	Telemark
14/1234	Luft-vann varmepumpe 16 kw (NIBE F2040 16 kw med 230v - 50 hz)	38 041	25 600	Karmsund Dyrehospital AS	Karmøy	Rogaland
14/1257	Sørby Varmepumpesentral	55 464	35 200	Per Aslak Sørby	Andebu	Vestfold
14/1258	Væske-væske varmepumpe	142 655	96 000	Sameiet Nye Framnes Terrasse 1	Oslo	Oslo
14/1271	Innstallasjon av væske-vann varmepumpe	71 328	48 000	Bohjilt Boligsameie	Fredrikstad	Østfold
14/1310	Varmepumpe for væske/vann	142 655	96 000	Boligsameiet Bjerkebakken 74	Oslo	Oslo
14/1327	Væske-væske varmepumpe	142 655	96 000	Sameiet Nye Framnes Terrasse 3	Oslo	Oslo
14/1330	Forsamlingshus på Straume	57 062	30 000	Straume Forum AS	Fjell	Hordaland
14/1338	Jessheim Videregående skole - energisentral med væske/vann varmepumpe og brønnpark	332 862	175 000	Skulebygg AS	Ullensaker	Akershus
14/1350	Konvertering fra elektrokjel til varmepumpe med varme fra grunn	95 104	64 000	Strandkaien 2 AS	Stavanger	Rogaland
14/1354	Væske-væske varmepumpe Rykkinn skole	285 310	150 000	Skuleveg AS	Bærum	Akershus
14/1357	Væske-vann varmepumpe	190 207	128 000	AS Bergensveien Byggeselskap	Oslo	Oslo
14/1387	Bergvarmepumpe i Danmarks Ambassadørbolig	38 041	25 600	Den danske ambassade	Oslo	Oslo
14/1389	Varmepumper til fyrsentral	124 795	79 200	Ole Gustav Lia	Kongsberg	Buskerud

APPENDIX D: LIST OF PROJECTS 2014

Please note: The list of projects is not translated to English.

