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The Office of the Auditor General's investigation into the operation and administration of Enova SF

Document 3:6 (2009–2010)

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The Office of the Auditor General's investigation into the operation and administration of Enova SF

Document 3:6 (2009–2010)

To the Storting

The Office of the Auditor General hereby submits Document 3:6 (2009–2010) *The Office of the Auditor General's investigation into the operation and administration of Enova SF.*

The Office of the Auditor General, 15 April 2010.

For the Board of Auditors General

Jørgen Kosmo
Auditor General

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1 Introduction

On the basis of environmental and energy security considerations, the authorities have chosen to focus on energy restructuring. Energy restructuring comprises measures that help to restructure energy production by increasing the proportion of renewable energy sources and promoting more efficient energy utilisation. Enova was established by Royal Decree of 1 June 2001, with effect from 22 June 2001, as one of the key policy instruments in the energy restructuring process. The object of Enova is to promote an environmentally friendly reorganisation of energy consumption and production. Responsibility for energy restructuring was transferred to Enova from 1 January 2002. When Enova was established, it was emphasised that the enterprise was to be a small and non-bureaucratic organisation. External parties will be used when expedient.

Enova's object is primarily pursued through its administration of the Energy Fund's assets, which are allocated as investment support[1] to defined projects. The Energy Fund was established in 2001 in conjunction with the formation of Enova. The fund is state-owned and its income comes from an add-on to the network tariff, the yield from the Norwegian Basic Fund for Renewable Energy and Energy Efficiency and from appropriations over the national budget. The Basic Fund was established in 2006 by way of a capital deposit from the State. At the end of 2008, the Energy Fund had nearly NOK 3.1 billion in its account. The Energy Fund's 2008 income totalled about NOK 1.4 billion, NOK 723 million of which came from the add-on to the network tariff. In the same year, grants totalling about NOK 1.2 billion were allocated through the various Enova programmes[2]. The Energy Fund's assets are also used to cover administrative and operating costs relating to the administration of the fund and costs relating to contractual tasks or activities, including information services, analyses and international work.

The State's ownership of Enova is administered by the Ministry of Petroleum and Energy. The Ministry is also Enova's principal in relation to its administration of the Energy Fund, and it also acts as regulator for the energy sector. The Energy Fund's statutes stipulate that the Ministry of Petroleum and Energy and Enova shall conclude four-year agreements on the use of the Energy Fund's assets. The intention is to ensure that the Energy Fund's assets are managed in accordance with the goals and intentions of the Storting's decisions.[3]

The goal of the investigation was to evaluate the efficacy of Enova's efforts to promote an environmentally friendly restructuring of energy production and consumption. The goal was operationalised in the following lines of inquiry:

1 To what extent are the goals stipulated for Enova and the Energy Fund being met as regards environmentally friendly reorganisation of the production and consumption of energy?

2 To what extent is Enova's administration of grants organised in an effective and expedient manner?

3 To what extent has satisfactory corporate governance and internal control been established in Enova?

4 To what extent has the Ministry of Petroleum and Energy established good management and follow-up of Enova?

The report from the investigation is enclosed as a printed appendix, and a draft report was submitted to the Ministry of Petroleum and Energy on 2 December 2009. The Ministry commented on the report in its letter of 12 January 2010. The comments received on the factual content and evaluations in the report have been reviewed, and most of them have been incorporated into the report and section 3.

1) Investment support means that a project can receive a grant to cover a certain share of its costs relating to an investment in renewable energy production or energy efficiency measures. Grants awarded to projects are linked to an expected energy result.

2) Enova's 2009 programme portfolio is split into eight programme areas divided between Enova's two specialist departments, the Department of Energy Efficiency (which comprises the programmes for the Built Environment, Industry, Municipalities and Households) and the Department of Energy Production (which covers the programmes for Heating, Renewable energy, New Technology and Natural Gas).

3) Agreement between the Ministry of Petroleum and Energy and Enova, 1 June 2008 – 31 December 2011, page 1.

2 Implementation of the investigation

The investigation is based on information from Storting documents, agreements between the Ministry of Petroleum and Energy and Enova, Enova's annual reports with supporting data, planning and strategy documents, board minutes, risk reports, guidelines and procedures, and external surveys and studies. Meetings were also held with Enova and with the Ministry of Petroleum and Energy. The report is also based on a questionnaire survey of all recipients of grants from Enova, a review of a sample of grant cases, information from focus groups consisting of interest groups and environmental organisations, and lists of questions distributed to selected municipalities and some of Enova's partners.

In the wind power area, information on realised results was obtained and analysed. In order to shed light on Enova's energy results in the programme areas of Industry, the Built Environment and Heating (including biofuel processing), external consultants assisted the Office of the Auditor General in verifying reported results. For each of the selected projects, a review was carried out of written documentation from Enova in the form of applications, any reporting during the course of the project and final reports. All project owners, and in some cases also the responsible Project Coordinator, were interviewed, and energy production and/or consumption data were obtained directly from these persons. Spot check-based evaluations of the energy data were carried out in order to verify their quality and Enova's own calculations of production or consumption.

3 Summary of the findings

3.1 Enova's target achievement

Enova uses three energy results categories to show target achievement at different times in a project's life:

- *Contractual energy results* refer to the energy results expected to be achieved on signature of the contract.
- *Final reported energy results* are an updated forecast for realised results upon completion of the project.
- *Realised energy results* measure the degree to which completed projects actually produce or save energy.

Energy results fall short of the set targets

The investigation shows that the final reported energy result for the period 2001–2008 is about 4.1 TWh. Enova is expected to, through its use of policy instruments, trigger projects generating new environmentally friendly energy production and energy savings corresponding to 18 TWh/year by the end of 2011. A comparison of final reported energy results with realised energy results shows that the latter are consistently lower than the former. In a sample of final reported projects in the fields of heating, biofuel, the built environment and industry, the realised energy result was estimated at 1,149 GWh[4], while the final reported energy result was 1,309 GWh.

According to the Ministry of Petroleum and Energy's comments on the investigation, Enova's activity was significantly affected by the financial crisis, both by the considerable drop in long-term energy prices and by the increasing reluctance to grant loans to risky projects. These are deemed to be special circumstances that could constitute grounds for renegotiation of the agreement between the Ministry and Enova.

This investigation compares contractual and final reported energy results for projects completed during the period 2002–2008. The comparison shows that the majority of completed projects (585 out of 695) achieved a final reported energy result that was as high as or higher than the contractual result. However, the aggregate final reported energy result for all completed projects was lower than the contractual energy result (3,252.4 GWh compared with 3,359.8 GWh). This means that, in some projects, the final reported results were well below the expected contractual results.

Many projects that have been allocated grants have subsequently been cancelled for various reasons. The investigation shows that cancellations increase proportionately with the period of time that has elapsed since the grant was allocated to the project. During the period 2001–2008, cancellations of projects were responsible for a 2.8 TWh reduction in the original contractual energy result of 14.4 TWh. Enova thus achieved a contractual energy result of 11.6 TWh at the end of 2008. For the years 2002 and 2003, about 40 per cent of the original contractual result was cancelled. In light of this, the audit found that the achievement of a contractual result of 18 TWh by the end of 2011 will require considerable effort.

4) The uncertainty in this estimate is +/-15 per cent.

The Ministry of Petroleum and Energy commented that the number of cancellations illustrates that many of the projects are risky and that Enova cannot and should not use its policy instruments to eliminate all risk from individual projects. Enova's target group consists primarily of unprofitable projects that involve considerable risk. Non-implementation of some projects and changes to others are natural consequences of this. The Ministry also stated that the cancellation statistics during the years immediately after Enova's formation are not very relevant to a discussion of future target achievement, and that Enova can be said to have developed its policy instruments and its reporting in a positive direction since it started operations.

The performance targets for heating are contractual, but few have been finally reported

The Storting has set a separate target for renewable heat production of 4 TWh/year by 2010. The investigation shows that contractual result at the end of 2008 was 3,289 GWh, while the final reported result was a mere 927 GWh. A review of the data on which this information is based shows that projects totalling 21 per cent of the original contractual target in this field were cancelled during the period 2001–2008. A comparison of energy results shows that the estimated total realised production in 2008 exceeded both the contractual and final reported energy results. The investigation questions whether the targets can be deemed to have been met when less than one third of the contractual results have been finally reported.

The performance target for wind power will not be attained

The Storting also set a target of 3 TWh/year by 2010 for renewable wind power production. The total final reported energy result for projects with production in 2008 was 958 GWh, including the result from the final report in 2009. The investigation shows that these projects had realised an energy result of 788 GWh.

The Ministry of Petroleum and Energy stated in its budget proposition for 2010 that it is not possible to reach the wind power target of 3 TWh/year by the end of 2010. The contractual result for the Wind power programme at the end of 2008 was 1,393 GWh. A review of the data on which this information is based shows that projects totalling about 50 per cent of the original contractual result in this field were cancelled during the period 2001–2008. The high number of cancellations is related to lack of stability in the Norwegian support regime for wind power. The uncertainty was partly due to lack of clarification regarding a 'green certificate market'. In September 2009, the Norwegian authorities reached an agreement with Sweden to introduce a green certificate market, which is scheduled for start-up on 1 January 2012.

Enova's activities contribute to the objective of environmentally friendly energy restructuring

Where performance cannot be uniformly quantified and measured, the agreement between Enova and the Ministry of Petroleum and Energy specifies areas where Enova shall operate. The investigation shows that, on the whole, Enova met the agreement's criteria relating to the range of activities it was to provide. Enova offers programmes targeting households, municipalities and children and young people. It also provides a nationwide information and advisory service through the 'Ask Enova' helpline. Enova is also engaged in a relatively broad range of international activities and advises the Ministry of Petroleum and Energy on matters within its own field. This contributes towards environmentally friendly restructuring of energy use and production.

It is also assumed that Enova will have regular contact and coordinate its activities with other authorities that manage policy instruments with a bearing on energy restructuring. The investigation shows that Enova cooperates extensively, and in a variety of ways, with a large number of parties. The degree to which cooperation is formalised varies, the collaboration agreements differ greatly, and Enova has not established any fixed criteria for the agreements.

3.2 Enova's performance reporting

Performance reporting is not satisfactory

Report No 22 to the Storting (2001–2002) states that it is important that reporting be as thorough for sector policy targets as for commercial targets. The investigation shows that Enova generally reports contractual energy results in its annual results and activities reports. Enova has included final reported results since 2005. Enova does not report realised energy results, and its reporting of contractual results fails to provide adequate information about the energy results that will actually be achieved through the contracts that have been signed. Cancelled projects are usually removed from performance reporting, but the consequences of cancellations for target achievement is not made clear. For example, the

annual report for 2007 stated that the stipulated sub-target of 10 TWh had been achieved. Due to cancellations, the contractual result had already fallen to less than 10 TWh by the end of 2008.

According to the agreement with the Ministry of Petroleum and Energy, Enova shall establish a reporting system for all projects and activities financed by the Energy Fund. The system must ensure that measured, recorded, stored and reported data for all projects are reliable, accurate and relevant. The investigation uncovered weaknesses in the quality and validity of the reported energy results, which form much of the basis for the external evaluation of Enova's activity. There are a number of reasons for this. Enova does not verify the final reported results to any significant extent, and the investigation also shows that some projects reported as active by Enova have actually been cancelled. In the wind power area, Enova knows the realised production figures, but they are not shown in the performance reporting.

Nor does Enova's reporting compare final reported results with contractual results for individual projects/ project groups. The investigation shows that the data used as a basis for results and activities reporting have not been filed separately and are therefore not available for internal control and auditing purposes. Nor is it possible for executive officers to retrieve aggregate reports for their areas from the case processing system. There is no documentation to show that the Ministry of Petroleum and Energy has checked whether the agreement's provisions relating to the design and validity of the reporting system have been complied with.

In its comments on the investigation, the Ministry of Petroleum and Energy states that the reporting of the energy results must primarily be regarded as reporting on how the Energy Fund's assets are spent at the time they are allocated. The Ministry considers that continuous reporting of contractual and final reported results is necessary to the satisfactory management of the enterprise and control of the use of resources. The Ministry also states that contractual results have proven to be a good indicator of subsequent final reported results.

The Ministry is also concerned with what results are actually realised, and sees the Office of the Auditor General's investigation of the realisation of projects as relevant, particularly in relation to designing policy instruments and methods for measuring results.

The lifetimes of measures are not adequately considered in the evaluation and reporting of target achievement

The investigation shows that the Ministry of Petroleum and Energy and Enova have not yet discussed how to handle the lifetime of projects in Enova's reporting of energy results. Enova grants are based on the premise that projects have a specific lifetime. This means that the energy result from the measure must be phased out of result reporting once its lifetime ends. Enova's lifetime calculations are based on a lifetime of 10 years for energy saving projects and 20 years for energy production. This means that the first measures will have reached the end of their expected lifetime in 2011/2012, and Enova must decide how to phase out their energy results.

The Ministry of Petroleum and Energy states in its comments on the investigation that the lifetime issue is not relevant in the present agreement period, but should be taken into consideration when setting future targets and possibly when deciding reporting methods.

3.3 Enova's administration of grants

Challenges in market creation work

When Enova was established, it was emphasised that the organisation was to be close to the market and have a small staff. The investigation concludes that Enova is facing considerable market creation challenges in light of the energy targets set for Enova's activities. These challenges have to do with higher project costs for achieving a given energy result, an increase in the number of Enova employees with no corresponding increase in annual energy result, and the need to focus more on smaller players in future. Enova has prioritised and maintains good contact with the major users, while its market creation work has been less successful in relation to smaller players. The investigation shows that smaller players consistently have less expertise, and that the financial threshold for applying for grants and implementing projects is higher in small projects, relatively speaking. Enova has started developing standardised subsidy schemes in order to meet this challenge.

Enova's role as a driving force in project creation was also studied in a questionaire survey. Almost 90 per cent of respondents stated that they had been in contact with Enova during the application process, and 90 per cent of them had initiated this contact themselves. Forty-eight per cent of

respondents state that they disagree with the description of Enova as a driving force in initiating projects.

The Ministry of Petroleum and Energy points out in its comments on the investigation that it was the Storting's clear intention that Enova should be a small organisation and that its funds would be managed in a cost-effective manner, which limits the number of small players that Enova can reach.

Case processing based on the individual executive officer's expertise

The investigation shows that the expertise of the executive officers is a key resource in the processing of applications, and that it partly replaces the use of existing written procedures. Enova has developed a number of procedures as the methodological basis for the calculation of grants. The investment application is the most important of these procedures. The application is used to evaluate project finances and calculate grants. The executive officer assesses prices, the applicant's qualifications and expertise, the project's lifetime and other relevant information. The investigation shows that each individual case is normally processed by a single executive officer until it is ready for a decision. The investigation questions whether a satisfactory system has been established for quality assurance and adequate control that ensures that the case processing is uniform, transparent and reliable.

There can be several rounds of clarification between applicant and executive officer, depending on the size of the project and how well documented the application is. The questionnaire survey shows that more than one third of the respondents made major or some changes to the project during the application phase. Changes may result in a change in grant requirements, more detailed specification of projects, or in applications being withdrawn. Nearly 20 per cent of project changes were made because the project was either too profitable or not profitable enough to qualify for a grant.

The investigation questions whether Enova's project grants have an adequate triggering effect. Proposition No 1 to the Storting (2008–2009) states that the grants awarded are intended to trigger projects. The requirement that the grants must have a triggering effect means that Enova can contribute an amount that will trigger the implementation of a project that would not otherwise have been implemented, for financial or other reasons. Calculations of costs and energy prices are important elements in the evaluation of the triggering effect of the grants. Different values for e.g. costs and energy prices will be very important in deciding whether a project is eligible for support, and which grant level is required to achieve the triggering effect. The triggering requirement means that values in the project budget, which can be highly uncertain, will play a key role. This requires a high level of expertise and quality assurance in Enova's case processing.

Inadequate project follow-up

The investigation shows that Enova carries out little verification and follow-up of projects after the final reporting. The Regulations on Financial Management in Central Government require Enova, as the grant administrator, to appropriately follow up the goal achievement of projects receiving grants.

The investigation shows that the grant recipients' final reporting to Enova mainly focuses on financial data, and the reporting of energy results is not uniform, varies in relation to the amount of detail provided and, in some cases, is completely absent. Enova carries out relatively little verification of the final reported energy results. This is connected to the fact that Enova does not check that the grant recipients report on realised results after the completion of the project, as they are obliged to do under the provisions of the contract. The investigation also shows that some projects reported as active by Enova have actually been cancelled.

The general regulations for grants from the Energy Fund state that the grant recipient must cooperate with Enova on evaluating and measuring the performance of the project for a period of up to ten years after submission of the final report. Some projects are to report via the Industry Network or the Building Network. However, Enova does not follow up whether the projects actually report via these networks. Enova does not use the reported figures in its external reporting and energy results, and not much systematic reporting has been established except for the Industry Network and the Building Network.

Enova is aware that the realised production figures for wind power are consistently lower than the final reported figures, but fails to state this in its result reporting.

3.4 Management and follow-up of Enova

The Ministry of Petroleum and Energy sets targets, but fails to follow up adequately

The Ministry of Petroleum and Energy looks after the State's ownership interests in Enova and is also Enova's principal in relation to its administration of the Energy Fund. When Enova was established, it was assumed that the Ministry's role as owner would be to set concrete performance targets for the enterprise, based on long-term energy policy goals, and to follow up the results. The Ministry of Petroleum and Energy states that energy targets are very often set in contract negotiations with Enova, and that a balance will always have to be struck between focusing on achieving the energy targets and work on the long-term comprehensive energy restructuring effort. Performance follow-up is mostly based on the contractual results, as the Ministry wants to be able to see how the Energy Fund's assets are being used and how much the energy restructuring costs per year. The weaknesses in Enova's reporting of energy results identified in the investigation lead us to question whether the Ministry has established adequate follow-up of Enova's performance.

In its comments on the investigation, the Ministry of Petroleum and Energy states that it is not the owner's responsibility to check the internal reporting systems of a state-owned enterprise. In the Ministry's opinion, this type of control function is the responsibility of the managing director and the board. The Ministry also refers to Statskonsult's 2006 evaluation of Enova, which concluded as follows: 'In our opinion, Enova has organised its work in a manner that ensures good control of how the funds are used.'[5]

Good owner control means that the State, as the owner, must ensure that the board functions satisfactorily. The investigation shows that the Ministry follows up the board through the enterprise general meeting and liaison meetings. Enova's profit and loss account is adopted at the annual enterprise general meeting, and Enova's annual report on the results of the enterprise's activities is presented. The liaison meetings, held twice a year, are the forum where the parties discuss budgets, results, accounts, strategies and other factors with a bearing on the implementation of the agreement and the performance targets and tasks stipulated. The Ministry receives board minutes and is in contact with the chair of the board as required.

The framework conditions are not adapted to the enterprise's objective and situation

Pursuant to the principles for good owner control, the Ministry of Petroleum and Energy must check that the enterprise's framework conditions are adapted to its objects and situation. The investigation as a whole shows that, if it is to achieve the energy targets that have been set, Enova face considerable challenges in the areas of market creation, individual case processing and project and performance follow-up. In view of the challenges facing Enova, the investigation questions whether the Ministry is discharging its responsibility in a satisfactory manner.

Improved internal control, follow-up and organisation of the enterprise

The board is responsible for managing the enterprise and shall ensure that the enterprise operates in accordance with its objects, articles of association and guidelines adopted by the enterprise general meeting. It must also ensure that the enterprise is adequately organised. The board shall exercise an independent control function in relation to the enterprise on behalf of the owner. The investigation shows that experience from the working environment survey in 2007 and the subsequent whistleblower case were among the main reasons behind the considerable effort made by Enova's management and board to improve the enterprise's organisation, internal control and risk management. This work included streamlining the organisation, reviewing and further developing guidelines and procedures, and more systematic risk management, competence-building and recruitment efforts. New rules of procedure for the board and a new authorisation structure have helped to reduce the number of applications considered and decided by the board. This leaves the board free to focus on the enterprise's management and organisational development.

4 The Office of the Auditor General's comments

Proposition No 1 to the Storting (2008–2009) for the Ministry of Petroleum and Energy expects Enova, through its use of policy instruments, to trigger projects that will result in new environmental energy production and energy saving corresponding to 18 TWh/year by the end of 2011. The Office of the Auditor General's investigation shows that the actual energy results

5) Statskonsult report 2006:15, *Evaluering av Enova SF og Energifondet ('Evaluation of Enova SF and the Energy Fund'), p. 52.*

of the projects triggered by Enova will fall significantly short of the set targets. At the end of 2008, Enova's final reported results were 4.1 TWh/year. The investigation also shows that, so far, realised results have been somewhat below the final reported results. It is also revealed that the contractual result at the end of 2008 was 11.6 TWh, and that it is uncertain whether Enova will achieve a contractual result of 18 TWh by the end of 2011. This uncertainty is due to both the enterprise's insufficient capacity in market creation work and to the large number of cancellations. Since Enova's target group consists of projects with considerable risk, there is reason to also expect a considerable number of cancellations in the years ahead. In the Office of the Auditor General's opinion, it is necessary to improve the Enova's market creation capacity in order for Enova to achieve the long-term targets it has been set.

The investigation has also found that Enova mostly reports contractual results in its annual results and activities reports, and that this reporting does not provide adequate information about the energy results actually achieved through the contracts entered into. The investigation also identifies weaknesses in the quality and validity of the reported energy performance and shows that the data on which the reporting is based are not archived. In the Office of the Auditor General's opinion, the board and the company's management must ensure that the requirements for reliable, relevant and verifiable reporting are complied with.

When Enova was established, it was assumed that the Ministry's role as owner would be to set concrete performance targets for the enterprise on the basis of long-term energy policy goals, and then to follow up the results. However, the investigation shows that the Ministry of Petroleum and Energy's management is primarily concerned with how the Energy Fund's assets are used at the time they are allocated, not with the realisation of energy results. The Office of the Auditor General therefore questions whether the Ministry of Petroleum and Energy, in the agreements, has made adequate provision for following up whether Enova actually realises the expected results for the enterprise and the Energy Fund.

Pursuant to the principles for good owner control, the Ministry of Petroleum and Energy must ensure that the enterprise's framework conditions are adapted to its objects and situation. The investigation as a whole shows that, if it is to achieve the energy targets that have been set, Enova faces considerable challenges in the areas of market creation, individual case processing and project and performance follow-up. The Office of the Auditor General emphasises the Ministry of Petroleum and Energy's responsibility for ensuring that the framework conditions are adapted to the enterprise's objects and situation. In view of the challenges facing Enova in relation to achieving its performance targets, the Office of the Auditor General questions whether the Ministry discharges its responsibility in a satisfactory manner.

5 The Ministry of Petroleum and Energy's response

The case was submitted to the Ministry of Petroleum and Energy and, in a letter of 1 March 2010, the Minister replied as follows:

'I refer to the Office of the Auditor General's letter of 4 February 2010 requesting my opinion on the Office of the Auditor General's comments relating to the investigation of the operation and administration of Enova SF. I also refer to the Ministry of Petroleum and Energy's letter of 12 January 2010 containing comments on the Office of the Auditor General's main analysis report. The Office of the Auditor General informed the Ministry of Petroleum and Energy that the audit would be carried out in May 2008. Two meetings were held with the Ministry in this connection, one concerning the audit criteria and one in connection with the actual audit.

The goal of the investigation was to evaluate the efficacy of Enova's promotion of environmentally friendly restructuring of energy production and consumption.

I hereby submit my comments on the Office of the Auditor General's comments.

1) Enova's results and activities reports

The Office of the Auditor General questions whether the Ministry of Petroleum and Energy has made adequate provision in the agreements to enable Enova to achieve the agreed performance targets.

The Ministry controls Enova's management of the Energy Fund by means of long-term agreements. I consider it extremely important for the

Government to realise lasting energy restructuring results through Enova. For this reason, the Ministry, in its agreement with Enova, has managed the use of resources by setting concrete, verifiable performance targets. There are also requirements relating to the reporting of energy results. However, years can elapse between the time when a grant commitment is made (contractual result) and the time when a project submits its final report and becomes operational. For this reason, the Ministry has decided on a model in which energy results must be *'realised, contractual or otherwise documented',* cf. article 11 of the agreement.

The reporting of contractual results (grant commitments) meets the requirements in section 9 of the Appropriations Regulations and section 4 of the Regulations on Financial Management in Central Government. Enova's follow-up of the grant allocations also ensures that no disbursements are made to projects that fail to comply with the conditions on which the grant was promised.

Enova has continuously developed and improved its performance reporting, among other things as a result of previous comments from the Office of the Auditor General. Final reporting of projects has been included in reporting since 2006[1]. I receive annual reports about this, and at the end of 2009 5.1 TWh had been finally reported, 1 TWh of which was finally reported in 2009.

The Office of the Auditor General also points out that it has found weaknesses in the quality and validity of the reported energy results. It asks the board of directors and the enterprise's management to ensure that the requirements for reliable, relevant and verifiable reporting are complied with. Both the Ministry and Enova will continue their work to develop performance reporting. In future, it will be important, among other things, to monitor the development of the final reported projects.

2) Enova's target achievement

The Office of the Auditor General has pointed out that it is uncertain whether Enova will achieve the contractual result of 18 TWh/year by the end of 2011 as agreed with the Ministry. Insufficient market creation capacity and the large number of cancellations are referred to in this connection.

1) Reference is made to Enova's results and activities report for 2006 and Proposition No 69 to the Storting (2006-2007), in which the Ministry submitted an evaluation of Enova SF and the Energy Fund to the Storting.

Enova considers it important to maintain adequate market creation capacity. At the beginning of 2009, Enova itself judged its capacity to be insufficient. Staffing in this area was therefore increased by 25 per cent during 2009. Enova states that it is now close to having the required capacity in place.

The target agreed with Enova is a demanding one, and this was a deliberate choice. Targets need to be ambitious if they are to be effective prioritisation tools. This means that it is uncertain whether they will be achieved, but I am sure that Enova will do its utmost to achieve them, and that the enterprise will give priority to the most cost-effective projects.

Enova's results at the end of 2009 totalled 13.8 TWh/year, which represents an increase of 2.2 TWh/year on 2008. On this basis, I believe that the total target of 18 TWh/year by the end of 2011 is within reach. I am therefore surprised by the Office of the Auditor General's categorical subsection heading *'Energy results fall short of the set targets'.*

I would also like to remind the Office of the Auditor General that three performance targets have been set for Enova: from 2001 until 2005, 2006 and 2007, respectively. The enterprise has reached these targets. The accounts for these years have been audited and approved by the Office of the Audit General. Moreover, the result reports have been evaluated by an independent third party.

The Ministry agrees with the Office of the Auditor General that there is considerable risk associated with the projects to which grants are allocated. The grants awarded are not intended to over-compensate projects, and there will be limited financial return for recipients of grants. It is therefore natural that some projects will be cancelled. The selected target formulation requires cancelled projects to be removed from the results reports, which means that the results reported for a particular year will subsequently decrease. At the same time, cancellations free up resources for new projects. Enova has managed to re-invest these funds in new projects throughout the period, improving the result. Thus Enova always has a portfolio consisting of finally reported projects, projects under construction and projects that have been awarded grants. This result is reported annually, and Enova's targets are set on this basis. In this audit, the Office of the Auditor General

has given relatively little consideration to these key premises for target achievement.

3) Enova's framework conditions

The Office of the Auditor General points out that it is the Ministry of Petroleum and Energy's responsibility to ensure that the framework conditions are adapted to the enterprise's objects and situation, and it questions whether the Ministry discharges its responsibility in a satisfactory manner. In the Office of the Auditor's opinion, this is connected to the considerable challenges facing Enova with regard to achieving the performance targets it has been set. These challenges relate to market creation, individual case processing and project and performance follow-up.

The Ministry considers it very important that Enova is managed well. The framework stipulated for the enterprise is highly demanding. When Enova was established, the Storting stipulated that '… the administrative part of this agency shall be kept as small as possible', cf. Recommendation No 59 to the Odelsting (2000-2001). This requirement was repeated in Recommendation No 41 to the Odelsting (2002-2003), which reads as follows: '… no large bureaucratic organisation shall be built around Enova SF'. The Office of the Auditor General has taken relatively little account of this in its assessments.

Enova's tasks have become more and more extensive, and the organisation has therefore grown. The number of employees has risen from 12 when the enterprise was formed in 2001 to 53 at the start of 2010, and Enova's operating budget has increased from NOK 22 million in 2002 to NOK 100 million for 2009. In view of this, I believe that I have taken account of the Storting's requirements while ensuring that the funds are adequately managed.

I would also like to refer to the Storting's condition for the establishment of Enova that 'the objective must be to obtain the highest possible number of environmentally friendly and saved units of energy in as cost-effective a manner as possible', cf. Recommendation No 59 to the Odelsting (2000-2001). This was repeated in Recommendation No 41 to the Odelsting (2002-2003). In my opinion, the Storting's cost-effectiveness requirement includes both a requirement to trigger projects with the lowest costs per KWh, and a requirement that Enova's administration must be of a moderate size. As the Office of the Auditor General also noted in its investigation, Enova has met this two-fold cost-effectiveness requirement by focusing its efforts on the most cost-effective measures.

In its audit, the Office of the Auditor General made its own assessments of how the market for projects will develop in future, and it concluded that Enova needs to strengthen its market creation work in order to reach the smaller players in the market. It is the Office of the Auditor General's opinion that this is necessary if Enova is to be able to reach the stipulated targets, and it also puts forward a proposal for the handling of projects after the end of their lifetimes.

Enova also assesses future opportunities, among other things through regular potentiality studies and evaluations of its policy instruments. Potentiality studies have been carried out that do not support the Office of the Auditor General's conclusion that the focus must be on smaller players if the performance targets are to be achieved. The study 'Potensial for energieffektivisering i norsk landbasert industri (2009/2010)' ('The energy efficiency potential of Norwegian mainland industry') is one example. This study shows that the greatest potential lies with the major players. Enova does, however, aim to reach a broad section of society, including minor players, and is in the process of further developing its range of programmes with this in mind.

The Ministry will now start an evaluation of the enterprise with a view to entering into a new agreement. These are topics that will naturally belong in the discussion of a new agreement in which new performance targets will be agreed on.'

6 The Office of the Auditor General's statement

The Office of the Auditor General refers to the objective that, through its use of policy instruments, Enova shall trigger projects that result in new environmentally friendly energy production and energy saving corresponding to 18 TWh/year by the end of 2011. The Office of the Auditor General notes that the Ministry of Petroleum and Energy has assumed that the targets will be reached by achieving the contractual results. In the Office of the Auditor General's opinion, it cannot be assumed that the projects have been triggered when the contract is signed. On the contrary, the investigation shows that a large proportion of the projects are cancelled

after a contract has been signed. In the Office of the Auditor General's view, the target formulation requires the energy results to actually be realised. In this context, the Office of the Auditor General refers to the finally reported and realised results, and maintains that the energy results fall below the set targets. This applies both to total figures and to targets relating specifically to heat production and wind power. In light of the assumption that the Ministry would set concrete performance targets based on long-term energy policy goals, the Office of the Auditor General finds that it warrants criticism that the Ministry of Petroleum and Energy has failed to follow up whether Enova actually realises the expected results. The Office of the Auditor General notes that both the Ministry and Enova will continue the work to develop performance reporting. The Office of the Auditor General assumes that the Ministry and the enterprise will ensure that the quality and validity of the reported energy results are improved.

The Office of the Auditor General's investigation has uncovered weaknesses in Enova's case processing, reporting and follow-up of individual cases. For example, no satisfactory system has been established for quality assurance and adequate control that ensures that the case processing is uniform, transparent and reliable. The Office of the Auditor General understands that it may be a difficult for Enova to remain a small, market-oriented and non-bureaucratic organisation while also possessing the resources required to achieve ambitious targets and meet the requirements for satisfactory case processing and internal control. In the Office of the Auditor General's opinion, the Ministry of Petroleum and Energy has not taken sufficient account of these challenges, and it is important, in its future management and follow-up of Enova, that the Ministry ensures that the enterprise's framework conditions allow for efficient and satisfactory administration.

The report will be submitted to the Storting.

Adopted at the meeting of the Office of the Auditor General on 16 March 2010

Jørgen Kosmo **Arve Lønnum**

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Bjørg Selås

The Office of the Auditor General's investigation into the operation and administration of Enova SF

Appendix to Document 3:6 (2009–2010)

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1 Introduction

1.1 Background to the investigation

On the basis of environmental and energy security considerations, the authorities have chosen to focus on *energy restructuring*. Energy restructuring comprises measures that help to restructure energy production by increasing the proportion of renewable energy sources and promoting more efficient energy utilisation. The state-owned enterprise Enova SF (Enova) is one of the Norwegian state's most important energy restructuring instruments. It is therefore crucial that Enova is a well-functioning enterprise with a high degree of goal achievement.

Enova's object is to promote an environmentally friendly restructuring of energy consumption and production. This objective is primarily followed up through the administration of the assets of the Energy Fund. The Energy Fund is a state-owned fund that was established in connection with the reorganisation of the energy restructuring work. The Fund's income comes from an add-on to the network tariff (paid by consumers), the yield from the Norwegian Basic Fund for Renewable Energy and Energy Efficiency and from appropriations over the national budget. At the end of 2008, the Energy Fund's assets totalled NOK 3.1 billion.

Enova was established by Royal Decree of 1 June 2001, with effect from 22 June 2001, and responsibility for the energy restructuring work was transferred to Enova as of 1 January 2002. The State's ownership of Enova is administered by the Ministry of Petroleum and Energy. The Ministry is also Enova's principal in relation to its administration of the Energy Fund, and it also acts as regulator for the energy sector and appeal body for energy licences.

Article 4 of the Energy Fund's statutes stipulates that the Ministry of Petroleum and Energy and Enova shall sign four-year agreements on the use of the Energy Fund's assets. This provision is a result of the Storting's consideration of Proposition No 86 to the Storting (2001–2002)[1], which laid down guidelines for the Ministry of Petroleum and Energy's management of Enova. The intention behind the agreement is to ensure that the Energy Fund's assets are managed in accordance with the goals and assumptions that form the basis for the Storting's decision to establish the Fund, and in accordance with the regulations governing the use of the Fund's assets.[2] On behalf of the Norwegian state, the Ministry of Petroleum and Energy signed the first four-year agreement with Enova for the administration of the Energy Fund's assets in June 2002 for the period from 2002 to 2005. The current four-year agreement, for the period 2008–2011, was signed in June 2008.

When Enova was established, it was emphasised that the enterprise was to be small and non-bureaucratic, and that external players should be used when this is expedient. The company has grown from 12 employees at the end of 2001 to 51 employees in autumn 2009. The organisation of the enterprise has developed from a matrix-type organisation to a line organisation centred on the two specialist departments, the Department of Energy Efficiency and the Department of Energy Production, and three administrative departments.

The Office of the Auditor General has previously raised weaknesses in reporting and inadequate follow-up of grant recipients by Enova.[3] It has also questioned Enova's priorities when allocating grants, and the enterprise's criteria for awarding grants.

1.2 Goal and lines of inquiry

The goal of the investigation is to evaluate whether Enova promotes environmentally friendly reorganisation of energy production and consumption in an efficient manner. The goal was operationalised in the following lines of inquiry:

1 To what extent are the goals stipulated for Enova and the Energy Fund being met as regards environmentally friendly restructuring of the production and consumption of energy?

1) Recommendation No 41 to the Odelsting (2002–2003) and Decision No 54 of the Odelsting (2002–2003).

2) Agreement between the Ministry of Petroleum and Energy and Enova, 1 June 2008 – 31 December 2011, page 1.

3) Document No 1 (2008–2009).

2 To what extent is Enova's administration of grants organised in an effective and expedient manner?
   a) What are the criteria for awarding grants?
   b) How are projects that receive grants followed up by Enova?

3 To what extent has satisfactory corporate governance and internal control been established in Enova?

4 To what extent has the Ministry of Petroleum and Energy established good management and follow-up of Enova?
   a) Are the good owner control requirements met?
   b) Does the Ministry of Petroleum and Energy discharge its role as party to the agreement in accordance with its agreement with Enova for the administration of the Energy Fund in a satisfactory manner and in accordance with the Storting's decisions and intentions?

2 Methodological approach and implementation

The investigation is based on document analyses, interviews, a questionnaire survey, lists of questions, focus groups, case file reviews and assistance from external consultants.

2.1 Approach to the lines of inquiry

Line of inquiry 1 (relating to Enova's goal achievement) was primarily investigated through analysis of Enova's result reporting of contractual and final reported energy results for the period 2001–2008 and the data on which this reporting was based. Verification was also carried out of realised energy results as of 2008. External consultants did most of the work of obtaining and analysing this information (see section 2.2 for details). Information about the wind power area was obtained and analysed by the Office of the Auditor General. The description of Enova's energy results has been supplemented by information from programme descriptions, plans, evaluations, presentations from Enova and Enova's responses to specific questions. The description of Enova's results for other activities is based on analysis of result reports, agreements, plans, presentations, letters and evaluations. The description is also based on responses to lists of questions from municipalities and key partners, focus groups, a questionnaire survey of Enova grant recipients and a number of interviews.

Line of inquiry 2 (relating to the effectiveness of Enova's grants administration) was investigated through an extensive document review, responses to questionnaire surveys sent to Enova grant recipients, interviews and reviews of case files. Findings from the study carried out by external consultants were also used to elucidate this line of inquiry. The audit covers the period 2002–2008.

Lines of inquiry 3 (relating to corporate governance and internal control in Enova) and 4 (relating to the Ministry of Petroleum and Energy's management) were primarily investigated by means of document analyses and interviews. Strategies, action plans, risk analyses, procedures and instructions have been key sources in the review of the management of Enova. Interviews were carried out with the managing director, the chief financial officer, an employee representative, safety delegate, the risk manager, a special adviser and several area managers. Interviews were also carried out with the former chair of Enova's board, the deputy chair and a former employee representative, as well as with representatives of the Ministry of Petroleum and Energy. The interviews used as the basis data for the investigation have been verified. The Ministry of Petroleum and Energy's statements used in the investigation have, by agreement, been verified in connection with the Ministry's review of the report.

2.2 Details regarding some of the methods

Assistance from external consultants

Information about the realised production and energy saving results that will help to answer line of inquiry 1, has been obtained and assessed by external consultants. This study was carried out by Econ Pöyry in collaboration with KAN Energi and Norsk Energi.

Their assignment was to review and verify Enova's reported energy results from a selection of finally reported projects with energy efficiency and/or production of new renewable energy as their goals. The purpose of the review and verification of the reported energy results was to show actual and measurable gains from energy production and energy efficiency rather than merely carrying out a theoretical verification of the estimates already made.

The purpose of the investigation was to provide a specialist assessment of the quality of Enova's final reported energy results. The following lines of inquiry were analysed:

> What energy gains have the finally reported projects actually achieved, and how are they measured/documented?

Insofar as this was possible in the individual projects, the energy result for 2008 was compared with the final reported energy result.

The programme areas covered by the investigation are Industry, the Built Environment and Heating

Table 1 Selected projects

Programme	Finally reported		Selected		
	Number	GWh	Number	GWh	Percentage of finally reported GWh
Thermal energy	71	698	7	412	59%
Biofuel production	13	617	5	387	63%
The Built Environment	148	460	14	123	27%
Industry	94	771	6	387	50%
Total	**326**	**2 546**	**32**	**1 309**	**51%**

(including biofuel processing). Enova has subsidised more than 900 projects through these programmes, but only a little over one third of them have been finally reported and can be evaluated. The study was based on a sample of 32 projects. The selection of these projects was not random, but generally included the largest project in each programme area in order to cover more than 50 per cent of the total final reported results. However, the size of the projects may result in systematic bias. This is based on the hypothesis that large project owners are more professional than smaller project owners. This is probably most likely to be the case for projects in the Built Environment, and some minor projects from this field have therefore been included in the sample.

Table 1 contains overall information about the sample. The table shows the number of projects in the chosen programme areas and the final reported results at the end of 2008, the total results as well as the results for each programme area. The table also shows the number of projects selected per programme area and the combined final reported result for these projects. The sample's coverage ratio was calculated as the combined final reported result in the sample in relation to the total final reported result.

For each of the projects in the sample, a review was carried out of written documentation from Enova in the form of applications, any reporting during the course of the project and final reports. All project owners and, in some cases also the responsible Project Coordinator, were interviewed, and data on the production and/or consumption of energy were obtained directly from these persons. Spot check-based evaluations of the energy data were carried out in order to verify their quality and Enova's own calculations of production or consumption. Spot checks were used because the data were too extensive to justify a thorough review of all the figures.

Yara Porsgrunn, Herøya. Photo: Enova

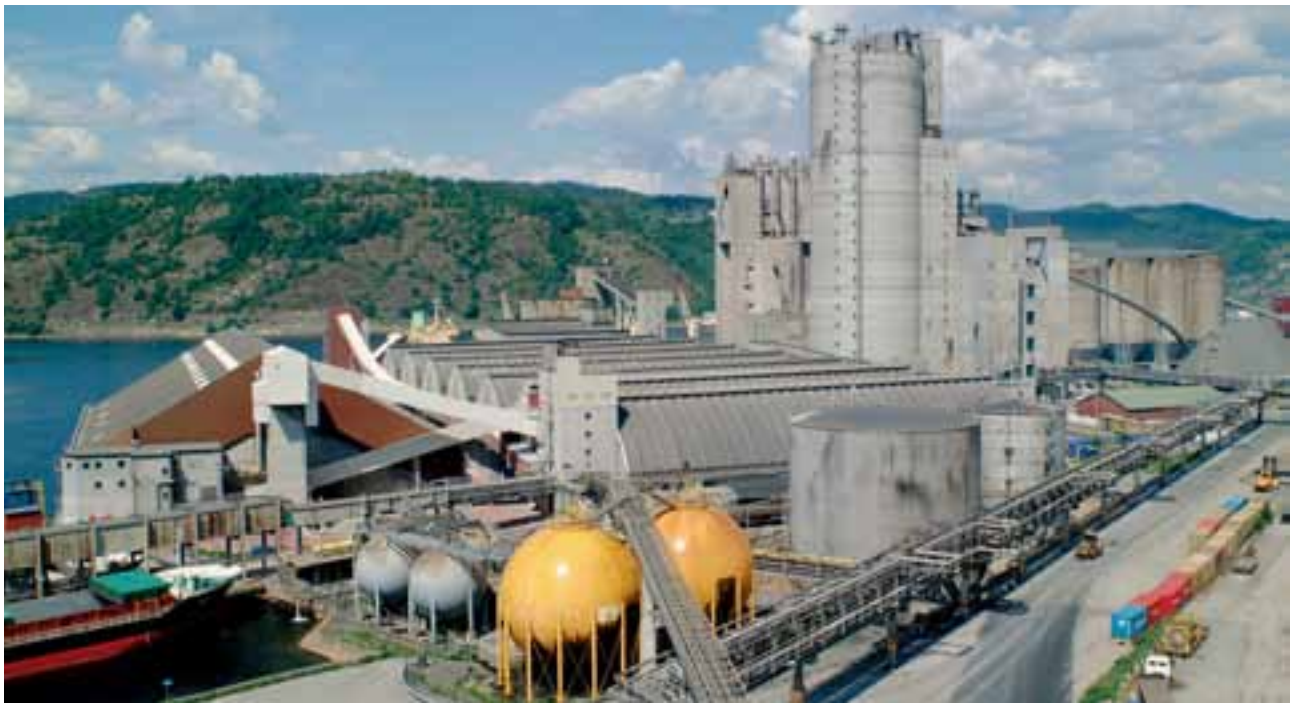


Table 2 Percentage of net sample, sample and population by programme area

	Net sample	Sample	Population
Number of projects	305	771	1193
Biofuel processing	2.6%	2.1%	1.5%
The Built Environment	39.3%	45.0%	39.4%
Industry	21.3%	22.6%	27.7%
New Technology	4.6%	3.4%	3.7%
Training	1.3%	1.6%	3.6%
Heating	30.5%	24.5%	23.1%
Wind	0.3%	0.9%	0.9%

Questionnaire survey

A questionnaire survey was carried out of Enova grant recipients. The sample included all projects that had received grants from Enova in the period 2002–2008 within selected programme areas and for which Enova has contact information. The survey was sent to the person named as the project's contact person in Enova's project register. Some of the grant recipients had received support for more than one project, in which case a random project was selected for inclusion in the sample. The sample comprised a total of 771 projects, reduced by drop-out to a gross sample of 756 projects.[4] The Office of the Auditor General failed to contact 153 contact persons.[5] The contact persons for 305 projects responded to the survey (net sample), giving a response rate of 40.3 per cent.

Table 2 shows that the differences between net sample, sample and population are relatively small in most programme areas. However, the Built Environment projects are somewhat under-represented in the net sample compared with the gross sample. The net sample of projects in heating is over-represented both in relation to the gross sample and the population.

The questionnaire survey was divided by project phases (the application process, project implementation and the post-final reporting phase). Respondents were asked similar questions about their experience with Enova, including Enova's information-providing activities, availability and follow-up, during the various phases. They were also asked about the effect of the grant (whether the energy result was as expected, whether project implementation progressed as expected, and any ripple effects the grant had in the form of recently initiated projects by the grant recipients). Because the respondents were in different phases of the project process, they were only asked about the phases relevant to their projects.

Lists of questions

Lists of questions were distributed to 20 municipalities that have received grants from Enova in connection with their preparation of a municipal energy and climate plan.[6] All the Norwegian counties were represented in this sample of municipalities. Fifteen of the municipalities replied to the survey. All the municipalities selected received a list of 10 questions relating to their work on the municipal energy and climate plan. Among other things, they were asked whether the municipality had prepared a climate and energy plan before, what measures had been planned, and whether the municipality had applied for grants after the plan had been drawn up. The survey also mapped how well Enova's Municipalities programme functions compared with other ongoing and previous public energy and climate measures targeting municipalities.

Lists of questions were also sent to seven of Enova's partners, listed below:

- The Research Council of Norway
- The State Housing Bank
- Innovation Norway
- The Norwegian Association of Local and Regional Authorities (KS)
- The Norwegian Directorate of Water Resources and Energy (NVE)
- The Norwegian Pollution Control Authority (SFT)
- Statnett – the Norwegian national main power grid owner, operator and regulator

4) At least 15 of the projects were found to have been cancelled.
5) This was due to the information in Enova's project database being incorrect or outdated.
6) The list of questions was sent to the person responsible for the climate and energy area in the municipality or to the municipality's chief administrative officer.

All of the partners asked responded to the list of questions. They were asked to describe their cooperation with Enova, areas in which they cooperate with Enova, the scope of the cooperation and how they believe that the cooperation can help to achieve Enova's goals of lasting energy restructuring and improved energy efficiency. The partners were also asked individual questions relating to the area in which they cooperate.