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/1395	Varmepumpe Sameiet Holmenkollveien 96	40 419	27 200	Sameiet Holmenkollveien 96	Oslo	Oslo
14/1423	Luft-tilvann-varmepumpe-utendørs installasjon	48 531	30 800	MOR 24	Tromsø	Troms
14/1427	Energieffektiv boligblokk Leirbruvegen 2, Trondheim	28 531	15 000	Marka Eiendom AS	Trondheim	Sør-Trøndelag
14/1454	Bergvarme-Varmepumpe	40 419	27 200	Tune Utemiljø Andre Belsby	Sarpsborg	Østfold
14/1461	Innstallasjon av væske-væske varmepumpe	23 776	16 000	Mogan Eiendom DA	Fredrikstad	Østfold
14/1467	Bergvarme Kalskin	26 153	17 600	Elling Kalskin	Gran	Oppland
14/1506	Væske-vann varmepumpe	35 664	24 000	Båstadveien 593 ANS	Trøgstad	Østfold
14/1548	Veske veske varmepumpe	38 041	25 600	AF Eiendom AS	Ullensaker	Akershus
14/1583	Væske-væske varmepumpe, fjerning av oljetank og oljefyr	142 655	96 000	Sameiet Hafrsfjordgate 3	Oslo	Oslo
14/1624	Bergvarme	28 531	19 200	Hundremeterskogen Barnehage SA	Nittedal	Akershus
14/1641	Innstalere luft/vann varmepumpe.	15 599	9 900	Sersjantveien 11 Eiendom AS	Steinkjer	Nord-Trøndelag
14/1688	Luft/vann varmepumpe med tappevannsproduksjon	27 732	17 600	A. M. Vik AS	Vanylven	Møre og Romsdal
14/1749	Væske-vann varmepumpe	71 328	48 000	Boligseksjonssameiet Gamle Madserud Alle 10	Oslo	Oslo
14/1760	Luft-vann varmepumpe og energitank for forbruksvann koblet til pumpe, slik at forbruksvann også varmes opp ved hjelp av pumpe	22 532	14 300	RB Eiendomsutvikling AS	Rauma	Møre og Romsdal
14/1765	Væske-vann varmepumpe	57 062	38 400	Sameiet Østreheimsveien 17/19	Oslo	Oslo
14/1786	Bioanlegg for utnyttelse av avfall fra egen produksjon	886 500	200 000	Nor Element AS	Mandal	Vest-Agder
14/1806	Varmesentral	40 419	27 200	Hesla Maskin og Transport	Søndre Land	Oppland
14/1808	Kjøp av luft/vatn varmepumpe i nær.bygg	15 599	9 900	Johannes Silde	Etne	Hordaland
14/1811	Eindommen Valdres as	66 572	35 000	Eiendommen Valdres AS	Nord-Aurdal	Oppland
14/1832	Væske-væske varmepumpe. GEO-anlegg Hole Ungdomsskole.	309 087	200 000	Hole kommune	Hole	Buskerud
14/1836	Varmepumpe	40 419	27 200	Arvid Strand	Drangedal	Telemark
14/1853	Væske-væske varmepumpe	38 041	20 000	Erik Hauge Transport AS	Rakkestad	Østfold
Program: Kartleggingsstøtte bygg						
13/381	Analyse og handlingsplan for vedlikeholds-, utbedrings- og energieffektiviseringstiltak i Våler kommune	-	91 000	Våler kommune	Våler	Østfold
13/1248	Forprosjekt varme og infrastruktur i Kragerø sentrum	-	100 000	Kragerø kommune	Kragerø	Telemark
13/1933	Energikartlegging Aukra kommune	-	100 000	Aukra kommune	Aukra	Møre og Romsdal
13/1935	Energikartlegging Vaksdal kommune	-	100 000	Vaksdal kommune	Vaksdal	Hordaland
13/1993	Lunner kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Lunner kommune	Lunner	Oppland
13/2017	Plan for energieffektiviserings- og konverteringstiltak i Hof kommune	-	100 000	Hof Kommune	Hof	Vestfold
13/2038	Energikartlegging i kommunale bygg - Trinn 3	-	100 000	Stavanger kommune	Stavanger	Rogaland
13/2077	Gausdal kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Gausdal kommune	Gausdal	Oppland
13/2098	Enebakk kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Enebakk kommune	Enebakk	Akershus
14/128	Kartlegging av energisparetiltak i Røros kommunes bygg	-	100 000	Røros kommune	Røros	Sør-Trøndelag
14/276	Energikartlegging Kvam kommune	-	100 000	Kvam kommune	Kvam	Hordaland
14/288	Forprosjekt energiproduksjon basert på trevirke i Granvin herad	-	100 000	Granvin herad	Granvin	Hordaland
14/343	Kartlegging energiløsninger Rissa sentrum	-	100 000	Rissa kommune	Rissa	Sør-Trøndelag
14/366	Energikartlegging av kommunale bygninger, Krødsherad kommune.	-	57 500	Krødsherad kommune	Krødsherad	Buskerud
14/460	P1363 Fjernvarmeanlegg Åndalsnes - sjøvarme	-	100 000	Rauma kommune	Rauma	Møre og Romsdal
14/532	ENØK-utredning i Marnardal kommune	-	86 250	Marnardal kommune	Marnardal	Vest-Agder
14/562	Energiutredning Bardu kommune	-	100 000	Bardu kommune	Bardu	Troms
14/564	Kartlegningsstøtte Varme og infrastruktur	-	100 000	Bardu kommune	Bardu	Troms
14/680	Energiutredning kommunal byggningsmasse	-	100 000	Tysfjord kommune	Tysfjord	Nordland
14/681	Kartleggingsstøtte varme og infrastruktur	-	100 000	Tysfjord kommune	Tysfjord	Nordland
14/730	Mulighetsstudie	-	100 000	Askim kommune	Askim	Østfold
14/847	Enøk kartlegging kommunale bygg	-	50 000	Froland kommune	Froland	Aust-Agder
14/923	Energiutredning Sørreisa kommune	-	100 000	Sørreisa kommune	Sørreisa	Troms
14/965	Kartleggingsstøtte varme og infrastruktur	-	100 000	Sørreisa kommune	Sørreisa	Troms
14/1053	Energiutredning Røst kommune	-	100 000	Røst kommune	Røst	Nordland
14/1054	Kartlegingsstøtte Varme og Infrastruktur	-	100 000	Røst kommune	Røst	Nordland
14/1456	Spydeberg kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Spydeberg kommune	Spydeberg	Østfold
14/1534	Energikartlegging Molde Kommune	-	100 000	Molde Eiendom KF	Molde	Møre og Romsdal
14/1612	Kartlegging av aktuelle ENØK-tiltak	-	100 000	Sel kommune	Sel	Oppland
14/1676	Energikartlegging Fræna Kommune	-	100 000	Fræna kommune	Fræna	Møre og Romsdal
14/1716	Energikartlegging Herøy kommune	-	100 000	Herøy kommune	Herøy	Møre og Romsdal
14/1790	Kartlegningsstøtte Varme& Infrastruktur	-	100 000	Ballangen kommune	Ballangen	Nordland
14/1799	Kartlegging av varme og infrastruktur	-	100 000	Overhalla kommune	Overhalla	Nord-Trøndelag
14/1826	Kartlegging varme og infrastruktur Hareid kommune	-	100 000	Hareid kommune	Hareid	Møre og Romsdal
14/1830	Froland kommune - Kartleggingsstøtte varme og infrastruktur	-	100 000	Froland kommune	Froland	Aust-Agder
14/1840	ENØK kommunale bygg	-	100 000	Tynset kommune	Tynset	Hedmark

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/1844	Ringebu kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Ringebu kommune	Ringebu	Oppland
14/1848	Gol kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Gol kommune	Gol	Buskerud
14/1860	Nittedal kommune. Kartlegging av energi-og konverteringstiltak (fase 1 i EPC-prosjekt)	-	100 000	Nittedal kommune	Nittedal	Akershus
14/1862	Plan for energieffektivisering i Notodden kommune	-	100 000	Notodden kommune	Notodden	Telemark
14/1866	Hemsedal kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Hemsedal kommune	Hemsedal	Buskerud
14/1867	Lillehammer kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Lillehammer kommune	Lillehammer	Oppland
14/1869	Ullensaker kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Ullensaker kommune	Ullensaker	Akershus
14/1871	Energikartlegging i kommunale bygg - Trinn 4	-	100 000	Stavanger kommune	Stavanger	Rogaland
14/1872	Analyse og handlingsplan for vedlikeholds-, utbedrings- og energieffektiviseringstiltak i Eidsberg kommune	-	100 000	Eidsberg kommune	Eidsberg	Østfold
14/1874	Frogn kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Frogn kommune	Volda	Møre og Romsdal
14/1877	Områdeplan Martineåsen	-	100 000	Larvik kommune	Larvik	Vestfold
14/1889	Kartlegging energieffektiviserings- og konverteringstiltak i formålsbygg Sandnes kommune	-	70 000	Sandnes kommune	Sandnes	Rogaland
14/1899	Bindal - Kartlegging av potensial for varmesentraler og -infrastruktur	-	100 000	Bindal kommune	Bindal	Nordland
14/1900	Bindal - Kartlegging av potensial for energieffektivisering og konverteringstiltak i kommunale bygg og anlegg	-	100 000	Bindal kommune	Bindal	Nordland
14/1901	Stokke kommune - kartlegging av energi-og konverteringstiltak (fase 1) i EPC-prosjekt)	-	100 000	Stokke kommune	Stokke	Vestfold
14/1906	Kartlegging av energieffektiviserings- og konverteringstiltak i kommunale bygg i Tinn kommune	-	100 000	Tinn kommune	Tinn	Telemark
14/1908	Kartlegging av fjordvarme og infrastruktur i Ørsta Kommune	-	100 000	Ørsta kommune	Ørsta	Møre og Romsdal
14/1909	Røyrvik - Kartlegging av potensial for energieffektivisering og konverteringstiltak i kommunale bygg og anlegg	-	100 000	Røyrvik kommune Plan, drift og næringsavdelingen	Røyrvik	Nord-Trøndelag
14/1910	Røyrvik - Kartlegging av potensial for varmesentraler og infrastruktur	-	100 000	Røyrvik kommune Plan, drift og næringsavdelingen	Røyrvik	Nord-Trøndelag
14/1911	Lierne - Kartlegging av potensial for energieffektivisering og konverteringstiltak i kommunale bygg og anlegg	-	100 000	Lierne kommune plan- og utviklingsetat	Lierne	Nord-Trøndelag
14/1912	Lierne - Kartlegging av potensial for varme og Infrastruktur	-	100 000	Lierne kommune plan- og utviklingsetat	Lierne	Nord-Trøndelag
14/1913	Høylandet - Kartlegging av potensial for energieffektivisering og konverteringstiltak i kommunale bygg og anlegg	-	100 000	Høylandet kommune Næring og miljø	Høylandet	Nord-Trøndelag
14/1914	Høylandet - Kartlegging av potensial for varmesentraler og infrastruktur	-	100 000	Høylandet kommune Næring og miljø	Høylandet	Nord-Trøndelag
14/1915	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Berg kommune	Berg	Troms
14/1916	Energiutredning Varme og infrastruktur	-	100 000	Berg kommune	Berg	Troms
14/1917	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Hamarøy kommune	Hamarøy	Nordland
14/1918	Energiutredning Varme og infrastruktur	-	100 000	Hamarøy kommune	Hamarøy	Nordland
14/1919	Energiutredning Varme og infrastruktur	-	100 000	Flakstad kommune	Flakstad	Nordland
14/1920	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Flakstad kommune	Flakstad	Nordland
14/1921	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Værøy kommune	Værøy	Nordland
14/1922	Energiutredning Varme og infrastruktur	-	100 000	Værøy kommune	Værøy	Nordland
14/1923	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Moskenes kommune	Moskenes	Nordland
14/1924	Energiutredning Varme og infrastruktur	-	100 000	Moskenes kommune	Moskenes	Nordland
14/1925	Energiutredning Varme & infrastruktur	-	100 000	Torsken kommune	Torsken	Troms
14/1926	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Vågan kommune	Vågan	Nordland
14/1927	Energiutredning Varme og infrastruktur	-	100 000	Vågan kommune	Vågan	Nordland
14/1928	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Øksnes kommune	Øksnes	Nordland
14/1929	Energiutredning Varme & infrastruktur	-	100 000	Tranøy kommune	Tranøy	Troms
14/1930	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Tranøy kommune	Tranøy	Troms
14/1931	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Bø kommune	Bø	Nordland
14/1933	Energiutredning Varme & infrastruktur	-	100 000	Bø kommune	Bø	Nordland
14/1935	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Torsken kommune	Torsken	Troms
14/1936	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Saltdal kommune Eiendomsdrift vaktmestere / renhold	Saltdal	Nordland
14/1937	Kartlegingsstøtte kommunal bygningsmasse	-	100 000	Dyrøy kommune	Dyrøy	Troms
14/1938	Energiutredning Varme og infrastruktur	-	100 000	Dyrøy kommune	Dyrøy	Troms
14/1944	Energiutredning Varme og infrastruktur	-	100 000	Øksnes kommune	Øksnes	Nordland
Bolig						
Program: Støtte til eksisterende bygg (boliger og sameier)						
13/1879	Karjolveien 72 Fredrikstad	7 500	92 500	Andersen, Charlotte	Fredrikstad	Østfold
13/2020	Daaeskogen Næringsbygg enøktiltak	469 576	381 677	Sameiet Daaeskogen Næringsbygg	Ålesund	Møre og Romsdal
13/2052	Energieffektivisering Marieroalleen - Bergvarme - spenningskontroll - solceller - vannbehandling -	713 400	480 000	Borettslaget Marieroalleen	Stavanger	Rogaland
14/101	Installasjon av balansert ventilasjon og etterisolering av tak.	215 786	171 254	Storåsen Borettslag	Bergen	Hordaland