Focus groups

Two focus groups were set up to help to assess whether Enova is an effective policy instrument in the restructuring of energy production and consumption. One of the groups consisted of representatives of environmental organisations, and the other of representatives of interest groups in the areas of industry, the built environment, heating, biofuel and wind power production. The focus groups were asked to provide input on how well Enova has carried out its assigned task as administrator of the Energy Fund, the contribution it makes to the public debate about environmentally friendly energy and how it contributes to goal achievement in its various programme areas. The participants subsequently verified their statements. The focus group statements were used in the analysis of the individual organisations' specialist knowledge areas, but not in the assessment of Enova as a whole.

Case file reviews

A small number of case files were reviewed in order to collect examples and input to the assessment of Enova's case processing. Nineteen cases were selected. The sample consisted of six active projects that received grants in 2008 and twelve projects that were completed in 2008. One project (wind power) was completed in 2007. All programme areas were represented by at least two projects. The projects were selected to ensure that the sample covered variations in the size of grants, energy results and goal achievement. The purpose of reviewing the active projects was to check whether new case processing procedures had been adequately implemented in the organisation. The basis for awarding grants was also evaluated. The purpose of reviewing projects that were completed in 2008 was to check compliance with case processing procedures for project follow-up and project completion (final reporting).

3 Audit criteria

3.1 Assumptions about results and goal achievement

By establishing Enova, the Government wished to put greater emphasis on concrete targets in energy restructuring.[7] In the consideration of Report No 29 to the Storting (1998–1999) On Norwegian Energy Policy, cf. Recommendation No 122 to the Storting (1999–2000), performance targets were stipulated for the limitation of energy consumption and for increased production and use of renewable energy, and they have subsequently been applied to Enova's administration of the Energy Fund's assets.[8] When considering Proposition No 35 to the Odelsting (2000–2001) *Om lov og endringar i lov 29. juni 1990 nr. 50 om produksjon, omforming, overføring, omsetning og fordeling av energi m.m. (energilova) ('On the Act and amendments to Act No 50 of 29 June 1990 relating to the generation, conversion, transmission, trading and distribution of energy etc. (The Energy Act)')*, a majority of the Standing Committee on Energy and the Environment stressed the importance of spending the Energy Fund's assets on energy consumption and production measures that will stimulate long-term restructuring of the energy sector. The committee also pointed out that the Fund must be steered towards achieving the targets set for the development of wind power and other renewable energy sources, the environmentally friendly production of heating and reducing consumption.

Enova SF's objects clause states that 'the object of Enova is to promote environmentally friendly restructuring of energy consumption and generation'. Report No 13 to the Storting (2006–2007) states that ' the purpose of the Norwegian State's ownership of Enova is to ensure ownership of a policy instrument in order to achieve energy policy goals'.

Proposition No 1 to the Storting (2008–2009) for the Ministry of Petroleum and Energy expects Enova to, through its use of policy instruments,

> 'trigger projects that will result in new environmentally friendly energy production and energy saving corresponding to 18 TWh/year by the end of 2011. The baseline year is 2001. By the end of 2010, these projects shall have contributed to an increase of at least 4 TWh/year in the supply of water-borne heating based on new renewable energy sources, waste heat and heat pumps, and a minimum of 3 TWh/year shall be increased wind power production.'

Through the agreements with the Ministry, operational sub-targets have also been set for the total effect of Enova's measures:

- 5.5 TWh by the end of 2005[9]
- 7 TWh by the end of 2006[10]
- 10 TWh by the end of 2007[11]

The performance target includes the results of administration of the Energy Fund from and including 2002 as well as the Norwegian Water Resources and Energy Directorate's administration of renewable energy and energy efficiency subsidies in 2001.

Report No 22 to the Storting (2001–2002) *Reduced and Improved State Ownership* states that Enova is to 'facilitate environmentally friendly long-term development of the energy sector, among other things through measures intended to disseminate knowledge to the population'. Proposition No 1 to the Storting (2008–2009) states, among other things, that:

> 'Enova's administration of the Energy Fund's assets shall contribute to well-functioning markets for efficient and environmentally friendly energy solutions […]', and that 'Enova shall support the demonstration of new technology that contributes to long-term energy restructuring. Enova shall provide nationwide information and consultancy services to support the energy restructuring goal in the short as well as long term.'

7) Proposition No 35 to the Odelsting (2000–2001) and Recommendation No 59 to the Odelsting (2000–2001).
8) Recommendation No 59 to the Odelsting (2000–2001).
9) Agreement between the Ministry of Petroleum and Energy and Enova SF for the period 2002–2005, amended on 22 September 2004.
10) Agreement between the Ministry of Petroleum and Energy and Enova SF, 2006.
11) Agreement between the Ministry of Petroleum and Energy and Enova SF, 2007.

3.2 Assumptions about the running of Enova and administration of the Energy Fund

In its consideration of Proposition No 35 to the Odelsting (2000–2001), the Standing Committee on Energy and the Environment assumed that the objective was to obtain the highest possible number of environmentally friendly and saved units of energy as cost-effectively as possible.[12] It also stated that Enova should not become an executive organisation with a large bureaucracy, but keep its administration as small as possible and instead contribute to market-oriented use of policy instruments, primarily by collaborating with external partners.

Proposition No 1 to the Storting (2008–2009) reads as follows:

> 'Enova allocates funds in accordance with the objectives and criteria stipulated in the agreement with the Ministry of Petroleum and Energy on the administration of the Energy Fund. Allocations are based on an assessment of the various projects and activities. Enova strives for maximum cost-effectiveness in the use of funds. One important requirement is that the projects must contribute to lasting change in the consumption and production of energy. The funding must act as a trigger for the projects. Importance is also attached to the players' implementation capacity, the projects' positive ripple effects and their importance to market development.'

The requirement that the support must trigger the project means that Enova can award grants up to the level where the financial return is deemed reasonable for comparable projects in the industries in question. Allocations of funds must be in accordance with the regulations on state aid. In its consideration of Proposition No 53 to the Odelsting (2000–2001),[13] the Storting stipulated a criterion that players had to compete for assignments. This is also stated in Enova's objects clause in the articles of association article 2, fourth paragraph.

Section 8 second paragraph of the Regulations on Financial Management in Central Government means that as grant administrator, Enova must in a letter of allocation to each recipient specify the purpose of and conditions for the grant and the grant amount, including any reservation regarding monitoring and control in compliance with the Appropriation Regulations section 10. The Provisions on Financial Management in Central Government section 6.3.8.2 read as follows:

> 'The grant administrator shall control information submitted by the recipient which is of significance for the grant administrator's calculation of the amount and for allocation. Control measures that are performed shall be documented in a satisfactory manner. The grant administrator shall also control reports on achievement of objectives that are subsequently submitted by the grant recipient, cf. 6.3.6. The control shall be adapted to the individual grant scheme and shall be assessed in relation to the objective of the scheme. The control shall have a reasonable scope in relation to the utility of the control and the costs of the control. The grant administrator shall identify, respectively, the risk of errors arising due to problems in interpreting the grand conditions and the risk of irregularities. Based on an assessment of the overall risk level and identification of the key risk factors, a decision shall be made on which control points are most relevant and who shall undertake the control.'

3.3 Assumptions about management, follow-up and control

Requirements for Enova's management and follow-up/enterprise management and control environment

Pursuant to the Act relating to State-owned Enterprises[14] section 23, the board is responsible for the management of the enterprise, which also sees to it that its activities are carried on in accordance with the objects and articles of association of the enterprise and guidelines laid down by the enterprise general meeting. The board is also responsible for the satisfactory organisation of the enterprise and shall see that its accounting and asset management are subject to proper control. Pursuant to the Regulations on Financial Management in Central Government section 10 and the State's principles for good owner control and corporate governance as set out in Report No 22 to the Storting (2001–2002) and Report No 13 to the Storting (2006–2007), it is the board's responsibility to ensure that the company achieves the goals that the owner has set for the company. It is also stated in Report

12) Recommendation No 59 to the Odelsting (2000–2001).
13) Recommendation No 59 to the Odelsting (2000–2001).
14) Act No 71 of 30 August 1991 relating to State-owned Enterprises.

No 13 to the Storting (2006–2007) that the board, on behalf of the owner, shall have an independent control role in relation to the company.

The board appoints and supervises the managing director who is in charge of the day-to-day management of the enterprise. The managing director shall comply with the guidelines laid down and instructions given by the board, cf. the Act relating to State-owned Enterprises section 26. The managing director also has a particular responsibility to ensure that the board of directors receives accurate, relevant and timely information that is sufficient to allow it to carry out its duties.[15]

Standards for corporate governance, such as the Norwegian Code of Practice for Corporate Governance[16] (hereinafter called the Norwegian Code of Practice) and the OECD Principles of Corporate Governance, together with standards for internal control and risk management such as the COSO model,[17]are intended to ensure that the company achieves the stipulated goals and strategies. The standards in question provide the enterprise with a set of norms relating, among other things, to control environment, risk management and verifiability. Compliance with the COSO model's framework for internal control and risk management should provide reasonable certainty that the enterprise's goals will be achieved and statutes and regulations complied with, and that accounting and other performance reporting will be accurate. According to the Norwegian Code of Practice, it is the board's responsibility to ensure that the enterprise has adequate risk management and sound internal control in relation to the regulations that apply to the enterprise. As part of corporate governance and internal control, the enterprise's risk profile (the risk acceptable to the enterprise) must be determined, potential incidents that could affect goal achievement must be identified, the probability and consequences of the risk factors must be assessed, and it must be established how each risk factor will be managed. Risk management must be an integral part of the company's strategy work.

15) The Norwegian Code of Practice for Corporate Governance, The Norwegian Corporate Governance Board.
16) The Norwegian Code of Practice for Corporate Governance, The Norwegian Corporate Governance Board.
17) Internkontroll – et integrert rammeverk ('Internal Control – Integrated framework' – Norwegian version) (1994) and Helhetlig risikostyring – et integrert rammeverk ('Enterprise risk management – Integrated framework' – Norwegian version') (2004), Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Report No 22 to the Storting (2001–2002) states that reporting must be as thorough for sector policy goals as for commercial goals.

The Ministry's management, follow-up and control

Enova is intended to have an independent role with freedom subject to responsibility, cf. Proposition No 35 to the Odelsting (2000–2001). In its consideration of this Proposition to the Odelsting, the Storting strongly emphasised that the enterprise must be run in accordance with the overall limitations and goals adopted by the Storting, but that it should be free to determine how the work is to be organised and which policy instruments are to be used.[18] This means that:

> 'The Ministry's role will be to set concrete performance targets for the enterprise based on long-term energy policy goals, and to follow up the results. The enterprise will find practical solutions and manage the fund's assets in such a manner that the targets are achieved."[19]

The Act relating to State-owned Enterprises regulates the relationship between the owner and the enterprise's governing bodies by allocating different responsibilities and authority to them.[20] General principles for good owner control by the state were established through the consideration of Report No 22 to the Storting (2001–2002). The Regulations on Financial Management in Central Government section 10 concern follow-up of the State's ownership interests in various independent legal entities, and state that the State as an owner shall, within the framework of applicable laws and rules, manage its ownerships in accordance with general principles of corporate governance.

Good owner control means that the ownership supports an explicit distribution of authority and responsibilities between the owners and the board.[21] The Act relating to State-owned Enterprises section 38 states that the Ministry exercises supreme authority over the enterprise at the annual enterprise meeting. The enterprise meeting is where the board of directors is elected. The board is responsible for the implementation of decisions made at the enterprise general meeting. cf. section 23 of the Act. Good owner

18) Recommendation No 59 to the Odelsting (2000–2001).
19) Proposition No 35 to the Odelsting (2000–2001), chapter 4.1.
20) Act No 71 of 30 August 1991 relating to State-owned Enterprises.
21) The Regulations on Financial Management in Central Government, section 10.

control means that owner's decisions are to be made at the enterprise meeting, while the management of the enterprise is the board's area of responsibility.

Good owner control also means that the company's articles of association, the financing and the composition of the board are appropriate given the company's purpose and ownership.[22] Pursuant to section 10 of the Act relating to State-owned Enterprises, the object of the enterprise must be stated in its articles of association. The Act relating to State-owned Enterprises section 12 contains a requirement that a state-owned enterprise shall have an amount of contributed capital which is appropriate to its activity at all times.

Pursuant to the Regulations on Financial Management in Central Government section 10, the management of ownership interests involves focusing on ensuring that the objectives established for the company are achieved. When considering Proposition No 35 to the Odelsting (2000–2001), cf. Recommendation No 59 to the Odelsting (2000–2001), it was found that 'the majority wants the Ministry to draw up clear success criteria for the enterprise that make it easy to report back to the Ministry about goal achievement and performance'. Good owner control also involves making sure that the board operates satisfactorily[23] and that the composition of the board is characterised by the expertise, capacity and diversity required by the character of the enterprise.[24]

The Regulations on Financial Management in Central Government section 10 require the Ministry to draw up guidelines for owner follow-up. Governance, monitoring and control including appropriate guidelines shall be adjusted to the size of the State's holding, the distinctive characteristics of the enterprise, risk profile and significance. In its guidelines for the management of the ownership interests in Enova, the Ministry of Petroleum and Energy has stated that the Minister has a duty to keep him/herself informed about the enterprise's activities and development in order to be able to follow up that the enterprise is run in accordance with the decisions and intentions of the Storting, to provide the Storting with adequate and correct information and be able to make rapid and satisfactory decisions relating to the enterprise.

The Regulations on Financial Management in Central Government section 8 states that the Ministry shall, for each grant scheme, describe objectives, criteria for achievement of objectives and criteria of allocation, and shall also lay down provisions concerning monitoring and control. Sections 6.2.2.2 and 6.2.2.3 of the Provisions on Financial Management in Central Government state that the Ministry shall prepare a letter of assignment in cases where the administration of government grants has been transferred to independent legal entities which are wholly owned by the State. The requirements relating to each grant scheme must be described in the letter of assignment, cf. section 6.2.1.1 items a) to d), and item e) if relevant. The Ministry shall also monitor that the administration is carried out in a proper manner. It is stated in section 6.2.1.1 that the following main elements must be prepared for the grant scheme: objectives, criteria for achievement of objectives, allocation criteria (calculation rules), monitoring and control and evaluation.

22) The Regulations on Financial Management in Central Government, section 10, and Report No 22 to the Storting (2001–2002).
23) The Regulations on Financial Management in Central Government, section 10.
24) Report No 22 to the Storting (2001–2002).

4 The structure and use of the Energy Fund

4.1 The structure of the Energy Fund

The Energy Fund was established on 1 January 2001 in connection with the formation of Enova in order to ensure a stable and predictable long-term framework for the energy restructuring work. The Fund's assets are managed by Enova in accordance with the Energy Fund's statutes, the agreement between Enova and the Ministry of Petroleum and Energy and the annual allocation letters.

The Energy Fund's income comes from an add-on to the network tariff, appropriations over the national budget and, since 2007, transfers from the Norwegian Basic Fund for Renewable Energy and Energy Efficiency. The return on deposits from the fund in the Norwegian central bank (Norges Bank) also accumulates in the fund.

Table 3 provides an overview of the composition and development of the Energy Fund's income from its establishment in 2002 until 2009.

Table 3 shows that the Energy Fund's total income in 2008 was approx. NOK 1.4 billion. The estimated total income for 2009 is just over NOK 2.6 billion. At the end of 2008, the Energy Fund had almost NOK 3.1 billion in its account.

When the Energy Fund was established, it was decided to introduce an add-on of NOK 0.003 per kWh to the network tariff. This add-on is transferred to the Energy Fund pursuant to separate Regulations.[26] An amendment came into force on 1 January 2004 increasing the add-on from NOK 0.003 to NOK 0.008 per kWh. From 1 July 2004 it was increased to NOK 0.01. Table 3 shows that the add-on provided the Energy Fund with income totalling nearly NOK 4.5 billion during the period 2002–2009. Since 2005, annual income from this add-on has amounted to just over NOK 700 million.

The Basic Fund was established in 2007, with a deposit of NOK 10 billion, in order to further strengthen restructuring work. A further NOK 10 billion was added in 2009. It has been proposed to add a further NOK 5 billion to the fund in 2010 as part of the follow-up of the Storting's Climate Settlement.[27] It is estimated that the annual yield from the Basic Fund will be in the order of NOK 1 billion when the fund's capital reaches NOK 25 billion.[28] The yield from the fund is taken to income in the national budget (item 80), and a corresponding amount is appropriated over the national budget's expenses (item 50) as transfers to the Energy Fund.[29]

Table 3 The Energy Fund's income and total capital in the period 2002–2009[25]. Figures in NOK thousand

Source of income	2002	2003	2004	2005	2006	2007	2008	2009
Allocations over the national budget	270 000	259 000	60 000			12 000	200 000	1 390 000
Add-on to the network tariff	160 620	192 425	470 317	717 916	735 164	734 057	723 192	758 008
Yield from the Basic Fund						-1 884	399 000	392 231
Yield from deposits in Norges Bank	18 656	12 032	13 497	27 938	50 040	85 827	101 420	56 142
Other income	80 148	495			1 944			
Total	**529 424**	**463 952**	**543 814**	**745 854**	**787 148**	**830 001**	**1 423 612**	**2 596 381**
The Energy Fund's capital	**497 661**	**665 180**	**935 077**	**1 382 711**	**1 813 300**	**2 200 353**	**3 084 777**	

25) The figures are taken from the Energy Fund's annual accounts and the Ministry of Petroleum and Energy's annual budgetary propositions.

26) The Energy Fund Regulations are intended to ensure efficient payment and control of contributions to the Energy Fund. The Regulations were issued by the Ministry of Petroleum and Energy on 10 December 2001 pursuant to the Energy Act sections 4-4 and 7-6.

27) Report No 34 to the Storting (2006–2007), cf. Recommendation No 145 to the Storting (2007–2008).

28) Proposition No 1 to the Storting (2009–2010), page 62.

29) Proposition No 1 to the Storting (2006–2007), page 49.

The Storting makes appropriations to the Energy Fund over the national budget under chapter 1825, item 50. Appropriations remained high until 2004, and were reduced in 2004 following an increase in the network tariff. During the Storting's consideration of Proposition No 37 to the Storting (2008–2009), cf. Recommendation No 139 to the Storting (2008–2009), NOK 1,190 million was added to item 50. This was part of the Government's package of crisis measures to counteract the effects of the financial crisis on the labour market, among other things.

4.2 The use of the Energy Fund

The Energy Fund's main goals

The guidelines for use of the Energy Fund's assets are stipulated in the Energy Fund's statutes and in the agreement between the Ministry of Petroleum and Energy and Enova. The agreement sets the goal structure for Enova's work. The 2007 agreement set six main goals for Enova's administration of the Energy Fund's assets:

- more efficient use of energy
- increased use of other energy carriers than electricity and oil for heating
- increased production from renewable sources
- introduction and development of new technologies and solutions in the energy market
- well-functioning markets for efficient and environmentally friendly energy solutions
- improve society's knowledge about the possibilities for introducing efficient and environmentally friendly energy solutions.

Awarding of grants to energy restructuring projects

Enova's subsidy regime is primarily based on granting *investment support* to defined projects.[30] Investment support means that a project can receive a subsidy to cover a certain proportion of the expenses relating to an investment in renewable energy production or energy efficiency measures.

Enova has chosen to organise its activities in *programmes*. A programme is a policy instrument aimed at one or more specific target groups, with fixed application deadlines and specific application criteria. This form of organisation has been chosen to promote a more targeted use of policy instruments and make it easier to prioritise between fairly similar projects.[31] Enova is relatively free to organise its programme portfolio as it deems expedient. The individual programmes are presented in chapter 5.1.5.

In 2009, Enova's programme portfolio was divided into eight programme areas organised under Enova's two specialist departments, the Department of Energy Efficiency and the Department of Energy Production.

Energy Production	Energy Efficiency
Renewable heating	The Built Environment
Renewable energy	Industry
New Technology	Municipalities
Natural gas	Households

Enova awarded a total of nearly NOK 3.7 billion to projects within the different programme areas during the period 2002–2008. The distribution is shown in Table 4.

This table shows, among other things, that projects in the Heating programme have received the largest proportion of the total allocations, 35 per cent, while biofuel has received the smallest share.

Table 4 Annual allocations from the Energy Fund to the programme areas. Figures in NOK million[32]

Area	2002	2003	2004	2005	2006	2007	2008	Total	%
Wind	35	27	186	137			445	**830**	23 %
Heating	49	36	77	76	301	316	436	**1 292**	35 %
Biofuel		9	14	7	4	5	3	**41**	1 %
The Built Environment	47	58	69	123	122	126	159	**703**	19 %
Industry	20	17	57	44	165	200	146	**649**	18 %
New Technology	19		9	2	7	72	52	**161**	4 %
Total	**170**	**147**	**412**	**389**	**599**	**719**	**1 241**	**3 676**	**100 %**

30) The Ministry of Petroleum and Energy states in an interview that Enova cannot commit itself to non-defined future disbursements. This rules out, for example, production subsidies, and makes investment support the only realistic option.

31) Results and activities report 2008, Enova SF.

32) Results and activities report 2008, Enova SF, pages 33 and 34.

Other use of the Energy Fund

An annual sum is allocated to Enova SF to cover administrative costs and operating costs incurred in administration of the fund. This sum is stipulated by the Ministry of Petroleum and Energy in its annual allocation letter. The Energy Fund's assets are also used to cover costs relating to contractual tasks or activities, including information services, analysis activities and international work. In 2008, payments to projects (both projects initiated by Enova and projects taken over from NVE) totalled approx. NOK 378 million. Recognised administrative costs amounted to almost NOK 75 million, and expenditure on contractual tasks approx. NOK 91 million.

5 Enova's goal achievement

5.1 Performance target achievement

Enova measures the energy results of the measures that have been awarded grants from the Energy Fund, using three categories of energy results that are deemed to have been reached at different times in a project's lifetime. They are:

- *contractual energy results* (see section 5.1.1)
- *final reported energy results* (see section 5.1.2)
- *realised energy results* (see section 5.1.3).

Cost development is described in section 5.1.6. All energy results relate to a programme area. Energy results for each programme area are described in section 5.1.5.

5.1.1 Contractual energy results

Grants awarded to projects are linked to an expected energy result. This energy result is part of the basis for the contract between the grant recipient and Enova. If the result is not achieved, there will be a corresponding reduction in the grant. Contractual energy results are the energy results expected to be achieved on signature of the contract.[33]

Table 5 shows the total contractual result per year during the period 2001–2008. Many projects that have been awarded grants have subsequently been cancelled for various reasons. In these cases, the grant is withdrawn and the project's results are removed from Enova's presentations of its results. This means that the total original contractual result is reduced. The table shows the scope of cancellations, nominally and as a percentage, and the updated contractual result at the end of 2008. The updated result in the table is categorised by programme area and year.[34] Results from projects initiated by NVE, for which Enova has taken over administration and is entitled to accredit the results, are also included.