APPENDIX D: LIST OF PROJECTS 2014

Please note: The list of projects is not translated to English.

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/111	Energisparetiltak i Ullernåsen Boligsameie	1 966 423	1 671 460	Ullernåsen boligsameie	Oslo	Oslo
14/290	Renovering av utleie og næringsbygg	100 723	34 825	Monter Bygg AS	Alta	Finnmark
14/294	Installasjon av væske / vann varmepumpe	87 986	59 200	Vestre Greverud Gård Sameie	Oppegård	Akershus
14/301	Balders	159 143	135 272	Boligstiftelsen NTNU og SINTEF	Trondheim	Sør-Trøndelag
14/321	Oppgradering av fyringsanlegg	274 200	230 580	Nansenvegen 14 Borettslag	Ringerike	Buskerud
14/333	Renovering av blokker og rekkehus Håpet II borettslag	629 287	98 052	Håpet II Borettslag	Tromsø	Troms
14/379	Nye studenthybler	123 257	82 920	Fjordgata 10 og 12 AS	Trondheim	Sør-Trøndelag
14/537	Vedlikehold bygninger	682 731	445 285	Saga Borettslag	Verdal	Nord-Trøndelag
14/688	Myrseth brl. tilleggsisolering og vf	188 376	154 190	Myrseth Borettslag	Alta	Finnmark
14/764	Nedre Silkestrå Borettslag	578 001	722 502	Nedre Silkestrå Borettslag	Oslo	Oslo
14/821	Skovbakken borettslag	1 005 270	7 820 394	Skovbakken Borettslag	Oslo	Oslo
14/957	Von Der Lippes gate 15	206 862	176 228	VdL 15 AS	Oslo	Oslo
14/958	Fornyelse av varmesystemet i Ullevålsveien 107 AS	205 180	174 125	Ullevålsveien 107 AS	Oslo	Oslo
14/1016	Renovering av fasader og samtidig utvendig etterisolering av bolig blokk i Harstad	13 653	17 067	Sameiet H F Giæversgate 3	Harstad	Troms
14/1283	Energieffektivisering - Etterisolering og ventilasjon	869 186	1 075 059	Hennumshagen Borettslag	Lier	Buskerud
14/1339	Rehabiltering av Høybygg Borettslag	445 772	2 139 706	AL Høybygg Borettslag	Kristiansand	Vest-Agder
14/1375	Bergvarmeanlegg	428 040	288 000	Randgård Borettslag 1	Lillehammer	Oppland
14/1384	Rehabilitering av Sameiet Lademoen Kirkealle 8 -18	59 159	73 949	Sameiet Lademoen Kirkealle 8-18	Trondheim	Sør-Trøndelag
14/1396	Fasaderehabilitering	138 491	25 807	Engertunet Sameie	Bærum	Akershus
14/1631	Enøktiltak Lillo Boligstiftelse	269 048	336 311	Lillo Boligstiftelse	Oslo	Oslo
14/1638	Finstad bruk	139 860	133 940	O.C.S Eiendom AS	Vågå	Oppland
14/1648	Oppgradering lavenergi	273 224	1 311 475	Haugbo Borettslag	Ringerike	Buskerud
14/1689	Oppgradering av eksisterende bygningsmasse energitiltak i Moen Borettslag	151 631	189 539	Moen Borettslag	Vennesla	Vest-Agder
14/1691	Oppgradering av eksisterende bygningsmasse energitiltak i Heptekjær Borettslag	190 191	237 739	Heptekjær Borettslag	Kristiansand	Vest-Agder
14/1709	Pastor Fangens vei - Omsorgsboliger	356 289	346 665	Omsorgsbygg Oslo KF	Oslo	Oslo
14/1761	Rehabilitering Ranheimshøgda Borettslag	539 477	674 346	Ranheimshøgda Borettslag	Trondheim	Sør-Trøndelag
14/1782	Rehabilitering Tunvegen Borettslag	1 968 502	271 754	Tunvegen Borettslag	Trondheim	Sør-Trøndelag
Program: Støtte til energieffektive nybygg						
14/780	Kikkut Plusshus	16 284	115 600	Mikkelsen, Geir	Larvik	Vestfold