Enova's annual reports show the total energy result from the beginning up to and including the reporting year. This shows Enova's chance of achieving aggregate targets or sub-targets. Table 6 shows aggregate contractual results for all years from 2001 to 2008 based on the information in Table 5. Table 6 also shows the scope of the updated contractual result for active projects on year's end 2008.[35]

Table 5 Contractual energy results per year and area. Figures in MWh

Area	2001	2002	2003	2004	2005	2006	2007	2008
Original contractual result	**820 000**	**921 000**	**1 827 000**	**2 223 000**	**2 011 000**	**2 059 000**	**2 370 000**	**2 149 392**
Cancelled		**357 635**	**782 014**	**662 553**	**485 600**	**226 709**	**276 700**	
Cancelled in per cent	**0%**	**39%**	**43%**	**30%**	**24%**	**11%**	**12 %**	**0%**
Wind	120 000	80 000	124 000	454 200	336 500			278 700
Heating	328 000	165 767	240 275	215 222	191 945	570 014	738 598	839 597
Biofuel			295 270	255 300	162 000	100 000	162 900	60 000
The Built Environment	44 000	140 255	258 921	257 073	556 054	396 070	362 237	423 543
Industry	300 000	176 700	103 537	343 331	278 200	759 227	814 481	536 982
New Technology	28 000	642		35 322	701	6 980	4 717	10 571
Training			22 982					
Households							10 368	
Updated contractual result as of 2008	**820 000**	**563 365**	**1 044 986**	**1 560 447**	**1 525 400**	**1 832 291**	**2 093 300**	**2 149 392**

33) Results and activities report 2008, Enova SF, page 43.

34) These figures have been obtained from Enova in connection with the Office of the Auditor General's investigation.

35) These figures are based on information from a detailed overview of Enova's project portfolio at the end of 2008. In this overview, the allocation of projects to specific years differs slightly from Enova's other figures. This means that the information about allocation to active projects is not quite consistent with the other information in the table.

Table 6 Aggregate contractual results per period. Figures in MWh

Area	Aggregate 2001–2002	Aggregate 2001–2003	Aggregate 2001–2004	Aggregate 2001–2005	Aggregate 2001–2006	Aggregate 2001–2007	Aggregate 2001–2008
Original contractual result	**1 741 000**	**3 568 000**	**5 791 000**	**7 802 000**	**9 861 000**	**12 231 000**	**14 380 392**
Cancelled	**357 635**	**1 139 649**	**1 802 202**	**2 287 802**	**2 514 511**	**2 791 211**	**2 791 211**
Cancelled in per cent	**21%**	**32%**	**31%**	**29%**	**25%**	**23%**	**19%**
Wind	200 000	324 000	778 200	1 114 700	1 114 700	1 114 700	1 393 400
Heating	493 767	734 042	949 264	1 141 210	1 711 224	2 449 822	3 289 419
Biofuel		295 270	550 570	712 570	812 570	975 470	1 035 470
The Built Environment	184 255	443 176	700 250	1 256 303	1 652 373	2 014 610	2 438 153
Industry	476 700	580 237	923 568	1 201 768	1 960 995	2 775 476	3 312 458
New Technology	28 642	28 642	63 963	64 665	71 644	76 361	86 932
Training		22 982	22 982	22 982	22 982	22 982	22 982
Households						10 368	10 368
Updated contractual result as of 2008	**1 383 365**	**2 428 351**	**3 988 798**	**5 514 198**	**7 346 489**	**9 439 789**	**11 589 181**
Active as of 2008	20 700	308 064	874 518	1 639 100	3 350 951	5 639 035	7 409 410

Table 6 shows that Enova had a total contractual energy result of 14.4 TWh during the period 2001–2008, while Table 5 shows that Enova had contractual results of about 2 TWh per year for the period 2003–2008. The tables also show that a relatively large proportion of the original contractual results have been cancelled. At the end of 2008, the aggregate contractual result had been reduced by 2.8 TWh as a result of cancellations, which means that Enova's total contractual energy results for the period 2001–2008 were reduced to 11.6 TWh. Table 5 shows a cancellation percentage to date of about 40 per cent for the years 2002 and 2003. Most projects for these years have been concluded, but the cancellation percentage could conceivably still increase somewhat. The cancellation percentage is lower for the more recent years, but the proportion of active projects is also greater.

Table 6 shows that, at the end of 2008, Enova had a contractual result of 5,514 GWh for measures allocated grants in the period 2001–2005. Cancellations have reduced the contractual result up until 2008 by 2,288 GWh, which is 29 per cent of the original contractual result for the period in question. The table also shows that a contractual result of 1,639 GWh relates to projects that were still active at the end of 2008. This means that it is highly probable that the final contractual result for measures that received grants during the period 2001–2005 will fall below the sub-target for the period of 5.5 TWh.

Table 6 shows that at the end of 2008, Enova had a contractual result of 7,346 GWh for measures allocated grants during the period 2001–2006. Cancellations have reduced the contractual result up until 2008 by 2,515 GWh, which is 25 per cent of the original contractual result for the period in question. The table also shows that a contractual result of 3,351 GWh relates to projects that were still active at the end of 2008. This means that it is highly probable that the final contractual result for measures that received grants during the period 2001–2006 will fall below the sub-target for the period of 7 TWh.

Table 6 also shows that at the end of 2008, Enova had a contractual result of 9,440 GWh for measures for which grants were awarded during the period 2001–2007. Cancellations have reduced the contractual result up until 2008 by 2,791 GWh, which is 23 per cent of the original contractual result for the period in question. The table also shows that a contractual result of 5,639 GWh relates to projects that were still active at the end of 2008. The updated contractual result for measures that received grants during the period 2001–2007 has already fallen below the sub-target for the period of 10 TWh. The energy result will probably decrease further as a result of future cancellations.

5.1.2 Final reported energy results

Enova introduced the concept of the final reported energy result in 2005.[36] The final

36) Results report 2005, Enova SF, page 7.

reported energy result is an updated prognosis for realised results at the time of the project's completion. All projects with energy results submit a final report. Enova considers whether the reported energy result is reasonable.[37] Since 2005, Enova has reported the total final reported results annually in addition to the contractual results. Reporting practices have evolved during Enova's lifetime.

In response to our request, Enova has submitted a table of final reported energy results for the period 2001–2008 (these figures were up-to-date as of 31 December 2008). Table 7 shows the final reported energy result in total and by area. The results have been assigned to the year in which the projects were allocated grants.

Projects that receive subsidies from Enova normally take several years to complete, and the final reported results will therefore naturally be lower than the contractual result until the measures have been completed. The figures in Table 7 can be compared with the overview of contractual energy results, see Table 5. This has been done in the lower part of Table 7, which shows the final reporting as a percentage of the contractual results for the respective programme areas. Due to the time it takes to implement projects, a smaller proportion of the projects for recent years will have been finally reported, and the final reporting percentage for 2008 is therefore zero.

Table 8 shows the aggregate final reported energy results per period. The figures in Table 8 can be compared with the overview of contractual energy results, see Table 6. The lower part of Table 8 shows the final reporting in per cent as a percentage of the contractual results for each period. As in Table 7, the implementation time means that the percentage of final reported aggregate energy results will be lower when newer projects are included.

Table 8 shows a final reported energy result for the period 2001–2008 of approx. 4.1 TWh, which is 35 per cent of the reported contractual result of 11.6 TWh. Enova's results reports show that projects with a final reported result of 1.4 TWh had been completed by the end of 2005, while the corresponding results for 2006 and 2007 were 2.2 TWh and 3.6 TWh, respectively.

Table 7 Final reported energy results per area and year, and as a percentage of contractual energy results. Figures in MWh

Final reported energy results

Area	2001	2002	2003	2004	2005	2006	2007	2008
Wind	120 000		126 746	380 994	179 259			
Heating	328 000	170 323	222 320	40 570	81 770	69 813	14 180	
Biofuel			154 000	255 300	162 000	100 000	45 200	
The Built Environment	44 000	121 994	149 622	119 952	54 013	14 140		
Industry	300 000	156 500	133 022	328 931	106 023	46 628		
New Technology	28 000	800		2	131	1 767		
Training			16 420					
Households								
Total	**820 000**	**449 617**	**802 131**	**1 125 749**	**583 196**	**232 347**	**59 380**	

Final reporting of contractual results in per cent

Area	2001	2002	2003	2004	2005	2006	2007	2008
Wind	100%	0%	102%	84%	53%			0%
Heating	100%	103%	93%	19%	43%	12%	2%	0%
Biofuel			52%	100%	100%	100%	28%	0%
The Built Environment	100%	87%	58%	47%	10%	4%	0%	0%
Industry	100%	89%	128%	96%	38%	6%	0%	0%
New Technology	100%	125%		0%	19%	25%	0%	0%
Training								
Households							0%	
Total	**100%**	**80%**	**77%**	**72%**	**38%**	**13%**	**3%**	**0%**

37) Results and activities report 2008, Enova SF, page 44.

Table 8 Aggregate final reported energy results per area and period, and as a percentage of contractual energy results. Figures in MWh

Final reported energy results

Area	Aggregate 2001–2002	Aggregate 2001–2003	Aggregate 2001–2004	Aggregate 2001–2005	Aggregate 2001–2006	Aggregate 2001–2007	Aggregate 2001–2008
Wind	120 000	246 746	627 741	807 000	807 000	807 000	807 000
Heating	498 323	720 643	761 213	842 983	912 796	926 976	926 976
Biofuel		154 000	409 300	571 300	671 300	716 500	716 500
The Built Environment	165 994	315 615	435 567	489 580	503 720	503 720	503 720
Industry	456 500	589 522	918 454	1 024 476	1 071 104	1 071 104	1 071 104
New Technology	28 800	28 800	28 802	28 933	30 700	30 700	30 700
Training		16 420	16 420	16 420	16 420	16 420	16 420
Households							
Total	**1 269 617**	**2 071 747**	**3 197 496**	**3 780 693**	**4 013 040**	**4 072 420**	**4 072 420**

Final reporting of contractual results in per cent

Area	Aggregate 2001–2002	Aggregate 2001–2003	Aggregate 2001–2004	Aggregate 2001–2005	Aggregate 2001–2006	Aggregate 2001–2007	Aggregate 2001–2008
Wind	60%	76%	81%	72%	72%	72%	58%
Heating	101%	98%	80%	74%	53%	38%	28%
Biofuel		52%	74%	80%	83%	73%	69%
The Built Environment	90%	71%	62%	39%	30%	25%	21%
Industry	96%	102%	99%	85%	55%	39%	32%
New Technology	101%	101%	45%	45%	43%	40%	35%
Training		71%	71%	71%	71%	71%	71%
Households							
Total	**92%**	**85%**	**80%**	**69%**	**55%**	**43%**	**35%**

Table 7 shows that the contractual results of the NVE projects from 2001 have been finally reported in full. This is due to a decision by Enova in 2006 that no projects from 2001 are to be further monitored. The results from these projects have therefore been added to the final reported projects even though the projects have not actually been registered as finally reported.[38]

A review of Enova's project register as of 31 December 2008 shows that, of 695 completed projects, 164 have achieved a final reported energy result in excess of the contractual result. In the case of 421 projects, the final reported result was reported to equal the contractual result, while 110 projects had a final reported result that fell short of the contractual result. The final reported energy result for all of the 695 projects completed during the period 2002–2008 was lower than the total contractual result: the final reported energy result totalled 3,252.4 GWh, compared with a contractual result of 3,359.8 GWh.

5.1.3 Realised energy results

Realised energy results measure the degree to which completed projects actually produce or save energy. The realised energy result is based on a review/audit of the energy results actually achieved in the projects. Unlike the contractual and final reported energy results, the realised energy results are not based on expectations and are not, in principle, estimates. It may be difficult in practice to quantify energy results, and energy production and energy consumption may often present different challenges in this respect. It can also take a long time for projects to be completed and realised results to be reported. The realised results of Enova's activities include the ripple effect of allocated grants.[39] Enova does not report realised energy results.

Realised results for the areas Heating, Biofuel, the Built Environment and Industry

Table 9 sums up the main findings from the verification of final reported results. The table shows the amount granted, contractual result, final

38) Results and activities report 2006, Enova SF, page 9.

39) Results and activities report 2008, Enova SF, page 44.

Table 9 Contractual, final reported and probable realised result in 2008 per programme area

Programme area	Grant amount (in NOK million)	Energy result (GWh)			Uncertainty (percentage)
		Contractual	Final reported	Realised	
Heating	57.5	397	412	443	10%
Biofuel	17.1	387	387	224	23%
The Built Environment	21.1	132	123	106	13%
Industry	44.4	356	387	376	16%
Total	**140.1**	**1 283**	**1 309**	**1 149**	**15%**

reported result and the estimated realised energy result for selected projects in 2008. The uncertainty of the realised energy result is stated as a percentage. The table shows that the total realised energy result for the reviewed projects is estimated to be 1,149 GWh for 2008. This is less than the final reported result of 1,309 GWh.

There is considerable uncertainty attached to these figures, however. It is assumed that the well-run and well-documented projects have an uncertainty of +/- 10 per cent, while the uncertainty associated with the less well-run projects is +/- 30 per cent. This means that the total energy result is somewhere between 0.9 and 1.3 GWh, which means a total uncertainty of +/- 15 per cent. This uncertainty is linked to various circumstances relating to the projects, their internal follow-up of implemented measures and their final reporting to Enova. The verification shows that the following factors, among others, have a bearing on the certainty with which the result can be determined:

- Both Enova and the project owners seem to have the reporting of financial figures well under control, but there are shortcomings, sometimes major ones, when it comes to documentation of the reported energy results. A number of the final reports that Enova receives fail to document energy results, and vary significantly in design and the amount of detail provided.
- Although the projects are, in principle, obliged to report the results achieved for five years after completion of the project, verification reveals a varying degree of follow-up by Enova after the final reporting. Projects in the Industry and the Built Environment areas are to report via the Industry Network and the Building Network. There are no standardised forms of reporting for the other areas.
- As regards energy saving, there appears to be no standard for adjustment of external factors such as external temperature, operational changes etc. The project owner's practices vary, as do the adjustments made. This means that reporting is not uniform and that it may be difficult to compare projects with other projects or compare projects over time.
- Support granted in more than one link of the heat production value chain involves a theoretical possibility that energy results may be counted twice, and this causes uncertainty. It has been impossible to establish whether this has been the case in any of the projects analysed.

Realised results for the Wind area

For the Wind area, production figures have been obtained from a total of nine grant commitments involving seven projects.[40] The developed projects produced a total of 788 GWh of electricity in 2008.[41] The annual production of the wind power plants can be expected to vary by +/- 20 per cent due to variations in the wind resource. The year 2008 is considered to be a normal wind resource year,[42] and 788 GWh will be the realised result for the projects in this area that receive support from Enova.

In a report co-written with NVE, Enova stated that recent years' production figures show that production in Norwegian wind farms is on average 10–20 per cent below the expected 3,000 hours of operation.[43] In 2007, Enova and NVE cooperated on collection of the first empirical data for wind power production in Norway.[44] In this project, data for actual production were established and compared with estimated production. So far, Enova has not adjusted the final reported energy results for empirical

40) One of the projects in question is primarily a technology development project, and this project is therefore not included in the calculation of the realised energy result. There is one completed project, a small test field, from which no data have been obtained.
41) At one wind farm, not all of the windmills were operational for the whole year, and a theoretical estimate was made of the 2008 production. The total 2008 production as reported to NVE was 917 GWh. This figure also includes projects not supported by Enova.
42) E-mail from NVE, 9 November 2009.
43) Feasibility study for land-based wind power 2015 and 2025, NVE and Enova SF. Report no 18, 2008.
44) Letter of 4 April 2008 to Enova SF from the Office of the Auditor General.

production results. However, Enova is planning to send a letter elaborating on the contractual reporting requirement to all project owners that have received grants. Work is ongoing on procedures for follow-up and documentation of realised energy results.

5.1.4 Lasting energy restructuring – the projects' lifetimes

Enova assumes that projects receiving grants will have a specific lifetime. The lifetime perspective relates to the cost-effectiveness requirement for use of the Energy Fund's assets. Cost-effectiveness means maximising the total energy result per krone spent over the total lifetimes of the measures. The longer a project's lifetime, the less it will cost per year.[45] Lifetime calculations assume a lifetime of ten years for energy efficiency projects and 20 years for energy production.

The fact that a measure has a limited lifetime means that the energy result from the measure must be phased out of result reporting once its lifetime ends. So far, lifetime considerations have not been relevant in connection with final reporting. The Ministry of Petroleum and Energy states in an interview that the lifetime factor is not taken into consideration when setting aggregate targets. However, it is only a matter of time before Enova will have to decide how energy results will be phased out. Theoretically, an energy efficiency project that received grants and was completed in 2001 will have reached the end of its lifetime in 2011, and the results from such projects will have to be eliminated from Enova's reporting of its energy target achievement.

5.1.5 Target achievement per programme area

5.1.5.1 Heating

Programme description

Enova's work in the Heating area originally consisted of two programmes: *Heating production*, aimed at large heating plants, and *Heating distribution*, which concerned district heating infrastructure.[46] Enova chose to use investment support as a policy instrument in these programmes to provide equity for the projects. In the case of many heating projects, this is an obstacle to obtaining external funding. The 2005 programme contained no guidelines regarding the maximum percentage of support or minimum energy yield in relation to the support granted. This was

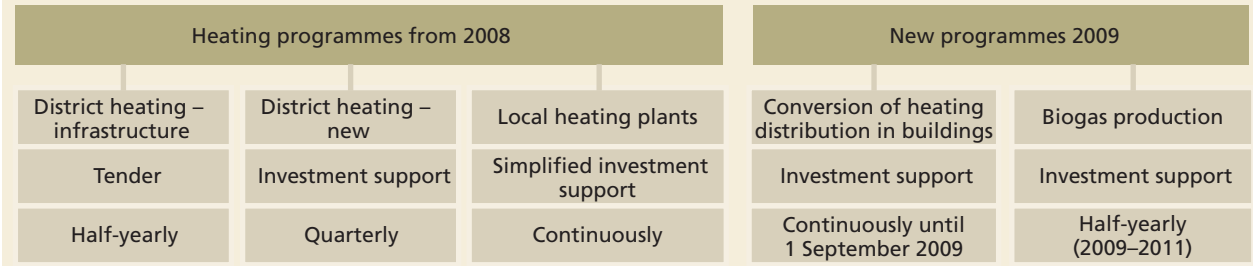
45) Results report 2005, Enova SF, page 9.
46) Results report 2003, Enova SF.

District heating development. Photo: Cathrina de Lange / Østfold Energi AS

because it was considered that the absence of such guidelines would help to stimulate competition for the funds available and avoid applications being tailored to meet the criteria.[47] The separate programmes for production and distribution were merged following a programme evaluation,[48] and the merged programme covers both district heating plants and local heating plants.[49] In addition, subsidies for the conversion of small local energy plants to biofuel and heat pumps were included in the programme. In the 2007 agreement with the Ministry of Petroleum and Energy, Enova undertook to establish a separate programme aimed at long-term development of district heating infrastructure. Based on this agreement, and on a feasibility study for renewable heating for the period up until 2020 and a barrier study carried out in 2007, the Heating programme was changed again in 2007.[50]

47) Results report 2005, Enova SF, page 14.
48) *Evaluering av Enovas varmeprogrammer ('Evaluation of Enova's thermal heating programmes')*. Vista Analyse AS and Weightless Value AS.
49) Results report 2005, Enova SF.
50) Result and activities report 2007, Enova SF.

Figure 1 Enova's heating programmes as of 2009



Enova's heating efforts are now divided into five programmes that contribute to goal achievement in this area. This is illustrated by Figure1.

From 1 January 2008, the two existing programmes were replaced by three new ones. According to its programme text, *District heating – infrastructure* aims to promote the development of capacity for increased delivery of district heating to end users. The programme is implemented as a tender scheme for the purchase of services of general economic interest. *District heating – new* is a programme intended to promote the establishment of new district heating and district cooling in locations where both infrastructure and a heating plant for renewable energy production need to be established.[51] The target group consists of players who want to establish and/or develop business activities in the fields of district heating or cooling. The grants are given in the form of investment support. The *Local heating plants* programme subsidises players who wish to establish new heat production based on renewable energy sources. The programme is intended to promote the installation of more local heating plants for multi-dwelling buildings, commercial premises, public buildings, sports facilities and industrial premises as well as small associations of such properties. Potential applicants include players from the energy, forestry and building and construction industries.[52]

Two new programmes were introduced in March and April 2009. The temporary programme for *Conversion of heating distribution in buildings* was established as a result of the package of crisis measures.[53] This programme is intended to promote increased installation of water-borne heating systems in existing buildings. The programme is also intended to promote the supply of buildings with renewable heating or district heating. The time-limited thematic programme *Biogas production* (2009–2011) was established after its potential had been mapped.[54] This programme targets registered business enterprises that supply biogas to the Norwegian energy market. It is aimed at players who wish to invest in industrial biogas production. The grants are given in the form of investment support for the construction of biogas production plants, and for distribution in connection with production.

As a result of the package of crisis measures, the subsidy level was also raised from NOK 0.5 per kWh to NOK 1 per kWh in the Local heating plant programme. Enova has stated that the augmentation of its funding resources allows it to increase the level of funding in the district heating programmes.

Target achievement

The almost 700 applications received during the period 2001–2008 resulted in about 380 projects being awarded grants.[55] Table 6 shows that the updated aggregate contractual result for the heating area at the end of 2008 was 3,289 GWh. A review of the basis data underlying this information shows that, during the period 2001–2008, projects with contractual results of 878 GWh were cancelled. This is 21 per cent of the original contractual result in this area.

Table 8 shows that the final reported result in the Heating area at the end of 2008 was 927 GWh, which is 28 per cent of the contractual energy result in this area.

The verification of the final reported results includes the seven largest heating projects that

51) Enova presentation of the Heating area, 6 November 2008.
52) www.enova.no.
53) *Endringer i varmeprogrammene som følge av tiltakspakken (Changes in the thermal energy programme resulting from the package of crisis measures'),* 6 March 2009.
54) *Økt satsning på biogassproduksjon ('Increased investment in biogas production'),* www.enova.no.
55) Enova presentation of the Heating area, 7 November 2008.

have submitted their final reports. The combined final reported result from these projects is 412 GWh. Table 9 shows that the estimated total production for 2008 was 443 GWh, a figure that exceeds both the contractual and the final reported energy result. However, there are major differences between the projects. Out of the seven projects in question, four have exceeded their performance targets, two have failed to meet their performance targets, and one project delivered a result that was equal to the performance target. The estimate for these projects was based on an uncertainty of 10 per cent.

Enova's goal for 2009 is to sign contracts for 854 GWh of renewable heating in local heating plants and district heating.[56] The main challenge facing renewable heat production is to make environmentally friendly heating competitive, thereby creating a large, well-functioning heating market that is capable of promoting innovation and cost reductions. Enova's analyses indicate that insufficient profitability is not the only barrier. In 2009, therefore, Enova will give priority to work to promote the municipalities' role as facilitators in relation to heating supply, market monitoring and benchmarking, the development of the supplier link for local heating plants and biofuel, greater expertise in the renewable heating value chain and the introduction of new and efficient water-borne heating systems.[57]

5.1.5.2 Biofuel

Programme description

In 2004, a programme aimed at processing of thermal energy from biofuel was introduced in the heating production area. The reason for this was that the fuel supply had been defined as a barrier to the development of the heating market.[58] As a result of the restructuring of Enova's Heating programme in 2005, the ambition level for the biofuel processing programme was lowered. In its 2007 results and activities report, Enova concluded that substantial exports (57 per cent in 2006) and good biofuel availability in most of Norway indicated that priority should be given to demand.[59] The action plan for 2009 nonetheless mentions an imbalance between supply and demand in most regions of Norway, and the pellets supply is still deemed to be a barrier. Enova is planning a scenario analysis to examine this in more detail.[60]

Target achievement

Although biofuel is part of the Heating area, the results are not included in the reporting of energy results for heating. Table 6 shows that the updated contractual result for the biofuel area at the end of 2008 was 1,035 GWh. This area has not experienced many cancellations. Table 8 shows that the final reported result in the heating area at the end of 2008 was 717 GWh, which was 69 per cent of the contractual energy result in the area.

The verification of final reported results covers five projects (three pellets production plants and two wood chip production plants). The combined final reported result from these projects is 387 GWh. Table 9 shows an estimated total production for 2008 of 224 GWh. The estimate for these projects is based on an uncertainty of 23 per cent. This relatively high uncertainty can be explained in part by the fact that many projects have stated their energy result targets in terms of both energy (kWh) and volume (cubic metres of wood chips or tonnes of pellets). For a defined product such as pellets, these measurements are relatively clear-cut. In the case of wood chips, however, target figures in kWh and cubic metres will not be unambiguous, since the energy content of the raw materials will vary. Moreover, the energy targets do not make it clear whether the figures are based on energy input or energy delivered.

In several projects, Enova seems to equate the (theoretical) production capacity of, for example, a pellets factory with a more realistic annual production result. The production of wood chips and pellets may vary considerably depending on technical performance capacity, staffing, production disruption, changes in demand, storage capacity and internal financial conditions (liquidity). Production volumes can vary significantly from year to year. Actual production figures can be used as the basis for recognising energy results instead of theoretical capacity. This information can be obtained from project reports. This procedure will also make it possible to take account of projects in which production has ceased, for example in the event of insolvency. Energy results can be reported for the years the plant was operational.

56) Action plan 2009, Enova SF, page 24.
57) Action plan 2009, Enova SF, page 24.
58) *Varmestudien 2003. Grunnlag for utbygging og bruk av varmeenergi i det norske energisystemet ('The heat energy study 2003 The basis for development and use of thermal energy in the Norwegian energy system')*, Enova SF, section 3.5.
59) Results and activities report 2007, Enova SF.
60) Action plan for the Department of Energy Production 2009, Enova SF, page 16.

In its comments on the report, the Ministry of Petroleum and Energy stated that reporting on maximum production capacity is relevant, since the total costs of the project relate to the plant's production capacity. The subsidies from Enova relate to the total costs of the projects, and there are many factors that influence a project's actual production. That Enova's funds were allocated and paid to a project that was subsequently liquidated does not alter the fact that the funds were allocated and paid to the project and that the project produced an energy result before it was wound up due to insolvency.

5.1.5.3 Wind

Programme description

When Enova was established, it took over NVE's former investment support scheme. However, it was deemed to be too expensive to continue the NVE scheme,[61] and Enova therefore established its own Wind power programme in autumn 2002.[62] A programme for the application of new wind power technology was also established. In 2008, Enova launched a new Wind power programme with a more generous support framework.[63] Grants for wind power production are given in the form of investment support, and their allocation requires certain minimum criteria to be met, including possession of a full legal licence for the facility and access to sufficient grid capacity.[64] The applications are ranked by cost-effectiveness. The wind power programme underwent an internal evaluation before its implementation in 2009, in connection with which Enova asked the industry for input on modifications to the criteria. More stringent criteria for implementation capacity, time frames for completion of the wind farm and the timing of turbine contracts were mentioned in particular.[65] Further adjustments were made to the programme criteria relating to implementation capacity in connection with the call for applications in autumn 2009. The possibility of grants for windmills on farms was also opened up in that projects not subject to a licence requirement also became eligible for subsidies.

61) The scheme involved a grant of no more than 25 per cent of the approved project costs, which was equivalent to an annual energy yield of approx. 1.5 kWh per NOK 1 granted.
62) Results report 2002, Enova SF.
63) Action plan 2008, Enova SF, page 19.
64) Programme text for Renewable energy, www.enova.no. Downloaded on 24 October 2009.
65) Letter of 28 January 2009 from Enova to NORWEA – *the Norwegian Wind Energy Association.*

Windmills at Cap Sizun. Photo: Colourbox

Target achievement

Table 6 shows that the updated contractual result for the Wind power programme at the end of 2008 was 1,393 GWh. A review of the data underlying this information shows that during the period 2001–2008, projects with contractual results of 1,403 GWh were cancelled. This is 50 per cent of the original contractual result in this area. The cancellations have been in projects to which grants were allocated during the period 2003–2005 and in 2007.

As of July 2009, Enova has given 20 separate commitments of support involving 14 wind power projects. Five of these 20 commitments have been cancelled, and two of the cancelled allocations applied to the same project. This project has been allocated support on three _ occasions, but has turned down the grant twice. The first grant allocated to the project in 2007 was for NOK 218 million. The same project was allocated a grant of NOK 512 million in 2009, by which time the expected energy result had decreased from 260 GWh to 232 GWh.

The Norwegian support regime for wind power has been characterised by instability.[66] The clarifications required to ensure a sufficiently predictable support regime capable of giving players long-term investment signals have been lacking.[67] This uncertainty has been linked, among other things, to the lack of clarification regarding the green certificate market. In Budget Recommendation No 9 to the Storting (2000–2001), the Government was asked to examine the possibility of such a market. The Government followed up this request in Report No 9 to the Storting (2002–2003) *On domestic use of natural gas etc.*, in which green certificates were described as an alternative to Enova SF. The government did not favour the creation of a national certificate market, but supported and was willing to help to develop an international market. In its consideration of the Report, the Storting asked the Government to take the initiative for – preferably – a joint Norwegian/Swedish mandatory green certificate market, with a view to subsequent coordination with an international certificate market.[68] However, negotiations with the Swedish authorities in the winter 2005–2006 were unsuccessful.[69] In the Government's opinion, the proposed scheme would be too expensive for Norwegian consumers.[70] The matter was raised again when the Storting, as part of the Climate Settlement, agreed to resume negotiations with Sweden about green certificates.[71] In September 2009, Norwegian and Swedish authorities agreed to establish a green certificate market with effect from 1 January 2012.[72] For the time being, Sweden is the only country with which Norway has reached an understanding on the certificate market. This understanding will be followed up by various studies and the signing of an agreement. A transitional scheme for the electricity certificate market was presented on 26 November 2009.[73] This scheme confers a right to participate in the joint electricity certificate market when it is established.

Seven out of the 14 supported projects had been completed by the end of 2008. Table 8 shows that the final reported result for these projects was 807 GWh, which is 58 per cent of the contractual energy result. One project produced wind power in 2008, but did not submit its final report until June 2009. The total final reported energy result for projects with production in 2008, including the result from the final report submitted in 2009, was 958 GWh. By comparison, the information in section 5.1.3 shows that the projects with production in 2008 had realised an energy result of 788 GWh, which is 82 per cent of the final reported result.

The action plan for 2009 shows that, in Enova's opinion, initiating the development of a sufficient number of wind farms by 2010 is within the realms of possibility. The wind farms subsidised in 2008, 2009 and 2010 are expected to be completed and in full production in 2012, 2013 and 2014, respectively, which means production of 3 TWh in 2014. However, the largest project that was allocated a grant in 2008 has turned down the offer after the action plan was written, which will mean a delay in target achievement.

Proposition No 1 to the Storting (2009–2010) for the Ministry of Petroleum and Energy states that there was no chance of reaching the target of 3 TWh/year of wind power by the end of 2010. The reason given is that the expected long-term power prices have dropped significantly in connection with the turbulent financial situation. In addition, production costs for wind power are higher than expected.[74]

5.1.5.4 The Built Environment

Programme description

During the first few years, the Built Environment programme area supported energy management, and it was assumed that this would result in enterprises implementing energy measures themselves. This has now changed, and Enova now assumes that the enterprises themselves will secure energy management expertise, and grants

66) Results and activities report 2006, Enova SF.
67) Action plan 2009, Enova SF, page 22.
68) Recommendation No 167 to the Storting (2002–2003), page 17. During its consideration of the report (decision 351), the Storting adopted the following wording: 'The Storting requests that the Government initiate – preferably – a joint Norwegian/Swedish mandatory green certificate market that may at a later date be coordinated with an international certificate market, with a view to submitting a concrete proposal to the Storting as soon as possible, and by spring 2004 at the latest.' In Report No 18 to the Storting (2003–2004) the Government states that it aims to start the new scheme on 1 January 2006.
69) The Ministry of Petroleum and Energy: *Nye samtaler med Sverige om grønne sertifikater til fornybar energi ('New talks with Sweden about green certificates for renewable energy' – in Norwegian only).* Press release no 173/06, 7 December 2007.
70) The Ministry of Petroleum and Energy: *Mutual green certificate market will not be established – too expensive for Norwegian customers.* Press release no 26/06, 27 February 2006.
71) Recommendation No 145 to the Storting (2007–2008).
72) The Ministry of Petroleum and Energy: *Agreement on principles for further development of a joint market for electricity certificates.* Enclosure with press release no 102/09, 7 September 2009
73) The Ministry of Petroleum and Energy: *Overgangsordning for elsertifikatmarkedet på plass ('Transitional scheme for the electricity certificate market in place' – in Norwegian only).* Press release no 143/06, 26 November 2009.
74) Nye 5 milliarder kroner til Fornybarfondet ('Another five billion for the renewable energy fund' – in Norwegian only), www.regjeringen.no.

are awarded for concrete energy measures.[75] Enova's current Built Environment programme has a large and complex market to cover. According to the programme text, this programme is intended to help to trigger the large energy efficiency potential that exists in Norwegian buildings and to create lasting market changes in the Built Environment area. The programme covers projects in existing and new commercial and residential buildings, as well as construction projects such as water supply and sewage systems, road lighting, tunnels, facades and sports facilities. Enova has initially looked to the large players that build new or restore old buildings and residences, and to those that supply energy-efficient products. Grants are given to cover documented additional costs for reaching a specified energy target. The energy target is the sum of reduced energy consumption and the use/production of renewable heating.

Target achievement

Table 6 shows that the updated contractual result for the Built Environment area at the end of 2008 was 2,438 GWh. This is 21 per cent of the total contractual result. This area has not experienced many cancellations.

Table 8 shows that the final reported result in the Built Environment area at the end of 2008 was 504 GWh, which is 21 per cent of the contractual energy result in this area. No Built Environment projects from 2007 and 2008 have submitted final reports.

Enova's objective for 2009 is to sign contracts for projects that contribute a total of 541 GWh of energy efficiency and conversion of renewable energy. Enova has also set itself the goal of contributing to five passive house projects in various building categories.[76]

The verification of final reported results covers 14 Built Environment projects that together account for a final reported result of 123 GWh at the end of 2008. Table 9 shows that the estimated total result for 2008 was 106 GWh. The estimate for these projects was based on an uncertainty of 13 per cent.

The building and construction industry is highly sensitive to financial market fluctuations and soon feels the effects of economic downturns. In an interview, Enova described this industry as 'either at full throttle or brakes on full'. Enova also states:

> 'Neither of these modes is beneficial to Enova or to the energy efficiency work: When times are good in the industry, it wants to build as much and as fast as possible and is not particularly interested in "experimenting" with new energy solutions. In difficult times, the industry's focus on costs intensifies, and energy solutions that would increase investment costs are typically deselected.'

Enova therefore expects the financial crisis to reduce financial activity in the building and construction industry in 2009 significantly compared with 2008.[77] The plan for 2009 shows that the level of the targets will nonetheless be maintained due to sales in 2008 that will yield results in 2009. Stronger focus on climate considerations, stricter energy requirements and the upcoming energy labelling scheme for buildings will also help to increase willingness among players to invest in energy measures, and ensure a continued supply of projects for Enova.

Enova's own risk assessments show that there is risk associated with both goal achievement and the design of policy instruments in the Built Environment area.[78] Goal achievement is influenced by Enova's limited opportunity to choose policy instruments, and the fact that the market has been somewhat cautious in terms of making investment decisions. Enova considers that the passive house strategy requires a reorientation in the market and a review of the programmes offered. An adjustment of subsidy rates has been reviewed, a mandate has been adopted for the concretisation of the passive house strategy, and programme revision is ongoing. As regards the design of policy instruments, Enova feels that it has a good understanding of the barriers in this area, but a poorer understanding of mechanisms that could lower these barriers. Enova wants to map the need for potential and barrier studies, and the passive house strategy work has been initiated as a result of this.

The interest organisations in the building and construction industry believe that Enova's efforts aimed at the built environment have not been fully successful, and that there is a far greater energy efficiency potential in the built environment than Enova has been able to trigger. This was the

75) Interview with Enova's area manager for the Built Environment.
76) Action plan 2009, Enova SF.
77) Action plan 2009, Enova SF.
78) Risk report for the third quarter of 2009 for Enova, overall level, Enova SF.

conclusion of the focus group meeting with the interest organisations on 4 March 2009. Representatives of the following building and construction organisations participated: the Norwegian Green Building Alliance, the Federation of Norwegian Construction Industries (BNL), the Environmental Secretariat for the Norwegian Building Industry, *Byggemiljø and Boligprodusentenes Forening* (Norwegian Homebuilder Association)). BNL stated, among other things, that Enova fails to reach the majority of the enterprises in the industry. Enova has targeted the major players and has had no strategy for the smaller players in the industry. Several of the organisations also point out that the large, fragmented building and construction industry consists of many players with little expertise in energy and the environment, and that small enterprises generally lack the resources necessary to actively develop competence-building. The Green Building Alliance emphasises that Enova has many good guidelines, but that they only reach a small section of the industry.

The Ministry of Petroleum and Energy has stated in its comments on the report that Enova's programmes in the Built Environment area target property owners and developers, not the building and construction industry as such. The Ministry refers to the Low-Energy Programme aimed at BNL's members.

The Low-Energy Programme website states that the programme is a collaboration between the Norwegian State and the building and construction industry to promote energy efficiency and energy restructuring in buildings. The participants are: the Federation of Norwegian Building Industries, the Association of Consulting Architects in Norway, the State Housing Bank, Enova, the National Office of Building Technology and Administration, the Norwegian Directorate of Water Resources and Energy, and Statsbygg.[79]

5.1.5.5 Industry

Programme description

Energy-intensive mainland industry is considered to have great potential for reductions in energy consumption,[80] and Enova has long run programmes to trigger energy saving measures in this area. The current Industry programme provides investment support[81] to trigger energy efficient work methods/processes/process sections, energy recovery/utilisation of waste heat, or conversion to use of renewable energy sources. Grants can be awarded to purely investment projects and to projects that also include mapping and knowledge dissemination.[82] Enova has stressed the importance of including energy management activities in the projects. This means, among other things, that projects receiving grants must be rooted in the enterprise's management, and that the investment will be considered in relation to other relevant energy-related investments in the enterprise or group.[83]

Until 2007, Enova ran a programme on energy management in industry called *Energy management – Networking enterprises*. This programme was aimed at small and medium-sized industrial enterprises and was intended to lower barriers to energy efficiency, which were thought to include lack of knowledge and focus on increasing the efficiency of processes and operations. From 2003, only enterprises with contractual energy results were eligible for grants. Grants were given for energy and environmental analyses, and investment support was granted for the establishment of energy follow-up systems.[84] When this programme was discontinued in 2007, its core activities were transferred to projects under the investment support programme.[85]

In order to ensure a good dialogue with the industry organisations, Enova maintains close market contact with players in the Industry area through various forums and annual events.

Target achievement

Table 6 shows that the updated contractual result for the Industry programme at the end of 2008 was 3,312 GWh, which is 29 per cent of the total contractual result. This area has not experienced many cancellations. Table 8 shows that the final reported result in the Industry programme at the end of 2008 was 1,071 GWh, which is 32 per cent of the contractual energy result in this area.

79) www.lavenergiprogrammet.no/omoss/.

80) In its 2003 results report, Enova refers to a study carried out by the Federation of Norwegian Process Industries (PIL) and Enova SF in 2002.

81) Enova subsidies can be up to 20 per cent of the approved and documented additional costs triggered by the measures intended to help to realise the energy result. The EFTA Surveillance Agency (ESA) can in principle accept subsidies of 40 per cent of the additional costs and will in many cases accept a yield of more than 30 per cent. Enova sets its accepted yield levels on the basis of experience of what level will trigger a project and the actual yield requirements in the various industries. Source: Presentation at a meeting with Enova on 26 August 2008.

82) www.enova.no.

83) Results report 2005, Results and activities reports for 2006, 2007 and 2008, Enova SF.

84) Results report 2003, Enova SF.

85) Results and activities report 2007, Enova SF.

No Industry area projects from 2007 and 2008 have submitted final reports.

The verification of final reported results covers six Industry projects that together accounted for a final reported result of 387 GWh at the end of 2008. Table 9 shows that the estimated total production for 2008 was 376 GWh. Four of the projects in question have met or exceeded the agreed improvement requirements, while the other two have failed to fully meet the requirements. The estimate for these projects was based on an uncertainty of 16 per cent. For most of these projects, 2008 figures were used to verify savings. This could mean that improvements resulting from other measures or from generally good energy management are attributed to the project.

Enova's objective for 2009 is to sign contracts for projects that contribute a combined total of 713 GWh of energy efficiency and conversion to renewable energy. In addition, Enova has set itself the goal of contributing to at least two particularly innovative projects that can serve as models in their industry.[86]

Enova's own risk analyses show that triggering energy results in the Industry area is challenging. There is a risk that the energy yield will decrease due to failure by the market to make investment decisions. The measures Enova has outlined in this area consist of adjusting programme criteria and considering special support measures. The amount of incoming projects is also considered to be good.[87] Creating market change in small industrial enterprises is another challenge to be addressed, as Enova's programme was developed with large projects in mind.[88]

The Federation of Norwegian Industries sees the industry programme as being relatively successful. It was stated in the focus group that the organisation had carried out an analysis of the potential in 2002 together with Enova, and that this analysis uncovered a great energy efficiency potential in Industry. Enova subsequently established an Industry programme in collaboration with parties in industry. The Federation of Norwegian Industries has cooperated closely with Enova since the beginning in 2002, and, in the organisation's opinion, Enova functions well in relation to industry. However, it does consider the fragmented energy policy, with its narrow focus on market solutions, to be a problem. Industry's situation is very different to that of the building and construction industry. It is easier to measure specific consumption and the transition to other forms of energy than it is to measure energy efficiency measures in buildings, says the Federation of Norwegian Industries. However, many small industrial enterprises experience the same problems of gaining access to Enova as small building and construction enterprises do.

5.1.5.6 New Technology

Programme description

Initially, Enova categorised support for new technology as 'other renewable energy'. The programme was aimed at demonstrating the use of renewable energy. Investment support is the policy instrument that is given highest priority in this programme, since financial and technological barriers will generally be great for this type of project. The New Technology effort currently consists of three programmes: *Innovative energy solutions*, *Introduction of New Technology and Renewable marine power production*.

The Innovative energy solutions programme was established in 2005 in collaboration with the Research Council of Norway. Innovation Norway also became a partner in this programme from 2007.[89] The programme targets technology suppliers as well as the producers and users of the relevant products. Grants are available for new technology, solutions and products for demonstration and verification in pilot facilities.[90] The Introduction of New Technology programme targets enterprises that supply the Norwegian energy market and major energy consumers. Funding is provided for demonstration of new energy technologies under realistic operating conditions.[91]

In the early years, Enova gave priority to solar power systems for heating and systems to exploit waves and ocean currents. This was based on an assessment of the status of various technologies with respect to the degree of commercialisation and interest among industrial market players.[92] In 2007, Enova reviewed these programmes on the basis of the work done through the national

86) Action plan 2009, Enova SF.
87) Risk report for the third quarter of 2009, Department of Energy Efficiency, Enova SF.
88) Result and activities report 2008, Enova SF, page 13.
89) Results and activities report 2006, Enova SF.
90) Programme text for *Innovative energy solutions,* www.enova.no.
91) Programme text for *Introduction of New Technology,* www.enova.no.
92) Results report 2004, Enova SF.

Energi21 strategy.[93] The new programme design was launched in February 2009 and included a new effort, namely the programme for Renewable marine power production.[94] This programme targets players wishing to implement demonstration projects for renewable marine energy production. For the existing programmes Innovative energy solutions and Introduction of New Technology, the subsidy percentage was increased to up to 50 per cent of approved investment costs. Enova also chose to continue the Innovative energy solutions programme on its own, without the cooperation of Innovation Norway and the Research Council of Norway. Both the Research Council of Norway and Innovation Norway wanted to continue the programme in collaboration with Enova.[95]

Target achievement

The New Technology area is intended to address the contractual requirement that the fund's assets are to be used actively for innovation purposes, i.e. for the introduction and demonstration of new relevant technology. Projects awarded grants through this programme are pilot projects, often with short lifetimes and involving a high degree of risk. The purpose of the projects is often to further develop technology that can be used for achieving the targets in Enova's other programmes. This programme does not have any energy performance targets of its own. However, energy targets are contracted in some projects.[96] Table 6 shows a total contractual energy result of 87 GWh in the New Technology area at the end of 2008.

Table 8 shows final reported energy results of 31 GWh for the New Technology area. This is 35 per cent of the original contractual result in this area. The table also shows that the final reported results in this area have remained unchanged since 2006. No projects from the New Technology area from 2007 and 2008 have submitted final reports.

According to the 2008 plan, the goal of the effort to introduce new technology for that year was the completion of three projects and contributions by Enova to at least ten new demonstration projects in the area of renewable energy production and energy efficiency. Enova's results and activities report for 2008 shows that New Technology considered 27 applications in 2008, and that grants were awarded to 12 of the projects. Six of the projects that received grants were related to the joint effort with the Research Council of Norway and Innovation Norway.[97] The goal for 2009 is to complete four projects and allocate grants to at least ten new projects.

The Research Council of Norway states in its response to the list of questions that Enova's programmes, as defined in its remit, are not very well suited to promoting the development of new technology and its introduction to the market. The Research Council of Norway states that there is technology with considerable energy saving potential of which no significant use has been made. This could be due to risk, lack of profitability and inadequate knowledge on the part of the users. According to the Research Council of Norway, it is difficult to measure what is achieved by information and knowledge-related measures in kWh, but Enova's efforts in this field are an important contribution to a lasting and more environmentally friendly restructuring of energy consumption. Innovative projects often have a long-term perspective, and the savings are often uncertain.

The Ministry of Petroleum and Energy stated in its comments on the report that subsidising demonstration projects has only been a small element in Enova's activities and accounted for a small percentage of the Energy Fund's budget. The Ministry also points out that Enova's role is not intended to cover the whole innovation chain, from drawing board to full-scale commercialisation, but is limited to the full-scale testing and trial stages.

5.1.6 Cost developments

It is becoming increasingly expensive for Enova to trigger energy results. The former chair of the board points out in an interview that new projects

93) Action plan for the Department of Energy Production 2008, page 17. Odd Roger Enoksen, Minister of Petroleum and Energy, took the initiative for Energi21 in winter 2007. The purpose was to establish a broad, unifying R&D strategy for the energy sector. Energi21 united the energy players behind a vision and a strategy for research and development in the energy sector. This strategy is based on the business community's priorities, but with strong emphasis on even closer cooperation between the authorities, the business community and other research players. The work on initiating and following up the strategy is led by a board appointed by the Ministry of Petroleum and Energy on 2 July 2008. Source: www.energi21.no.