Program: Støtte til oppgradering av bolig						
13/1220	Oppgradering av bolig	31 331	117 600	Kjøglum, Sissel	Malvik	Sør-Trøndelag
13/1421	Oppgradering av bolig	16 254	50 820	Winnem, Lajla	Vestvågøy	Nordland
14/54	Oppgradering av bolig	69 835	125 000	Andreassen, Robert	Drammen	Buskerud
14/56	Oppgradering av bolig	27 812	91 800	Coulson, Jonathan	Bergen	Hordaland
14/87	Oppgradering av bolig	24 364	110 000	Tiller, Ronny Eknes	Melhus	Sør-Trøndelag
14/93	Oppgradering av bolig	40 527	85 800	Bruhaug, Yngve	Bardu	Troms
14/120	Oppgradering av bolig	29 347	110 000	Seppänen, Timo	Bærum	Akershus
14/129	Oppgradering av bolig	24 508	110 000	Bohlin, Lars Gunnar Sverker	Nordreisa	Troms
14/132	Oppgradering av bolig	14 258	78 000	Magnus-Andresen, Linda Christine	Surnadal	Møre og Romsdal
14/154	Oppgradering av bolig	44 349	110 000	Grøtan, Tor	Oppdal	Sør-Trøndelag
14/170	Oppgradering av bolig	40 290	110 000	Thorkeldsen, Roy	Arendal	Aust-Agder
14/181	Oppgradering av bolig	36 447	78 000	Sæbø, Laila	Stryn	Sogn og Fjordane
14/219	Oppgradering av bolig	40 224	101 400	Brodwall, Kristoffer	Bergen	Hordaland
14/221	Oppgradering av bolig	40 027	110 000	Haugen, Jarle Arne	Porsgrunn	Telemark
14/270	Oppgradering av bolig	23 094	102 600	Kliukaite, Lina	Oslo	Oslo
14/280	Oppgradering av bolig	51 005	110 000	Nilsen, Sven Runar	Fredrikstad	Østfold
14/282	Oppgradering av bolig	44 061	125 000	Mathiesen, Karianne Timenes	Lillehammer	Oppland
14/305	Oppgradering av bolig	55 961	102 000	Wilhelmsson, Diana	Modum	Buskerud
14/318	Oppgradering av bolig	16 434	110 000	Mustad, Jørgen	Bamble	Telemark
14/363	Oppgradering av bolig	113 102	110 000	Lima, John	Stavanger	Rogaland
14/370	Oppgradering av bolig	52 070	95 460	Bakkan, Johnny Andre	Mandal	Vest-Agder
14/377	Oppgradering av bolig	52 222	110 000	Sandersen, Ole-Petter Mork	Rygge	Østfold
14/386	Oppgradering av bolig	75 887	110 000	Haukom, Lars	Voss	Hordaland
14/392	Oppgradering av bolig	90 600	110 000	Vold, Lena Kristin	Grong	Nord-Trøndelag
14/409	Oppgradering av bolig	37 690	107 400	Saqlain, Qayyum	Ullensaker	Akershus
14/422	Oppgradering av bolig	34 973	97 800	Tveit, Hildegunn	Bergen	Hordaland
14/423	Oppgradering av bolig	72 842	110 000	Sleveland, Pål	Eigersund	Rogaland
14/430	Oppgradering av bolig	111 658	125 000	Lien, Lars H.	Gol	Buskerud
14/506	Oppgradering av bolig	42 718	110 000	Fortun, Hans-Fredrik S	Verdal	Nord-Trøndelag
14/514	Oppgradering av bolig	29 609	110 000	Aarøe, Anne Tronhus	Trondheim	Sør-Trøndelag
14/609	Oppgradering av bolig	50 693	90 000	Nygren, Cecilie Holte	Fredrikstad	Østfold
14/611	Oppgradering av bolig	28 001	110 000	Jakobsen, Hans-Gunnar	Harstad	Troms
14/616	Oppgradering av bolig	32 389	110 000	Boman, Kristin Ims	Drammen	Buskerud
14/682	Oppgradering av bolig	39 592	110 000	Qvigstad, Morten	Ålesund	Møre og Romsdal
14/698	Oppgradering av bolig	11 371	50 400	Asphaug, Karianne	Bergen	Hordaland
14/708	Oppgradering av bolig	60 344	110 000	Fyksen, Iver	Ski	Akershus

SID	Prosjekttittel	Energiresultat (KWh)	Vedtatt støtte	Søker	Kommune	Fylke
14/725	Oppgradering av bolig	24 210	110 000	Vingen, Kjell	Bjugn	Sør-Trøndelag
14/748	Oppgradering av bolig	32 128	87 600	Abrahamsen, Pål Høie	Stavanger	Rogaland
14/753	Oppgradering av bolig	78 096	90 000	Røren, Vigulf Semb	Hof	Vestfold
14/760	Oppgradering av bolig	47 522	78 600	Bodsberg, Nils Rune	Melhus	Sør-Trøndelag
14/761	Oppgradering av bolig	44 755	78 600	Bodsberg, Nils Rune	Melhus	Sør-Trøndelag
14/763	Oppgradering av bolig	57 669	110 000	Utby, Øyvind	Oppegård	Akershus
14/809	Oppgradering av bolig	24 125	77 700	Leikanrud, Kristen	Tinn	Telemark
14/816	Oppgradering av bolig	41 182	110 000	Drage, Odd	Gjesdal	Rogaland
14/840	Oppgradering av bolig	55 678	56 460	Volla, Ranveig	Stange	Hedmark
14/856	Oppgradering av bolig	39 707	90 000	Olsen, Aksel	Berlevåg	Finnmark
14/877	Oppgradering av bolig	34 759	110 000	Stakkevold, Tore	Bergen	Hordaland
14/879	Oppgradering av bolig	40 963	110 000	Overaa, Egil Bru	Bergen	Hordaland
14/931	Oppgradering av bolig	33 121	110 000	Drange, Ingrid Enge	Bergen	Hordaland
14/973	Oppgradering av bolig	55 436	107 940	Kristoffersen, Geir	Ringerike	Buskerud
14/977	Oppgradering av bolig	23 899	110 000	Grindstad, Tormod	Gjøvik	Oppland
14/996	Oppgradering av bolig	26 004	110 000	Fuglem, Jan Ove	Selbu	Sør-Trøndelag
14/1022	Oppgradering av bolig	29 197	83 100	Moen, Roar	Tingvoll	Møre og Romsdal
14/1023	Oppgradering av bolig	33 631	95 340	Rønningen, Bente Gaalaas	Hamar	Hedmark
14/1065	Oppgradering av bolig	50 347	93 600	Astrup, Lone	Nøtterøy	Vestfold
14/1083	Oppgradering av bolig	71 887	110 000	Gulbrandsen, Jørgen Bjørge	Ullensaker	Akershus
14/1100	Oppgradering av bolig	35 080	110 000	Funderud, Thor	Bærum	Akershus
14/1132	Oppgradering av bolig	21 935	89 820	Indrelid, Anders	Aurland	Sogn og Fjordane
14/1160	Oppgradering av bolig	40 921	110 000	Sørvik, Knut Erik	Oppegård	Akershus
14/1170	Oppgradering av bolig	47 041	102 000	Børve,Atle	Lindås	Hordaland
14/1173	Oppgradering av bolig	25 927	110 000	Eikeland, Ivar	Kvinnherad	Hordaland
14/1175	Oppgradering av bolig	25 218	110 000	Stav, Erlend	Trondheim	Sør-Trøndelag
14/1181	Oppgradering av bolig	51 507	110 000	Hott, Holger	Kristiansand	Vest-Agder
14/1198	Oppgradering av bolig	60 330	110 000	Kløften, Pål Magne	Trondheim	Sør-Trøndelag
14/1205	Oppgradering av bolig	43 892	110 000	Bockmann, Kjetil	Hole	Buskerud
14/1213	Oppgradering av bolig	33 229	110 000	Korneliussen, Rolf	Oslo	Oslo
14/1265	Oppgradering av bolig	27 515	67 200	Gjøvik, Geir	Tingvoll	Møre og Romsdal
14/1273	Oppgradering av bolig	114 328	110 000	Rosenberg, Magnus	Bærum	Akershus
14/1285	Oppgradering av bolig	35 885	110 000	Reinan, Trond	Skaun	Sør-Trøndelag
14/1289	Oppgradering av bolig	81 490	105 600	Sivertsen, Liv Irene	Levanger	Nord-Trøndelag
14/1297	Oppgradering av bolig	59 723	110 000	Sætre, Anders	Oslo	Oslo
14/1372	Oppgradering av bolig	57 473	108 480	Lundemoen, Kjetil Gulsrud	Modum	Buskerud
14/1417	Oppgradering av bolig	26 487	78 240	Langen, Sigrid Bøhle	Grong	Nord-Trøndelag
14/1453	Oppgradering av bolig	55 986	102 600	Ritschel, Michael	Bærum	Akershus
14/1462	Oppgradering av bolig	25 145	80 400	Lørendal, Roger	Trondheim	Sør-Trøndelag
14/1466	Oppgradering av bolig	47 852	106 200	Lørendal, Roger	Trondheim	Sør-Trøndelag
14/1480	Oppgradering av bolig	26 544	110 000	Fosse, Torunn Krangnes	Voss	Hordaland
14/1511	Oppgradering av bolig	34 822	110 000	Hansen, Kristin Berg	Ullensaker	Akershus
14/1536	Oppgradering av bolig	148 537	110 000	Bryn, Mona	Oslo	Oslo
14/1581	Oppgradering av bolig	61 396	110 000	Engum, Are	Bergen	Hordaland
14/1598	Oppgradering av bolig	72 192	125 000	Kommedal, Jarle	Stavanger	Rogaland
14/1656	Oppgradering av bolig	26 012	110 000	Bøe, Svein Magne	Sunndal	Møre og Romsdal
14/1701	Oppgradering av bolig	24 617	57 888	Høgvoll, Anne-Lise	Østre Toten	Oppland
14/1727	Oppgradering av bolig	37 289	56 840	Helgesen, Håkon	Gjerstad	Aust-Agder
14/1754	Oppgradering av bolig	25 283	72 180	Tangen, Iris Kristine Nanseth	Hareid	Møre og Romsdal
14/1800	Oppgradering av bolig	17 792	95 880	Sørensen, Filip Adrian	Arendal	Aust-Agder
14/1803	Oppgradering av bolig	28 329	90 000	Stølan, Per Arnt	Tingvoll	Møre og Romsdal
14/1819	Oppgradering av bolig	65 156	110 000	Johnsen, Svetlana	Ringsaker	Hedmark
14/1868	Oppgradering av bolig	21 498	90 600	Eriksen, Bjørn Endre	Bergen	Hordaland
Internasjonal virksomhet						
Program: IEA Forprosjektstøtte						
14/1673	IEA Wind Task 32 - Wind Lidar Systems for Wind Energy Developent	-	78 600	Meventus AS	Kristiansand	Vest-Agder