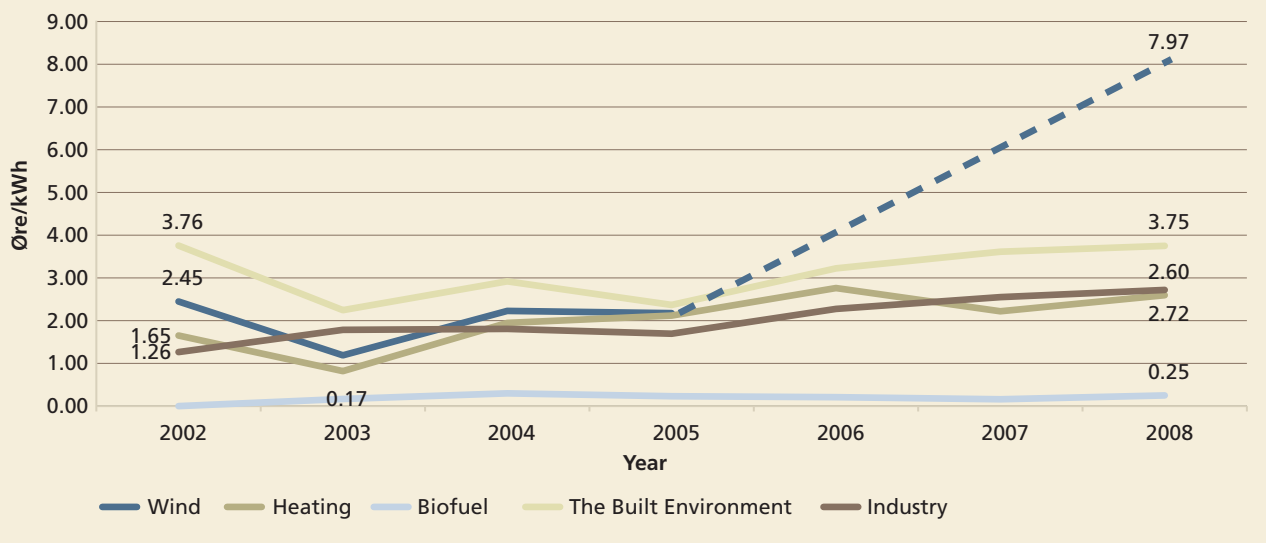
94) *Enova utvider støtteandelen og lanserer nytt støtteprogram for teknologiområdet ('Enova increases grants and launches new support programme for the technology area'),* Enova SF.

95) Letter of 26 May 2009 to the Office of the Auditor General from the Research Council of Norway. Re. the Office of the Auditor General's investigation of Enova SF – list of questions. Letter of 25 May 2009 to the Office of the Auditor General from Innovation Norway. Innovation Norway's response to the Office of the Auditor General's letter with questions of 30 April 2009.

96) Letter of 4 April 2008 from Enova SF to the Office of the Auditor General.

97) Of these six projects, four were supported by Enova and two by the Research Council of Norway.

Figure 2 Lifetime-adjusted cost development for support per area[99]



Source: Enova SF

have proven more expensive. Figure 2 shows trends in the cost of triggering projects in the various areas. The figure is based on information about contractual results per area per year and Enova's annual allocations for triggering this result.[98] The prices have been adjusted for lifetime and the consumer price index. Grants allocated by Enova to trigger projects have increased moderately in most areas. The Wind power programme, however, is in a class of its own, with a strong increase in grant expenses in the 2008 allocation compared with previous years.

Seen in relation to the increase in the amount of support required to trigger a certain energy result, Enova's results may appear to be steadily weakening. In theory, the number of projects that can be triggered will decrease as Enova and other relevant players work on energy restructuring. In other words, the potential for energy restructuring – production as well as efficiency – is continuously decreasing. It must also be taken into consideration that technology and priority areas are dynamic factors, and that the range of potential projects will therefore change over time. So far, Enova has focused on projects with high energy results that can be triggered at a relatively cheap cost. This has been consistent with the socioeconomic efficiency requirements set for Enova.

Figure 2 shows that the Wind power area in particular is characterised by high and increasing costs. However, at the beginning of the period, several projects also had revenues from the sale of green certificates in the Netherlands, reducing the need for support. After the Dutch regulations

Table 10 Contractual results, allocations and prices for the wind power area[100]

Year	GWh	NOK million allocated	NOK/kWh	kWh/NOK	Øre/kWh over the lifetime (20 years)
2001	120				
2002	80	39	0.49	2.04	2.45
2003	124	29	0.24	4.21	1.19
2004	454	202	0.45	2.24	2.23
2005	337	147	0.44	2.30	2.18
2006					
2007					
2008	279	445	1.59	0.63	7.97
Total	**1 393**	**863**	**0.62**	**1.61**	**3.10**

98) Results and activities report 2008, Enova SF, pages 33–34.

99) The figures are based on the Results and activities report 2008, Enova SF. There are no active wind power projects from 2006 and 2007. The price development from 2005 to 2007 is therefore shown as a dotted line.

100) This table is based on figures from Enova's results and activities report 2008. The figures have been adjusted in accordance with the consumer price index.

for the importation of green certificates were amended, agreements of this type could no longer be entered into from 1 January 2004.[101] In recent years, robust subsidy schemes for wind power in Europe and the USA have created high demand for wind turbines, and prices have therefore risen. During the past five years, investment costs for wind farm developers have increased by about 50 per cent.[102] The price development for wind power subsidies is shown in Table 10. The table shows that the price per kWh soared between 2005 (0.44 NOK/kWh) and 2008 (1.59 NOK/kWh).

5.2 Activity goal achievement

In cases where performance cannot be uniformly quantified and measured, the agreement between Enova and the Ministry of Petroleum and Energy specifies areas where Enova shall operate. These contractual terms are intended to help Enova to fulfil its goal of promoting an environmentally friendly restructuring of energy consumption and production, and to compensate for the tendency to focus on measurable results. The contractual requirements and the activities implemented by Enova are described below.[103]

5.2.1 Programmes targeting households, municipalities and businesses

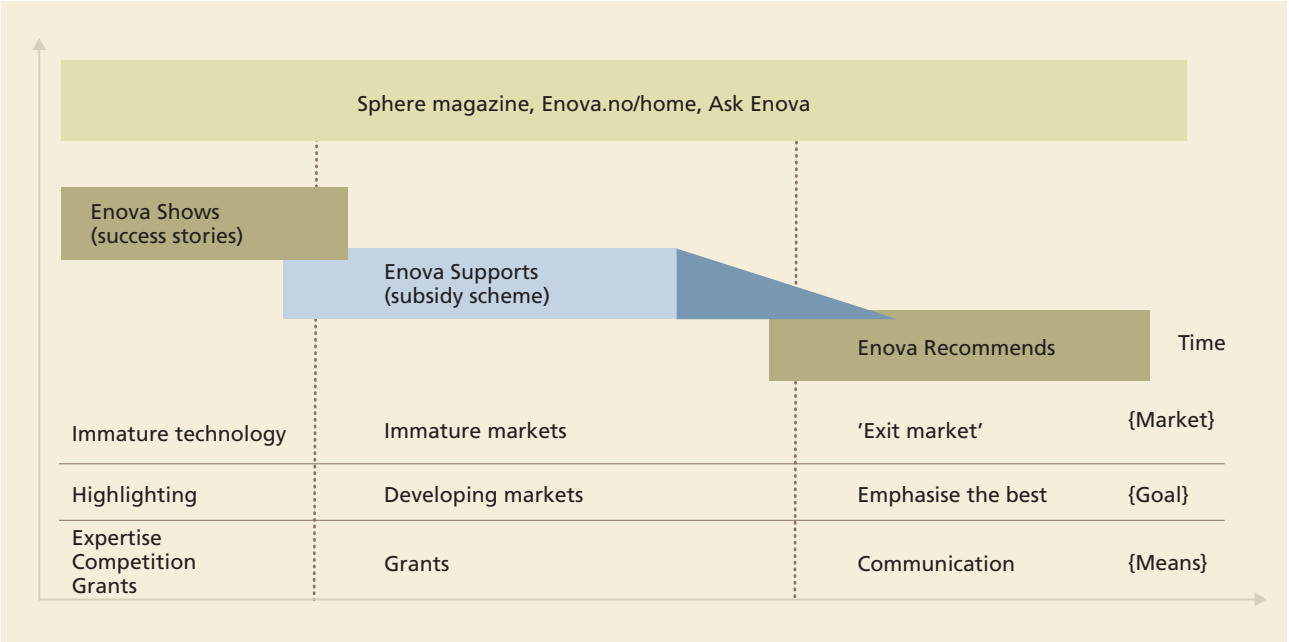
According to the agreement, Enova shall provide a wide range of programmes for households as well as for municipalities and businesses. The requirement for Enova to provide programmes targeting households and businesses was added to the agreement for 2007, and municipalities were added in 2008. However, Enova had operated programmes targeting households and municipalities before they were included in the agreement, based on other assignments that were not part of the agreement. No further goals exist for this activity area.

Households

The goal of Enova's work in the household area is to contribute to more efficient energy consumption by increasing the number of homes with low heating requirements, increasing use of the most energy-efficient technology in households and promoting a change in consumption habits in order to avoid waste of energy.[104] Figure 3 shows the *Enova model*, which has been created by Enova and illustrates the measures it uses to target households.

Enova Shows (success stories) is a collective term for all the good stories/models/examples showing how Enova cooperates with market players, and it

Figure 3 The Enova model



Source: Results and activities report 2008, Enova SF, page 17

101) Results report 2003, Enova SF.
102) Action plan 2009, Enova SF, page 22.
103) Enova meets some of the special conditions by means of programmes that generate energy results. These conditions are discussed in the review of performance target achievement and are therefore omitted here.
104) Results and activities report 2008, Enova SF, page 16.

is a key communication element both in PR and in marketing/profiling. So far, the collective term *Enova Shows (success stories)* has been little used in external communication.[105]

The *Enova Supports* subsidy scheme provides grants for pellet stoves, pellet boilers, air/water heat pumps, liquid/water heat pumps and central control systems. From August 2008, the scheme was expanded to include solar collectors.[106] The scheme was introduced in 2003, when the Storting, in its consideration of Proposition No 42 to the Storting (2002–2003) *Bevilgning til tiltak rettet mot å redusere elforbruket ('Appropriations for measures aimed at reducing electricity consumption'),* charged Enova with managing a scheme for electricity saving in households. Due to the difficult power situation at the time, the scheme was implemented as an immediate measure. A similar scheme for the reduction of electricity consumption was adopted when Proposition No 82 to the Storting (2005–2006) *Tiltak for å begrense elektrisitetsbruken i husholdninger ('Measures aimed at reducing the consumption of electricity by households')* was considered, and it is this decision on which the present subsidy scheme is based. The scheme underpins national energy efficiency goals and promotes a transition to renewable energy solutions in households. It also fills an important function in the development of markets for technologies that can help to reduce energy consumption in households, and contributes to diversity and a wide range of heating solutions for households. In 2008, NOK 71 million was allocated, bringing the total available resources to nearly NOK 100 million when funds transferred from 2007 were added.[107] In future, Enova will consider the subsidy scheme in the context of information-related policy instruments in order to create a uniform approach to the development of markets for renewable technologies and energy efficiency.

A complaint was lodged against the scheme in 2006 with a subsequent evaluation by ESA. A decision in the case was reached on 15 July 2009, and the subsidy scheme was approved.[108]

Enova had set a target of 6,000 payments from the subsidy scheme for 2008. The performance reporting shows that 3,317 of 8,684 applications were granted. Enova explains this deviation by stating that this target was set under the assumption that resources would be allocated from the Energy Fund at the beginning of the year, but that the funds were not actually allocated until the revised national budget was adopted in May 2008.[109] Since the scheme was launched in 2006, 29,878 applications have been registered. The number of households that have received subsidies passed 10,000 in July 2009.[110]

The new *Enova Recommends* programme is designed to promote products with the best energy and climate qualities in a mature market. The first product category to be included in the labelling scheme was windows.

Municipalities

The specification in the agreement for the period 2008–2011 that Enova must offer special programmes for municipalities can be viewed in light of the updating of climate policy, in which the municipalities are to play an important part. Report No 34 to the Storting (2006–2007) *Norwegian Climate Policy* states that approx. 20 per cent of Norwegian greenhouse gas emissions can be linked to municipal policy instruments. Municipalities have policy instruments at their disposal that can help to reduce greenhouse gas emissions by reducing stationary energy consumption and traffic volume, and through waste management and agricultural measures. As part of its climate policy, the Government wants all municipalities in Norway to prepare a climate and energy plan, and in 2007 Enova was charged with developing and organising courses for this. The programme is funded by sources outside the Energy Fund, over chapter 571, item 64 in the national budget (the Ministry of Local Government and Regional Development).

Enova also had policy instruments targeting municipalities before this requirement became part of the agreement. The series of courses called *Energifokus i kommunen (Focus on energy in municipalities)* was developed in 2003. Today, Enova offers guidelines, seminars and financial support for energy and climate planning. Enova's programme for Municipal energy and climate planning is intended to motivate and enable municipalities to contribute to climate-friendly energy restructuring.[111]

105) E-mail of 29 October 2009 from Enova.
106) Results and activities report 2008, Enova SF, page 17.
107) Results and activities report 2008, Enova SF, page 17.
108) EFTA Surveillance Authority Decision on the Norwegian scheme on support for alternative, renewable heating and electricity savings in private households, www.eftasurv.int.
109) Results and activities report 2008, Enova SF, page 35.
110) Tilskuddsordningen har passert utbetaling nummer 10 000 ('The subsidy scheme has made its payment number 10,000'), www.enova.no.
111) Results and activities report 2008, Enova SF, page 15.

Municipalities can apply for support for their planning work in three areas:
- support for the preparation of municipal energy and climate plans
- pre-project support for studies of potential energy efficiency projects and conversion in municipal buildings and facilities
- pre-project support for the assessment of potential heating and infrastructure projects

The target group for this programme comprises municipalities, county administrations, inter-municipal companies and any other municipal or regional interest groups, advisors and consultancy companies. In principle, the grants are one-off subsidies, and it is a requirement on Enova's part that projects that apply have the support of the municipal authorities. Enova emphasises that municipalities should first apply for support for preparing plans before any pre-project support is awarded. Enova hopes that projects from the Municipalities programme will form the basis for decisions to proceed with the projects in Enova's Heating or the Built Environment programme, thereby helping to promote good energy solutions at the local as well as national level.[112]

In connection with the package of crisis measures, Enova has created a new programme aimed at energy efficiency in public buildings. NOK 400 million will be allocated to a programme for the renovation of 650 public buildings.

Four energy and climate planning courses were held in 2007, with a total of 155 participants. At the end of 2008, representatives of 306 municipalities had participated in such courses.[113] Ninety per cent of all applications received by the Municipalities programme in 2007 were for support for the preparation of energy and climate plans. The number of applications doubled in 2008, and Enova received 118 applications, all of which were granted.[114] Enova's goal is for all municipalities to have a municipal energy and climate plan in place by 2010. As of 10 January 2010, 115 municipalities have prepared energy and climate plans, and a further 231 municipalities have decided to prepare such plans. For 85 municipalities, the status is unknown or it has not been decided to prepare a plan.[115] Municipalities have been required to prepare such plans since September 2009.[116] A number of other players are also involved in municipal climate and energy work though projects such as Livskraftige kommuner[117] and Cities of the Future[118].

A list of questions distributed to a sample of Norwegian municipalities that have received subsidies from Enova shows that the municipalities' level of knowledge about energy and climate varies. Municipalities that already had such plans have made more progress in the implementation of measures. The municipalities state that Enova's support is important in starting up planning work. The investigation also shows that a poor financial situation, insufficient knowledge and a lack of dedicated personnel constitute the most important local barriers to energy efficiency in public buildings. The same barriers were pointed out in *Kommunestudien 2004 ('The 2004 municipality study')*.[119] Enova's support scheme is designed to take account of both the lack of knowledge and the financial aspect.

Enova's partners in the Municipalities area were also asked how Enova's Municipalities programme works, to what extent it helps to reach national targets for the reduction of greenhouse gas emissions, and what barriers exist in this field. The Norwegian Association of Local and Regional Authorities (KS) is an important partner in the Municipalities programme. This collaboration began in spring 2007, and a cooperation agreement was entered into in autumn 2008 that will run until 2010.[120] Enova regards the collaboration with KS as a policy instrument in its work in relation to the municipalities.[121] In a letter of 27 May 2009, KS underlines that it is positive that the municipalities can obtain funding both for planning work and for subsequent measures. KS also emphasises that the high number of applications for grants for energy efficiency measures in public buildings received by Enova in spring 2009 highlights the potential for realising

112) www.enova.no.
113) Results and activities report 2008, Enova SF, page 15.
114) Result and activities report 2008, Enova SF, pages 29, Table 3.
115) www.klimakommune.enova.no.
116) Government guidelines of 4 September 2009 for climate and energy planning in municipalities.
117) On 9 November 2006, the Ministry of the Environment and the Norwegian Association of Local and Regional Authorities signed a five-year cooperation agreement in order to strengthen the environmental and social development in municipalities.
118) Cities of the Future is a collaboration between the Norwegian State and the 13 largest cities and towns in Norway aimed at reducing greenhouse gas emissions and making the cities and towns better places to live.
119) *Kommunestudien 2004 ('The 2004 municipality study')*. Nettkonsult AS.
120) Letter of 27 May 2009 from KS to the Office of the Auditor General. The Office of the Auditor General's investigation of Enova SF – submission of list of questions.
121) Action plan 2008, Enova SF, page 25, and Action plan 2009, Enova SF, page 15.

more measures if the financial framework is expanded.

The State Housing Bank points out that an even more coordinated approach to municipalities would be useful in strengthening systematic planning work relating to the environment.[122] Feedback also shows that several partners see it as a weakness in the Municipalities programme that support after completion of the planning work is limited to stationary energy and does not apply to the other policy areas in the energy and climate plan. This prioritisation is in line with Enova's area of responsibility, but may be a problem in municipal energy and climate work. The Norwegian Pollution Control Authority states in its letter of 29 March 2009 that, for most municipalities, stationary energy consumption is a minor source of greenhouse gas emissions. Stationary energy consumption accounts for approx. two per cent of total greenhouse gas emissions in Norway. KS points out a similar lack of policy instruments aimed at other policy areas than stationary energy consumption.[123]

Enova's own risk assessment points out that there is a high risk that municipalities will lack incentives to proceed from plan to action. Measures intended to reduce this risk are quality assurance of plans and pre-project studies.

5.2.2 Nationwide information and consultancy services

The agreement stipulates that resources from the fund shall be used to finance a range of nationwide information and consultancy services that underpin and facilitate the achievement of the fund's goals both in the long and the short term. These services must be available to anyone who wants and needs advice about energy consumption and energy saving. Enova has had responsibility for this function since 2002. The agreement for 2007 was the first to require Enova to set activity goals for this area and report on goal achievement.[124]

The information and consultancy service comprises the Ask Enova helpline, participation in trade fairs, mass communication via newspapers and the specialist press and broadcast media, and activities targeting children and young people.

Enova's communication activities are intended to underpin its energy efforts. They include marketing Enova in strategic forums, media profiling of Enova as a facilitator and resource, continuous development of the web portal and market efforts to increase energy awareness among professional players. The focus is on Enova's core areas, and the aim is to attract more attention and increase the number of applications for Enova's range of programmes.[125]

The goal of the nationwide information and consultancy services is to provide energy advice to the population in an economically efficient manner. Measuring the impact of the information effort is a challenge. Enova has developed and follows up various measurement parameters, and carries out regular surveys to map customer satisfaction, knowledge/awareness etc.

Helpline/Ask Enova

Enova set up its helpline for energy-related questions from households in January 2003, replacing the energy efficiency centres' helplines. The helpline can be reached on a toll-free telephone number. It also has a five-digit telephone number for professional users seeking advice about Enova's energy programmes.[126] The helpline is operated by an external party. Enova states in its 2005 results report that, in addition to answering questions from households and professional users, the helpline has helped to increase the numbers enrolling for events, taken orders for Rainmakers materials[127] and mapped interest in the various programme areas. When Enova reviewed its 'brands' in 2008, the helpline service was given the name *Ask Enova*.

Table 11 shows the development of various measurement parameters for this field, including the number of enquiries to/from Ask Enova.

Table 11 shows that 55,500 enquiries were received by the helpline in 2003, and that there was a marked decrease in 2004 compared with the preceding year. This was mainly due to a fall in the number of enquiries about the subsidy scheme for electricity savings measures in households compared with 2003.[128] In 2008, Ask

122) Letter of 25 May 2008 from the State Housing Bank to Enova SF. The Office of the Auditor General's investigation of Enova SF – list of questions. Statement from the State Housing Bank.
123) Letter of 29 May 2009 from KS to the Office of the Auditor General. The Office of the Auditor General's investigation of Enova SF – submission of list of questions.
124) Agreement between the Ministry of Petroleum and Energy and Enova SF, 2007, article 7.
125) Results report 2003, Enova SF.
126) Results report 2003, Enova SF.
127) Cf. the section about children and young people.
128) Results report 2004, Enova SF.

Table 11 Activities trends[130]

Activity	2003	2004	2005	2006	2007	2008
Number of enquiries to/from Enova's helpline	55 500	35 000	22 000	33 000	26 635	28 578
Campaigns	3	4	4	4	4	3
Number of media stories about Enova	n/a	675	657	2 463	2 971	2 815
Number of visitors to trade fairs	40 000	250 000	250 000	160 000	250 000	170 374
Materials distributed (excl. The Rainmakers)	n/a	124 000	137 156	262 000	218 410	149 026

Enova received 28,278 enquiries, compared with a target figure of 40,000. According to Enova, there are several explanations for this, the main ones being less focus on energy efficiency solutions due to electricity prices being lower than expected throughout the year and a fall in house sales in the second half of 2008.[129] The target for 2009 is once again 40,000 enquiries.

Enova carries out regular surveys among users of the helpline in order to estimate the effect of the measures. Private individuals and representatives of professional users are interviewed. The results from the 2007 survey show that the private customer group is generally satisfied with the helpline service, and this trend is very stable. For the professional users, on the other hand, the trend is consistently negative, and overall satisfaction is decreasing. The expertise and the attitude of the consultants are deemed the most critical customer satisfaction factors by private and professional users, respectively. The survey shows that Ask Enova's greatest challenge is specific expertise relating to individual projects and enquiries. Seven and eight per cent of private and professional users, respectively, stated that their contact with Ask Enova was a deciding factor in their implementation of energy saving measures. Among private users, decisions to install heat pumps are particularly influenced by contact with the helpline, while the situation is more complex for professional users.[131]

Children and young people

In 2003, Enova developed a national strategy for children and young people aged 6–15. *The Rainmakers* concept was created and launched in connection with this. It is intended to involve and engage the interest of children and young people. It has activities on Enova's and other websites, on TV (for example in the form of stories in the children's programme Pysjpopbaluba and the reality series Energikampen), in schools, on national energy day and in national experience centres. Opinion polls show that awareness of The Rainmakers among children aged 9–12 increased from 46 per cent in 2007 to 55 per cent in 2008.[132]

5.2.3 Consultancy and representation in international forums

The agreement stipulates that Enova shall be an advisor to the Ministry of Petroleum and Energy in its own field and represent the Ministry of Petroleum and Energy in international forums. This requirement has been part of the agreement since Enova was established.

Advisory role

Some information about Enova's advisory role in relation to the Ministry of Petroleum and Energy is provided in the enterprise's annual results and activities reports. In these reports, Enova states that it acts as an advisor to the Ministry in connection with many consultation procedures and reports, and that it provides answers and clarification in response to concrete enquiries from the Ministry. Examples of Enova's advisory role include a report submitted to the Ministry of Petroleum and Energy in February 2004 on the EU Directive on the Energy Performance of Buildings and consultation submissions written by Enova in connection with Norwegian Official Reports, draft legislation, directives etc. In the annex to the annual results report, an overview is provided of cases in which Enova has made consultation statements, and reports and studies carried out or commissioned by Enova.