Definitions and explanation of terminology

CO_2-equivalent
CO_2 equivalent is a unit used in climate accounting and equals the effect a volume of CO_2 has on global warming over a certain period, normally 100 years. There are several types of greenhouse gases, and emission of these gases is converted to CO_2 equivalents according to their heating potential.

Climate result
Reduction in emissions of greenhouse gases as a result of measures in the projects, measured in CO_2 equivalents.

Contractual energy result
Contractual energy result is the annual energy result a project is expected to realize in the future. The energy result is included as part of the contractual basis between the support recipient and Enova. All decisions within a calendar year are included in the calculation of gross contractual energy result for the year in question.

Cost efficiency
One of the objectives when establishing Enova was to achieve a more cost-effective effort in renewable energy and efficient energy end use. Enova prioritizes projects based on the size of the support need in relation to the energy result (NOK/kWh), given the project's lifetime and the goals stated in the agreement with the MPE. Projects applying for support from Enova are evaluated in three stages. First, the technical energy content of the project is assessed, followed by the financial aspects of the project and the need for support, and finally, Enova's cost connected to the project (support) is assessed against the energy result (kWh). Projects that do not deliver a high enough energy result in relation to the support amount, will not succeed in the competition for resources.

Energy restructuring
The contract between the MPE and Enova stipulates that the Energy Fund will be used to promote an environmentally friendly restructuring of energy end-use, energy production and development of energy and climate technology. The energy restructuring is a long-term effort in the development of the market for efficient and environmentally friendly energy solutions that contribute to strengthen the security of energy supply and reduce greenhouse gas emissions.

Energy result
Enova manages the Energy Fund to achieve energy results through reduced use of energy or through increased production of renewable energy.

ESA
The EFTA Surveillance Authority enforces the state aid regulations in the EEA Agreement. Government support granted to enterprises must as a rule be reported to the ESA.

The Energy Fund
The purpose of the Energy Fund is to promote environmentally friendly restructuring of energy end-use and energy production. The enterprise must strengthen security of supply and reduce greenhouse gas emissions.

The Energy Fund shall be a predictable and long-term source of financing for the restructuring work.