International work

As part of its international activities assignment, Enova manages several international commitments on behalf of the Ministry of Petroleum and Energy. The expertise and knowledge acquired by Enova in international forums are used to shape domestic energy policy, while international

129) Results and activities report 2008, Enova SF, page 35.
130) The figures are taken from Enova's results and activities reports for the period 2003 to 2008.
131) Survey about Ask Enova, TNS Gallup, 2007.
132) Results and activities report 2008, Enova SF, page 18.

participation also provides an opportunity to influence and improve European and global energy policies.

In the international context, Enova's activities include being Norway's representative in the International Energy Agency, national contact for the EU programme Intelligent Energy-Europe II and a member of the European Energy Network.[133]

5.2.4 External contact and coordination

Enova shall have regular contact and coordinate its activities with other authorities that administer policy instruments with a bearing on energy restructuring.[134] This is related to the organisational form envisaged for Enova, which involves extensive use of external resources rather than developing into an executive organisation itself.[135]

Enova engages in extensive and diverse cooperation with a large number of players, and it has signed cooperation agreement of various kinds with many of the major players. The agreements vary greatly, and Enova has not set any fixed criteria for them.

In its evaluation of Enova in 2006, Statskonsult pointed out that Enova is not sufficiently willing to treat other players in the market as partners. Among other things, Statskonsult points out that Enova's involvement of external players in work on its strategies has hitherto been limited. However, Enova has extensive contact with its users and various industry and trade organisations in connection with its work on programmes and activities. In Statskonsult's opinion, it would be in Enova's interest to have broader and more systematic contact with its users, industry and trade organisations and environmental organisations. This could have a number of positive effects, including increasing Enova's influence and, in the long term, improving the possibility of consistent use of policy instruments, and giving Enova access to a range of points of view that will be useful to development of its activities.[136]

Enova's overall action plan for 2009 emphasises that its communication work shall contribute to making Enova use-oriented. It is pointed out that alliances and cooperation with market players will be crucial if Enova is to achieve its goals and make an effective contribution to long-term environmentally friendly energy restructuring. By cooperating with market players, Enova hopes to achieve a clear profile and systematic contact with different user groups and the general public.

In connection with Enova's overall action plan for 2007, it was emphasised that Enova was to develop and initiate a network plan in 2007 that would facilitate optimal identification of and communication with most important stakeholders.[137] The overall action plan for 2009 shows that, for a number of different reasons, this work stopped in 2008, but it will be a high-priority strategic task in 2009. It is emphasised that Enova will further develop its network plan in 2009.[138]

As mentioned above, Enova has entered into a number of cooperation agreements with various market participants. A review of these agreements reveals that their design and scope varies greatly. This is also the impression of a sample of partners that have received a list of questions about their cooperation with Enova. The partners' responses reveal that all of them do not have formal cooperation agreements, and that most of the cooperation takes place at executive officer level. Some of the partners have also established annual meetings at senior management level. Although the cooperation agreements differ in design and scope, the general consensus is that the cooperation is satisfactory. Nonetheless, some of the partners would like more extensive cooperation, with more areas being included.

In this investigation, the partners were also asked whether, in their opinion, the cooperation with Enova helps to meet the TWh performance targets set for Enova. Although some of the partners found it difficult to answer this question, the general feedback is that the cooperation does make a certain positive contribution to Enova's efforts to reach its TWh targets.

133) www.enova.no.
134) Agreement between the Ministry of Petroleum and Energy and Enova SF for the period from 1 June 2008 to 31 December 2011, article 7.
135) Proposition No 35 to the Odelsting (2000–2001), page 23.
136) *Evaluering av Enova SF og Energifondet ('Evaluation of Enova SF and the Energy Fund')*. Statskonsult 2006.
137) Strategy for 2007 →, Enova SF, page 28.
138) Action plan 2009, Enova SF, page 38.

6 Efficiency of Enova's administration of grants

Enova follows projects from concept to completion. Figure 4 shows Enova's most important tasks and milestones in the application and project implementation process. The light blue boxes represent parts of the process where the executive officer has an important function. The dark blue box shows the step where the applicant completes and submits an electronic project application. The brown boxes represent important decision points.

Sections 6.1–6.7 provide a more detailed explanation of the procedures and work processes applied at each stage of the process.

6.1 Market creation activities

At the time of its formation, it was emphasised that Enova was to be a small organisation, with market proximity and few employees.[139] Market proximity is interpreted as meaning that Enova shall stimulate the market and work actively to encourage individual enterprises to create projects. In Enova, market proximity is an all-pervading quality that is crucial to the promotion of long-term environmentally friendly energy restructuring. However, finding clear measurement parameters for the long-term market impact of Enova's activities is not easy. Assessment of the market impact of Enova's activities requires extensive use of qualitative assessments and general evaluations.[140]

The executive officers have primary responsibility for market creation activities. In addition, external Project Coordinators are in contact with a number of potential applicants, which gives them a role in market-related work. The executive officers are expected to work proactively and reach out to relevant parties, pointing out project opportunities and providing guidance in the application process. Enova's course and trade fair activities and other information services are also intended to increase the scope of potential projects. A distinction can be made between activities that target potential grant recipients directly and activities aimed at the energy industry in general.

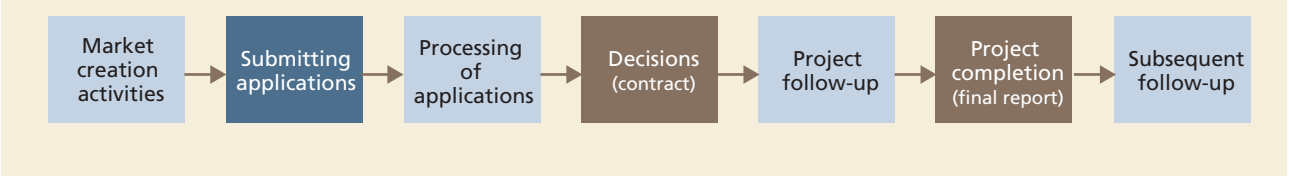
It is clear from interviews with the former chair and the deputy chair that Enova's board of directors has attached great importance to market orientation. These interviewees state that, in their opinion, Enova used to be good at market creation, but work in this area has deteriorated in recent years. The former chair of the board states that the board sees a distinction between the case processing role and the market creator role, both in terms of expertise and culture. There also seems to be a tendency towards fewer market creators and more executive officers. The board has strongly emphasised market orientation when prioritising resources and recruiting new staff.

The Ministry of Petroleum and Energy refers in an interview to Enova's role as a driving force, which means, among other things, that the enterprise is expected to seek out and develop projects, and that the owner has given and continues to emphasise market proximity.

6.1.1 Strategic priorities

In the areas of Industry and the Built Environment, Enova has chosen in its planning documents and programme designs to give priority to large rather than small projects. In the area of district heating, too, developments have primarily been driven by

Figure 4 From application to project completion



139) Recommendation No 59 to the Odelsting (2000–2001), page 2.
140) Proposition No 1 to the Storting, the Ministry of Petroleum and Energy (2008–2009).

large and established players. This prioritisation of large players is mainly due to an expectation that they will set the standard and influence the market. In the Industry area, this prioritisation has also been explained by the fact that 120 industrial enterprises account for about 85 per cent of the total consumption of approximately 80 TWh.[141] According to Enova's overall action plan for 2009, at least four major industrial projects will be necessary to achieve the energy target. Work on this type of contract requires active sales efforts and follow-up. According to the 2009 action plan for the Department of Energy Efficiency, the need to connect with large players in the Built Environment area is reinforced by general economic trends and the fact that the demand side of the market is fragmented. This area mainly consists of small enterprises, and this makes it difficult for Enova to achieve contact with the industry. In Enova's opinion, there is a need for close cooperation with the industry, but the risk of conflicts of interest rules out the option of working closely with potential grant recipients.

As part of its long-term strategy, Enova will work to develop the range of services it offers to the mass market in the Industry area, for example by introducing short-term standardised support schemes. This strategy involves less contact between the applicants and Enova prior to the submission of applications.[142] A new programme was also created in the Heating area in 2008: the Local heating plants programme targeting smaller enterprises. This programme is implemented as a simplified investment support scheme with continuous submission and processing of applications. There are plans to prioritise marketing work in connection with the Local heating plants programme in 2009 in order to trigger the programme's potential.[143]

6.1.2 Empirical observations from the market creation role

Enova's good contact with large users is confirmed in interviews with both the Norwegian Electricity Industry Association and the Federation of Norwegian Industries. These organisations also believe that Enova faces a challenge with regard to smaller users. This applies especially to the Built Environment area, as is confirmed in interviews with the trade organisations in the area. The building and construction industry consists of many small enterprises, but cooperation with these players has not been successful.[144] The Norwegian Bioenergy Association (NoBio) is of the opinion that Enova has also focused on the big projects in the field of bioenergy. The organisation also claims that Enova needs to focus more on smaller projects in future if it is to achieve its energy restructuring goal.[145] The Norwegian District Heating Association states that it feels that Enova has spent time endeavouring to get to know the sector, and that it has succeeded in this effort.

It emerges from interviews with the trade organisations that smaller players often lack knowledge and capacity and therefore need to spend a lot of money on consultants in order to apply for support. The application process involves so much red tape that is often not financially worthwhile. Some of the written feedback from the questionnaire survey supports this view. Enova is aware of this problem and has developed some standardised schemes that require less comprehensive documentation, for example for the Local heating plants programme. This type of support scheme is as yet not available in other industries.

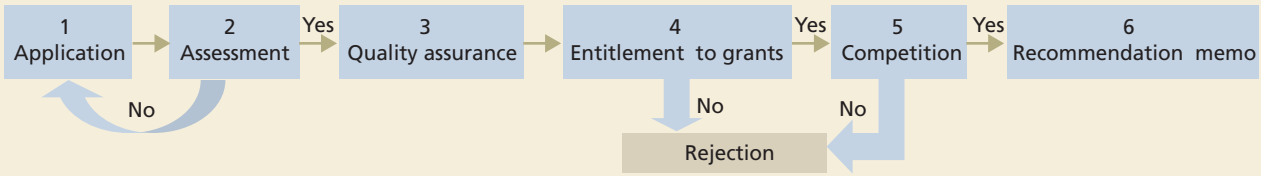
Enova's role as a driving force has been examined in the questionnaire survey, which includes questions about whether the grant recipients had any contact with Enova prior to submitting their application, and which party took the initiative for such contact. It emerges that almost 90 per cent of the respondents were in touch with a Programme Coordinator and/or the Ask Enova helpline during the application process (N = 305). Ninety per cent of these respondents state that they took the initiative to contact Enova (N = 270). It also emerges that 29 per cent of the respondents agree either partly or completely that Enova is a driving force for project initiation, while 48 per cent disagree with this statement (N = 282).

6.2 Submitting applications

All applications are submitted electronically via Enova's online application centre. Typical requirements for the content of an application are the goal of the project (including quantified energy results and any ripple effects), a progress schedule with milestones, a cost overview with profitability assessment, financing plan and organisation.

141) Strategy document 2005–2010, Enova SF.
142) Action plan 2009, Enova SF, page 7.
143) Action plan 2009, Enova SF, page 25.
144) Boligprodusentenes forening (Norwegian Homebuilder Association), The Environmental Secretariat for the Norwegian Building Industry, Byggemiljø and the Federation of Norwegian Construction Industries.
145) Interview of 4 March 2009 with the Norwegian Bioenergy Association (NoBio).

Figure 5 Processing of applications in Enova. From submission of application to recommendation memo[147]



The Ask Enova helpline provides free advice on energy and energy use to both private households and businesses. This service provides potential applicants with first-line guidance, including clarification of the absolute and the discretionary criteria, and the requirements for completion of the application form.

The survey shows that grant recipients generally consider the information about programmes, criteria and measures to be good. Slightly more than 80 per cent of the respondents (N = 305) stated that it was easy to understand which programme suited their project. The criteria for being awarded support are seen as rather less clear. Seventy per cent of the respondents replied that the criteria were clearly set out on Enova's website (N = 295).

6.3 Processing of applications

Figure 5 shows the steps in Enova's processing of applications. The applications are assessed in several rounds – against different types of criteria and then against each other. Enova's executive officer and/or Programme Coordinator is active in this process.[146]

Applications with pertaining attachments are transferred from Enova's online application centre to the archive and from there to the electronic case processing system, ERS. The process is partially automated. Case processing is done in ERS and concluded with a recommendation report which forms part of the decision-making basis for the decision makers in Enova. ERS also has a contract generating module that generates letters of allocation and rejection. In addition, ERS is used for performance reporting and preparing /approving disbursements, and is linked to the financial management system.

The District heating – infrastructure programme is implemented as a tender scheme for the purchase of services of public financial interest. The competitive tender procedure is announced via the Doffin national database for public procurements.

6.3.1 Guidelines for the processing of applications

The processing of applications shall be uniform, transparent and reliable.[148] The case processing must also be verifiable. This is made clear in the grant allocation manual. This manual, along with the investment manual and an investment application, comprise Enova's *common reference framework*.

The investment manual provides a methodological basis for the present value principle, calculation of the internal rate of return, accounting technicalities, calculation of profitability and return on investment, and the relationship to risk and uncertainty. It discusses input in connection with present value calculations, requirements for return on investment and the external framework for investment support.[149]

Interview data show that the investment manual was intended as a reference manual and is used as such. No documentation has been forthcoming to show that the grant allocation manual is in active use. This manual states that the most important resource in case processing is the individual executive officer's expertise. The executive officer shall use his or her professional expertise and knowledge of the market to evaluate prices, lifetimes, the applicant's qualifications and other relevant information in the individual projects. Employees who have worked for a long time on

146) The Programme Coordinator shall act as an executive officer for Enova and receive offers, evaluate them and submit a recommendation. The Programme Coordinator is also responsible for following up projects, which means ongoing contact with the grant recipients. The Programme Coordinator has no decision-making powers.

147) The figure has been prepared on the basis of the figure and presentation provided in a letter of 22 December 2008 from Enova SF to the Office of the Auditor General: 'Method for determining energy results.'

148) Grant allocation manual for Enova SF.

149) Investment manual, Enova SF, 2006.

grant cases have accumulated experience in recognising good projects and good applications.[150]

In its risk analysis for 2009, Enova identified a lack of system documentation and procedures as risk areas. The lack of system documentation makes Enova dependent on the knowledge and expertise of individuals. In view of this, work has been initiated to update system documentation and procedures.[151]

6.3.2 Assessment of applications

In the executive officer's initial review, he/she assesses the application against fixed minimum criteria, i.e. deciding whether or not the projects fall within the scope of the programme. The purpose of having minimum criteria is to ensure that the programmes are targeted. Examples of such criteria are requirements relating to technology or volume, and formal requirements (such as a legal licence). Another reason for minimum criteria is to make the projects within a programme more homogeneous, thereby making it easier to evaluate their quality.[152]

6.3.3 Quality assurance

The executive officer's quality assurance of the applications is the main component of application processing. This process involves assessing the application against the stipulated assessment criteria.[153] Typical assessment criteria are technical solution, the project's need for support, and implementation capacity. The latter includes expertise, ownership and funding.[154]

Depending on a project's size and how well documented it is, there may be several clarification rounds between the applicant and the executive officer. In some cases, the quality assurance process will also include meetings with the applicant.[155]

In principle, quality assurance will take place in three steps:

- Firstly, the submitted documentation is assessed on the basis of technical description, market basis (where relevant) and energy targets
- It is then assessed whether the project applies new technology or uses existing technology in a new way
- The third and final assessment is against the other criteria: cost-effectiveness and implementation capacity, project plan and project economy.

Assessments of finances and implementation capacity

Since 2005, project finances have been assessed using an investment application. The investment application is a grant calculation tool and was renewed in 2009. The review of case files shows that printouts from the investment analysis are filed with the cases in the archive.

It is stated in a letter from Enova to the Norwegian Wind Energy Association (Norwea) that Enova wishes to put more emphasis on funding and implementation capacity in Renewable Energy in 2009, but that it will not make discretionary assessments of individual enterprises' implementation capacity over and above an assessment of its financial situation.[156] In the second application round in 2009, the criteria were changed to allow the developer's implementation capacity in relation to previous projects and grant commitments to be taken into consideration.[157]

Applications in the New Technology area are subject to a more extensive assessment of implementation capacity. This assessment is done by checking the enterprise in the Ravninfo enterprise information database, and by the executive officer evaluating the enterprise's ownership structure and financial situation. The executive officer also assesses the composition of the project team/consortium, i.e. the participation of complementary players on the supply side, academic environment or the supplier and client relationship with regard to delivery of technology. Finally the enterprise's financial strength is assessed.

The area manager for New Technology believes that implementation capacity needs to be checked more thoroughly in this programme than in the other programmes. Many of the applicants in this area are newly established enterprises whose financial position may be unstable. Enova therefore spends time investigating enterprises' liquidity and expertise, and asks questions about the funding and implementation capacity. During its case processing, Enova expects to receive the same documentation and information as is submitted to the board of directors of an enterprise. A recurring

150) Interview with the area manager for the Built Environment, 19. January 2009.
151) Risk report for the third quarter of 2009 for Enova, overall level, Enova SF.
152) Presentation from Enova sent on 7 January 2009.
153) Letter of 22 December 2008 from Enova to the Office of the Auditor General.
154) Presentation from Enova sent on 7 January 2009.
155) Letter of 22 December 2008 from Enova to the Office of the Auditor General. Method for determining energy results.
156) Letter of 28 January 2009 from Enova to Norwea – the Norwegian Wind Energy Association.
157) Application criteria for the Wind power programme, second application round 2009.

problem with the projects is that the applicant has often not cleared the project high enough up in the organisation.

Changes to projects
The application process is dynamic, and it is not unusual for the applicant to make changes to the application/ project under way. Results from the questionnaire survey confirm this. Thirty-six per cent of the respondents state that they made major or some changes to the project during the application phase. It also emerges that just over half (52.4 per cent) of the changes were due to changes in prices or financial assumptions. Almost 20 per cent of the changes were made because the project was either too profitable (10.5 per cent) or not profitable enough (8.6 per cent). One example from 2005 shows that contact and negotiations with the applicant led to the amount applied for in order to realise the project being reduced, in several rounds, from NOK 800,000 to NOK 500,000. The sum gave an internal rate of return of 6.7 per cent.

An example from the New Technology case file review shows that contact between Enova and the project after the application had been submitted led to the applicant specifying the project in greater detail. This example also shows that this specification increased the need for support by 21 per cent.

In one of the applications in the Wind power programme in 2008, the costs increased by slightly over eleven per cent from the date of its submission until it was processed by Enova. The changes were due to exchange rate fluctuations and increased risk in relation to turbine costs. In the same example, the expected production increased by six per cent as a result of new wind measurements, while maintenance costs also increased somewhat. The changes were made on the applicant's initiative.

Contact during the quality assurance phase may also result in applications being withdrawn. It was stated in an interview that this often happens in the New Technology area.[158]

6.3.4 Entitlement to grants and triggering effect

Figure 5 also shows that the executive officer shall assess whether the project is entitled to a grant. The framework provided in the EU's State Aid rules applies here. In the case of energy production projects, ESA's approval of the programmes allows support to be given until '...the project achieves a reasonable rate of return'. Enova bases its calculation of the rate of return in different sectors and industries on Statistics Norway's data for Norwegian enterprises, and a risk assessment by a third party. Enova uses the projects' internal rate of return to calculate the return.[159] Enova has obtained an external assessment of what is a reasonable return requirement in the case of renewable energy.[160]

The requirement that grants shall be *triggering* means that Enova is allowed to contribute an amount that will trigger the implementation of a project which, for financial or other reasons, would not otherwise have been implemented. This means that support for measures that are financially profitable, but would not have been carried out because of other factors (for example lack of knowledge) is also deemed to be triggering. The correct amount of support will trigger a project but not overcompensate. The size of the grant is calculated on the basis of a future cash flow that results in a present value of zero. Enova's investment application is used to make this calculation.

The former chair of the board states in an interview that it is hard to assess how much support is needed to trigger individual projects. This applies to energy saving in particular. Enova calculates the triggering amounts in consultation with the clients, and it forms part of the project preparation. Enova also deems its support to be triggering if it moves a project forward or causes an increase in scope that would not otherwise have taken place.[161] The chair states that there has been a great deal of focus on clarifying triggering levels of support, and that these levels decide how much money will be allocated to individual projects. It is also pointed out in Proposition no 69 (2006–2007) to the Storting *Tilleggsbevilgninger og omprioriteringer i statsbudsjettet 2007 ('Supplementary allocations and reordering of priorities for the national budget 2009')*, in the summary of Statskonsult's evaluation, that the triggering effect principle is a demanding premise for Enova's work.

In the case of projects concerned with energy consumption, several of the programmes allow applications for grants for portfolio projects, i.e.

158) Interview with the area manager for New Technology, 19. January 2009.

159) Investment manual 2006, Enova SF, page 34.

160) Ole Gjølberg (Norwegian University of Life Sciences) and Thore Johnsen (Norwegian School of Economics and Business Administration), 2007.

161) Action plan 2008, Enova SF.

projects made up of several smaller projects or measures. In these cases, the overall profitability of all the measures combined will decide whether the project is entitled to support, and support will only be given to the measures that are entitled to it.

The review of Enova's case files identified one concrete example where Enova was of the opinion that the support would only trigger some parts of the project, but the whole project was included in the energy result. In the example in question, support from the Energy Fund was deemed to be triggering for three out of eight measures. It was assumed that the remaining five measures would be implemented, and they were included in the total energy result. The project, which is in the Industry area, was considered by the board in 2008 and received grants of several tens of millions of kroner. The project was to a great extent driven by Enova.[162]

The Ministry of Petroleum and Energy stresses in its comments on the report that it is not familiar with that specific project. The Ministry does, however, emphasise that in principle, financial support is only one of several policy instruments at Enova's disposal for triggering good projects. If it is the case that Enova, through being a driving force and providing information and advice, has helped to trigger a project that would otherwise not have been implemented, and this can be documented, the Ministry considers it reasonable, on a general basis, to include the energy result.