The overarching and long-term goals for application of the Energy Fund are related to energy restructuring and production of new renewable energy and other environmentally friendly energy. The Energy Fund is financed through allocations in the fiscal budget and a parafiscal charge (small additional charge on electricity bills) on the electricity grid tariff for withdrawal of power in the distribution grid. As of 2014, the parafiscal charge for electricity consumption in households will be NOK 0.01 per kWh, while all other end users will pay NOK 800 per year per Test Point ID.

The allocations to the Energy Fund mainly consist of returns from the Fund for climate, renewable energy and energy restructuring. At year-end 2014, the capital in this fund was NOK 44.25 billion. In connection with the Climate Agreement in 2012, a decision was made to strengthen the Fund for climate, renewable energy and energy restructuring with a capital contribution of NOK 10 billion in 2013, NOK 5 billion in 2014 and NOK 5 billion in 2015, cf. Storting White Paper No. 21 (2011-2012). In the revised national budget for 2014 (Storting White Paper No. 2 (2013-2014), Recommendation to the Storting No. 260 S (2013-2014)), a decision was made to increase capital in the Fund by NOK 4.25 billion beyond the contribution approved in the Climate Agreement. It is proposed that corresponding contributions are made in 2015 and 2016. It is not certain that the entire returns from these new contributions will be added to the Energy Fund.

In 2014, the Energy Fund received NOK 1 216 million in returns from the Fund for climate, renewable energy and energy restructuring. The resources from the Energy Fund are managed by Enova SF.

The Energy Fund is based on Section 4-4 of the Act relating to amendment of Act No. 60 of 29 June 1990 relating to the generation, conversion, transmission, trading, distribution and use of energy, etc. (Energy Act), cf. Odelsting Proposition No. 35 (2000-2001) and Recommendation to the Storting No. 59 (2000-2001). The Ministry of Petroleum and Energy (MPE) determines the statutes for the Energy Fund.

Final reported energy result
All projects submit a final report upon the project's conclusion. The final reported energy result is an updated forecast of a project's expected realized annual energy result. Enova assesses whether the project's final reported energy result is reasonable when the final report is submitted.

Free ride
Enova's definition of a free ride is a support recipient who receives support for projects which the recipient would have implemented anyway, i.e. cases where the Energy Fund's resources are not necessary to trigger the project. See also the definition of triggering effect.

Lifetime
A key issue related to new production of energy and reduced energy end-use is how long we will reap benefits from the results. Here one can differentiate between technical and financial lifetime. The technical lifetime is connected to how long the equipment can function with normal maintenance, while financial lifetime is related to how long it will take before it will be more profitable to replace the equipment with new and improved technology. Enova bases its lifetime consideration on financial lifetime. This is also reflected in Enova's investment analysis. In addition to the importance of project lifetime as a parameter in the assessment of the support need, it also expresses how long we will benefit from the energy result provided by the project. The project's lifetime multiplied by annual energy result [year*kWh] will express the project's total energy result over its lifetime. Similarly, the energy cost is also expressed over the lifetime [NOK/[year*kWh]].

Passive houses/buildings
Passive houses/buildings are buildings which require very little heating. Norwegian standards have been established both for passive residences (NS3700) and passive commercial buildings (NS3701), adapted to Norwegian climatic conditions.

Programmes
Enova has chosen to organize its activities within programmes. A programme is an instrument directed towards one or more specific target groups, with set application deadlines and application criteria. This organization has been chosen to focus the use of policy instruments.

Renewable energy
Enova uses the same definition of renewable energy used in the EU's Renewables Directive (2001/77/EC). In the directive, renewable energy is defined as renewable, non-fossil energy sources (wind, solar, geothermal energy, tidal energy, hydropower, biomass, gas from treatment plants and biogases). Biomass is furthermore defined as biologically degradable fractions of products, waste and agricultural remnants (plant or animal-based), forestry and associated industries, in addition to biologically degradable fractions from industrial and municipal waste.

Realized energy result
Realized energy results are measurements or estimates of achieved energy results after a measure has been completed, and its effects can be observed. Unlike contractual and final reported energy result, the realized energy result is based on observations, not expectations. The realized energy result is based on a review/audit of what energy results the projects have actually achieved. In practice, it can be challenging to quantify realized results, and the challenges can vary for energy production and energy use. It also takes time from when the measures are implemented until realized results can be reported.

Triggering effect
As an administrator of public resources, it is important for Enova to ensure that the resources we manage are used in the best possible manner. This principle is stipulated in the agreement between Enova and the MPE in that support must contribute to realizing projects that would not have been realized otherwise. Projects with a low cost per generated or reduced kWh will often be profitable by themselves, and therefore do not require support from the Energy Fund. Support is also considered to be triggering if it advances a project in time, or if a project has a larger scope than it otherwise would have had.

Enova is a government agency which promotes environmentally friendly restructuring of energy end-use, renewable energy production and new energy and climate technology. Our goal is to create lasting changes in the supply of and demand for efficient and renewable energy and climate solutions.

Enova's reports can be found at **www.enova.no**

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