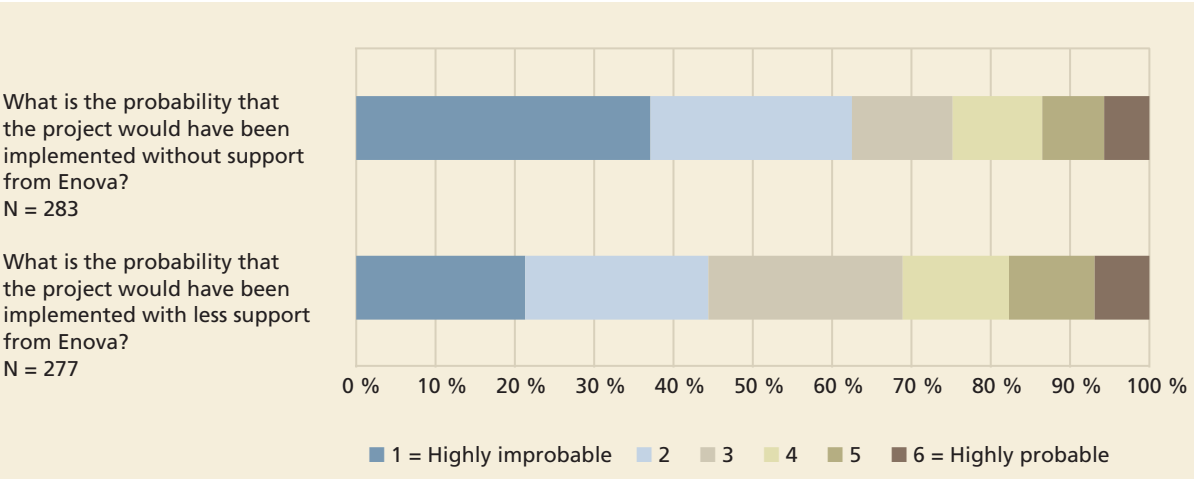
To check whether extensive agreements with contractors can lead to more support being granted than stated in the ESA notification, Enova reviewed major agreements in the Built Environment area in 2009. Enova has also signed a framework agreement with legal experts.[163]

Calculations of input values, i.e. the costs and energy prices entered in the investment application, are important elements in the assessment of the triggering effect of the support. Different input values will produce greatly differing results when it comes to whether or not the project is entitled to support, and deciding the level of support required to produce a triggering effect. A thorough evaluation is made of all data in the cash flow analysis, and a comparison is made with other applications, either directly or using unit prices.[164] In order to obtain comparable input values in the applications, the programme texts of the Energy Production programmes stipulate which energy price is to be used as the basis for calculations.

In its risk analyses for Renewable Energy, Enova has identified a risk that comprehensive and close dialogue with individual players may result in executive officers helping applicants to tailor their applications. To counteract this, efforts are being made to develop criteria with less scope for discretionary assessment.[165] No similar risk has been identified for the Energy Efficiency area.

Figure 6 shows that about 25 per cent of the respondents consider it probable (4 to 6 on the

Figure 6 The triggering effect of support



162) This is shown in the recommendation memo for the case in question.

163) Risk report for the second quarter of 2009 for Enova, overall level, Enova SF.

164) Letter of 22 December 2008 from Enova to the Office of the Auditor General. Method for determining energy results.

165) Risk report for the second quarter 2009, Department of Energy Production.

scale) that they would have implemented the project without support from Enova. In the Built Environment area, the percentage is 37, while in the Heating area it is nine. About six per cent of the respondents state that it is highly probable that they would have implemented the project without support from Enova. Approximately 30 per cent of the respondents replied that it is probable that they would have implemented the projects with less support. In the Built Environment area, the percentage was 41, and for the Heating area it was 14.

The questionnaire survey also revealed that the recipients of grants see the triggering effect criterion as central. On a scale of 1 to 6, the criterion had an average score of 4.5. Only the *aggregate energy result* criterion is perceived as more important by the grant recipients.

6.3.5 The competition criterion

The competition criterion means that the projects that can deliver the highest energy result in relation to the amount received will be allocated grants. This criterion applies to most, but not all, of Enova's programmes. In the Heating area, it applies to the programmes Biogas production, District heating – infrastructure and District heating – new. In these programme areas, the projects compete against each other, against simultaneous projects or against reference projects.

The area manager for New Technology states that, in most years, the framework has been extensive enough to permit grants to be awarded to all projects that meet the requirements set out in the programme text. In 2009, however, the applications are competing against each other. The programme texts contain priorities that can be used in a competition situation. For example, in the field of marine power production, priority is given to projects where the total market base in Norway indicates a substantial contribution to strengthening long-term energy restructuring, and where the demonstration provided by the project is likely to increase knowledge and lower barriers for establishing new facilities. In addition, priority is given to projects that target marine wind and wave power, and projects in which both technology developers and end users participate. In this programme, however, the energy result in relation to the amount invested is not the deciding criterion.

In 2008, Enova decided to use as little discretionary assessments as possible in the Wind power area and instead allocate grants to the applications that met the criteria. Allocations thereafter were made on the basis of the competition criterion. The competition criterion was further strengthened in Enova's Wind power programme in 2009, because Enova's risk assessments show that increased competition may encourage the applicants to underbid each other in the competition for grants. This may result in the grant not having a triggering effect, because the projects are never implemented.[166] A risk of breach of the ESA notification through inaccurate calculation of grant amounts or allocation of grants to projects on the basis of other criteria that cost-effectiveness has also been identified. To counteract this, a new investment application has been implemented, and work is ongoing to improve control procedures.[167]

The competition criterion also applies to the programme areas Industry and the Built Environment (including measures in public buildings in 2009).[168] In the Municipalities programme, support is given in all cases where the programme criteria are met. This is connected to the goal of ensuring that all municipalities have an energy and climate plan.

The competition criterion does not apply to the Local heating plants programme. The plan for 2009 states that the programme will be weakened if there are not enough funds to give grants to all applicants who meet the criteria. There is deemed to be little risk of that.[169]

6.3.6 Recommendation memo

The case processing culminates in a recommendation memo, which recommends either granting or rejecting the application. The memo provides a short description of the applicant and case information of an administrative nature. It also includes the executive officer's evaluation of e.g. the internal rate of return with and without support, the progress schedule, implementation period, energy price, any ripple effects and environmental benefits, and the position in relation to rules for state aid. In addition, it describes expected deliveries of energy and the cost per kWh, the amount of support recommended, the amount applied for, total project costs and special project conditions. In cases where it is recommended that a grant be awarded,

166) Risk report or the first quarter 2009, Department of Energy Production, Enova SF.
167) Risk report for the second quarter 2009, Department of Energy Production, Renewable Energy, Enova SF.
168) This is a crisis package measure.
169) Action plan 2009, Enova SF, page 27.

the recommendation memo also includes a draft allocation letter.

The recommendation memo also contains comments on Enova's case processing, for example on sell-in (market creating effect), further information on economy and financing, energy results, other relevant case information, cost allocation in the projects and information about the applicant.

The recommendation memo is one of the main written elements in application processing. All decisions made require a recommendation memo. The review of concrete cases shows that the recommendation memos include the required components.

6.4 Decisions

When the case officer has finalised his or her processing of an application, the substance of the application is examined in accordance with Enova's fixed decision-making structure. Depending on the size of the allocation, either the standing committee on approval of applications (BU), the managing director /management team or the board makes the final decision to accept or reject the application. The decision is made on the basis of the executive officer's recommendation memo, and the application and investment analysis.

When the decision-making basis is complete, all cases are sent to the BU for quality assurance. This committee also decides all cases where the executive officer has recommended rejection. It was set up in 2007 to address the expected increase in the number of cases. The aim was to spread the workload, while at the same time ensuring adequate efficiency and quality in case processing. The committee helps to ensure more equal processing between projects and programme areas. It must keep a record of its decisions, and this record is to be submitted on an ongoing basis to the managing director and the management group.

The BU processes and makes decisions regarding grants of up to NOK 5 million. In cases concerning grants between NOK 5 and 20 million, the committee must prepare a recommendation for the management team, which will process the application. Cases involving matters of principle and cases which do not clearly fall within the scope of the programme text, must always be processed by the full management team. Recommendations for additional grants must also be processed by the management team if the previous grants and additional grants in total exceed the authorisation limit.[170]

In cases involving an allocation of more than NOK 20 million, the management team must prepare a recommendation for the board of directors for a final substantive discussion. The former chair of the board stated in an interview that the board considers the individual cases and signals whether it considers projects good or bad. The board also considers the methods of analysis, the assumptions on which analyses are based and the reporting and evaluation of results.

As already mentioned, a draft allocation letter is generated by the case processing system. In addition to formalities such as the name of the recipient and the amount granted, this letter also includes the terms of the grant, the project description, budget and financing plan, and milestones and reporting requirements. The allocation letter must be signed and returned to Enova by the grant recipient. Signed contracts and allocation letters shall be submitted immediately to the Department of Finance and Administration. Original contracts and allocation letters are filed with each case.[171]

Ernst & Young has reviewed Enova's results and activities reports on several occasions.[172] The review of the 2006 and 2007 reports included an examination of Enova's work and procedures in connection with grant allocation. Ernst & Young found several projects in which the allocation letter had not been signed, despite the fact that a long time had elapsed since the projects had been approved. In the opinion of Ernst & Young, the review gives clear indications that projects are often cancelled if a long time elapses after the allocation of a grant without the contract being signed. The review by Ernst & Young reveals a lack of adequate procedures for following up contractual parties to ensure that allocation letters are signed within a reasonable period of time after the project has been granted support, and for

170) New authorisation of the managing director, Enova SF, 2009.
171) Procedure manual for administrative procedures, annex 2 Financial management, 2007, Enova SF.
172) The results reports for 2002 and 2003 were evaluated in 2004, the results reports for 2004 and 2005 were evaluated in 2006, while the evaluation report for the results and activities reports for 2006 and 2007 was completed in January 2009. The results reports are evaluated in relation to the requirements stipulated in the agreement between Enova and the Ministry of Petroleum and Energy.

reviewing projects lacking a signature when preparing the results and activities reports.

6.5 Project follow-up[173]

Once a project has received a commitment for support, the project process shall follow an approved plan. Throughout the whole project period, the recipient of the grant must send approved progress and accounting reports to Enova as specified in the allocation letter. Reports are required at least twice per calendar year and must contain an overview of the total grant, the accumulated costs and activities on the reporting date, the remaining costs and activities in relation to the allocation, a forecast of remaining costs, a progress schedule for the remaining activities and a request for disbursement for the reporting period.

The rules for grants from the Energy Fund allow for changes to be made to the project under way. Both Enova and the grant recipient are entitled to suggest changes. The changes can apply to targets, scope and guidelines. If changes are made to the basic assumptions on which the project was approved, the changes must be approved by both Enova and the grant recipient before they can be implemented. In the event of deviation from the progress schedule affecting the date for completion of the project, adjustments shall be made immediately, and a new schedule must be drawn up in consultation with Enova.

In the questionnaire survey, 87 per cent of the respondents stated that they agreed partly or completely that Enova followed up whether the project was implemented in accordance with the progress schedule. More than 80 per cent of the respondents also stated that they agree partly or completely that Enova set strict requirements for documentation of energy results.

In connection with its distribution of the questionnaire survey to players who have been allocated grants by Enova, the Office of the Auditor General received feedback in some cases that projects listed as active in Enova's register had actually been cancelled.

173) The elements in this section are found in the General rules for grants from the Energy Fund, Enova SF, 2009 (articles 3, 5.1.1. 5.1.2, 6.1 and 13).

6.6 Project completion[174]

Within one month of the project's completion, the grant recipient shall submit an auditor-approved progress and accounting report, and prepare a final report. The final report shall contain information about the energy result achieved in relation to the contractual main target and sub-targets, and a total presentation of the project's implementation.[175] Enova will withhold 20 per cent of the grant until the final report has been submitted.[176]

Before the final disbursement is made, the executive officer shall check the energy result and assess all the information provided by the grant recipient about realised results compared with contractual results. The executive officer shall also ensure that all documentation of archival value is filed in the archives. The executive officer then reconciles the project finances in the ERS case processing system and enters the correct status on a completion form. The completion form is then signed by the executive officer and sent to the Department of Finance and Administration. This department is responsible for reconciling the case processing system with the financial system, checking the archive, checking the case processing system and closing the financial management system. If the amount of the grant used is less than the grant allocated, the money is returned to the Energy Fund. Any overspending shall be accounted for and documented in collaboration with the executive officer.[177]

The former chair of Enova's board stated in an interview that the final reporting shall show how the energy projects were realised in relation to the assumptions, and show the annual kWh effect of the measure. The verification of Enova's realised results shows that the grants appear to have been spent as planned. This is also verified by the auditor in most of the final reports. The verification shows that both Enova and the grant recipient appear to have the financial reporting well under control. However, the grant recipient's documentation of energy results is sometimes highly inadequate. Several of the final reports that were reviewed contain no documentation of energy results. Ernst & Young's evaluation of the results reports for 2006 and 2007 also shows that, in

174) The elements in this section are found in the General rules for grants from the Energy Fund, Enova SF, 2009 (articles 5.2 and 6.2).
175) General rules for grants from the Energy Fund, Enova SF, 2009, article 6.2.
176) General rules for grants from the Energy Fund, Enova SF, 2009, article 5.2.
177) Completion form for projects in ERS (printout 17 December 2007), from Enova's administrative procedure manual.

some cases, the final report only describes the project accounts.

Furthermore, the verification of Enova's realised results shows that the final reports had varying designs, with different levels of detail. Several projects had not submitted progress reports. Enova has apparently not stipulated a standard for the design of final reports. Finally, the verification shows that Enova has taken little account of uncertainty in projects where the measurement year comes after the final reporting. It would seem that Enova does not check whether the target is actually reached in the year in which the results are measured. This means that any adjustments will not appear in Enova's external reporting of energy results.

The Office of the Auditor General has previously questioned Enova's procedures for documenting finally reported energy results.[178] The comments of the Office of the Auditor were, among other things, followed up by the Ministry of Petroleum and Energy and Enova in an extraordinary liaison meeting in autumn 2008. It emerges from the minutes of that meeting that Enova believes that it complies with the documentation requirement, but lacks good enough procedures for ensuring the traceability of the documentation relating to the final reporting of results. According to the minutes, Enova's updated procedures and traceability of documentation will be operational from 2009.

6.7 Subsequent follow-up

The general rules for grants from the Energy Fund stipulate that the grant recipient shall cooperate with Enova in evaluating and measuring the results of the project for a period of up to ten years after the final report has been submitted.[179] Recipients of grants from the Industry programme have a duty to report in Enova's Industry Network for a minimum of five years after the measure has been implemented. Similarly, recipients of grants from the Built Environment programme are obliged to report to Enova's Building Network. Some grant recipients are exempted from this requirement.

The survey of realised energy results shows that Enova has not set any standards for how projects that do not report via the Industry or the Building networks are to report after the final reporting. It also reveals that Enova does not check whether the projects actually report after the final report has been submitted. Apparently, Enova does not make further use of reported figures from the Industry or Building networks in its external reporting of energy results.

6.7.1 Reporting

The reporting of energy results forms much of the basis for the external evaluation of Enova's activities. As mentioned above, it is generally the contractual energy results that are published in Enova's annual results and activities reports. Final reported energy results have also been included since 2005. Usually, cancelled projects are removed from result reporting and an overall presentation is given of the scope of cancellations.

In general, it is the contractual results that are assessed against the performance targets in the agreement. The choice of contractual results as the reporting parameter is justified in part by the Ministry's wish to follow up how the Energy Fund's assets are spent, and how much energy restructuring costs per year.[180] The former chair of the board has stated in an interview that, at present, it is expedient to use the contractual results for reporting, as Enova is still a young organisation. He nevertheless emphasises that Enova must focus on final reporting in the long term, but that the contractual result will always be relevant with regard to maintaining a continuous overview of the influx of projects.181 The results and activities reports report energy results for projects that started in 2001 up to the present. As shown above, some projects have been completed and have realised their energy results. The realised energy results are not based on estimates, but are actual energy results, and will therefore provide more valuable information than contractual and final reported energy results.[182]

The main focus in Ernst & Young's review of Enova's results and activities reports is on the requirements stipulated in the agreement between the Ministry of Petroleum and Energy and

178) Document No 1 (2008–2009). The Office of the Auditor General's audit report on the Central Government Financial Statements for 2007. Office of the Auditor General 2008
179) General rules for grants from the Energy Fund, Enova SF, article 6.2.2.
180) Interview with the Ministry of Petroleum and Energy, 20 October 2009.
181) Interview with the former chair of the board, 12 March 2009.
182) Revisjon av resultatrapporter 2006 og 2007 ('Audit of result reports 2006 and 2007'). Ernst & Young, 2009.

Enova.[183] The agreement stipulates that the results report must include an analytical and clear review of results and activities with pertaining costs at an overall level. Despite improvements in the reports for 2006 and 2007, Ernst & Young considers that the reports still provide too little information about the attainment of main goals. Reporting on main goals requires Enova to prepare and report on a wider set of indicators than GWh and the size of the grant.

The agreement between the Ministry and Enova stipulates that Enova shall establish a reporting system for all projects and activities financed by the Energy Fund. The system shall ensure that measured, recorded, stored and reported data for all projects are reliable, accurate and relevant. Enova shall also develop and maintain a database. The database shall facilitate systematic follow-up of the projects, annual reporting on utilisation of the fund's assets and future evaluations. According to Ernst & Young, the results and activities reports contain no status reports for these matters. With regard to the data used as a basis for preparing the results and activities report, Ernst & Young found a number of weaknesses in Enova's case processing system ERS. One of the weaknesses pointed out is the low traceability of the data used as the basis for the results reports. As Enova's case processing system updates data on a continuous basis, the data basis changes all the time and cannot be recreated later. The data on which the results and activities reports are based must therefore be filed separately to ensure that they are be available for internal control and auditing purposes. It is also not possible for executive officers to retrieve aggregate reports for their areas from the case processing system. This option would also make it easier to follow up projects lacking signature or final reporting, cf. section 6.4.

183) Agreement between the Ministry of Petroleum and Energy and Enova SF for 2007. The requirements have been carried over in the agreement for the period from 1 June 2008 to 31 December 2011.

7 Corporate governance and internal control in Enova

Following a working environment survey carried out by Enova in June 2007, a notification about the working environment in Enova was submitted to the board of directors in October that year (notification 1). This notification was submitted by employee representatives from the in-house trade union *Husforeningen*[184] and the safety delegate. The notification pointed to a number of matters relating to the then managing director that the 'whistleblowers' claimed had resulted in a poor working environment in the enterprise. As a result of this notification, the then managing director chose to resign in November 2007.

Part of the background to this case was that, during its start-up phase, Enova's management and board of directors had a strong focus on achieving results and on market proximity, and this resulted in insufficient attention being devoted to Enova's internal structures and procedures. As Enova grew, both the management and board of directors acknowledged that more emphasis needed to be placed on Enova's internal organisation, but, in an attempt to strengthen the internal structures, a number of haphazard organisational changes were implemented that created a sense of insecurity in the organisation. This resulted in the above-mentioned whistle-blowing case.

In April 2008, employee representatives from *Husforeningen* and the safety delegate chose to send a letter about Enova's handling of the notification about the working environment in Enova (notification 2) to the Ministry of Petroleum and Energy and to the Ministry of Government Administration and Reform. This notification dealt exclusively with the handling of the first notification and was not a general criticism of Enova's new management. The lack of adequate working environment procedures was one of the reasons why the matters raised in notification 1 were not resolved quickly enough and ended up with a new notification being sent to the Ministry of Petroleum and Energy.

As a result of notification 2, the Ministry of Petroleum and Energy requested Enova to draw up a plan to ensure a good and stable working environment in the enterprise. This plan was submitted to the Ministry at the end of April 2008. In November of that same year, *Husforeningen* and the board of directors reached agreement about a number of issues relating to the whistle-blowing case and the working environment in Enova.

The whistleblowing case has now been concluded, but it took its toll on Enova, both in the form of negative media attention and through the loss of internal expertise. However, the lessons learned from the case were an important reason why Enova has focused far more on its internal management and organisation in 2008 and 2009.

7.1 Strategy and the organisation of internal control

7.1.1 Strategy

The strategy document for the period 2005–2010 describes Enova's role in the long and medium term. The document points out that Enova's ambition is to be a driving force for forward-looking energy solutions. This means that the enterprise shall play an active role in identifying and prioritising the best projects, as well as in developing cost-effective solutions in cooperation with other players in the market. The strategy document also presents Enova's four core values: *results-oriented, market-oriented, professional* and *offensive-minded.*

The strategy document also describes Enova's identity and position in relation to other players in the market. It is emphasised that Enova must have the market's confidence, and that it must be seen as a results-oriented and value-creating driving force. This does not mean that Enova should administer all types of policy instruments, but rather that it should influence other players' development and use of policy instruments to a greater extent. It will therefore be an important

184) Husforeningen (HUF) was founded for and by the employees in 2006 in order to safeguard its members' interests as regards pay and working conditions in relation to the employer. HUF was an independent union with no formal ties to other employee organisations, and had its own statutes. Today, HUF has been replaced by three unions: The Norwegian Society of Graduate Technical and Scientific Professionals (Tekna), SAN Enova and the Norwegian Civil Service Union. These unions cover most Enova employees, and local agreements have been signed with them.

task for Enova to explain to the market why energy restructuring is necessary and important, and to highlight Enova's role in these efforts.

The strategy document also describes Enova's goals for the period 2005–2010 (see chapter 3), as well as policy instruments and result and activity areas (cf. the description of programme areas in section 5.1.5).

7.1.2 Action plans

Enova has prepared action plans for the enterprise as a whole and for each specialist department since 2007. For 2009, action plans have also been prepared for the three staff departments.[185]

Enova's overall action plan for 2009 describes the enterprise's strategic challenges in the years ahead. The action plan for 2009 emphasises that Enova worked on a long-term strategy for achievement of its overall goals the previous year. This long-term strategy is based on studies, potentiality studies and scenarios for the period up until 2020 and up until 2050. For 2008 and 2009, the action plan was expanded to include specific performance targets and activity targets for Enova's activity areas. The overall action plan also describes risk factors in the various activity areas.

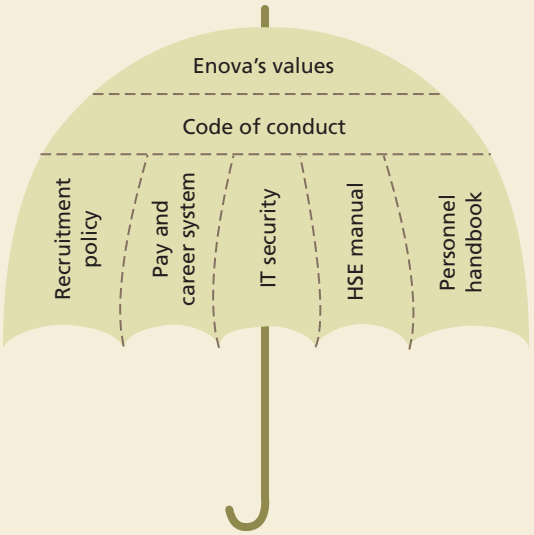
7.1.3 Enova's internal control system

As a result of the whistleblowing case and the new management, Enova worked systematically in 2008 and 2009 to improve its internal control and risk management. This work resulted in the creation of a separate unit in the Department of Finance and Administration with special responsibility for this work, and in the appointment of a risk manager in 2008. Enova has adopted a code of conduct and an HSE manual for the enterprise, and has reviewed and updated its personnel handbook. Enova will review its internal procedures following its adoption of a new authorisation structure in 2009 in order to ensure agreement between the enterprise's authorisations and its internal practice.

As part of the effort to strengthen internal control, Enova has gathered its values and guidelines under what it calls the HR umbrella, see Figure 7. The other elements of the HR umbrella are based on Enova's values and code of conduct. The code of conduct sets out the normative requirements and Enova's expectations of its employees and activities. It is also emphasised that procedures and guidelines shall be prepared on the basis of the code of conduct.[186]

All instructions and guidelines are available to employees on the enterprise's intranet. The employees are themselves responsible for complying with the guidelines, while it is the managing director's responsibility to ensure that employees are familiar with the rules and are informed about the regulations that apply to their work.

Figure 7 Enova's HR umbrella



Source: Enova´s HSE manual

Enova has made substantial changes to some of the guidelines under the HR umbrella in recent years, while other documents have only recently been created.[187] The review of the guidelines that comprise the HR umbrella shows that the newly created documents are clearly based on Enova's strategy and values.

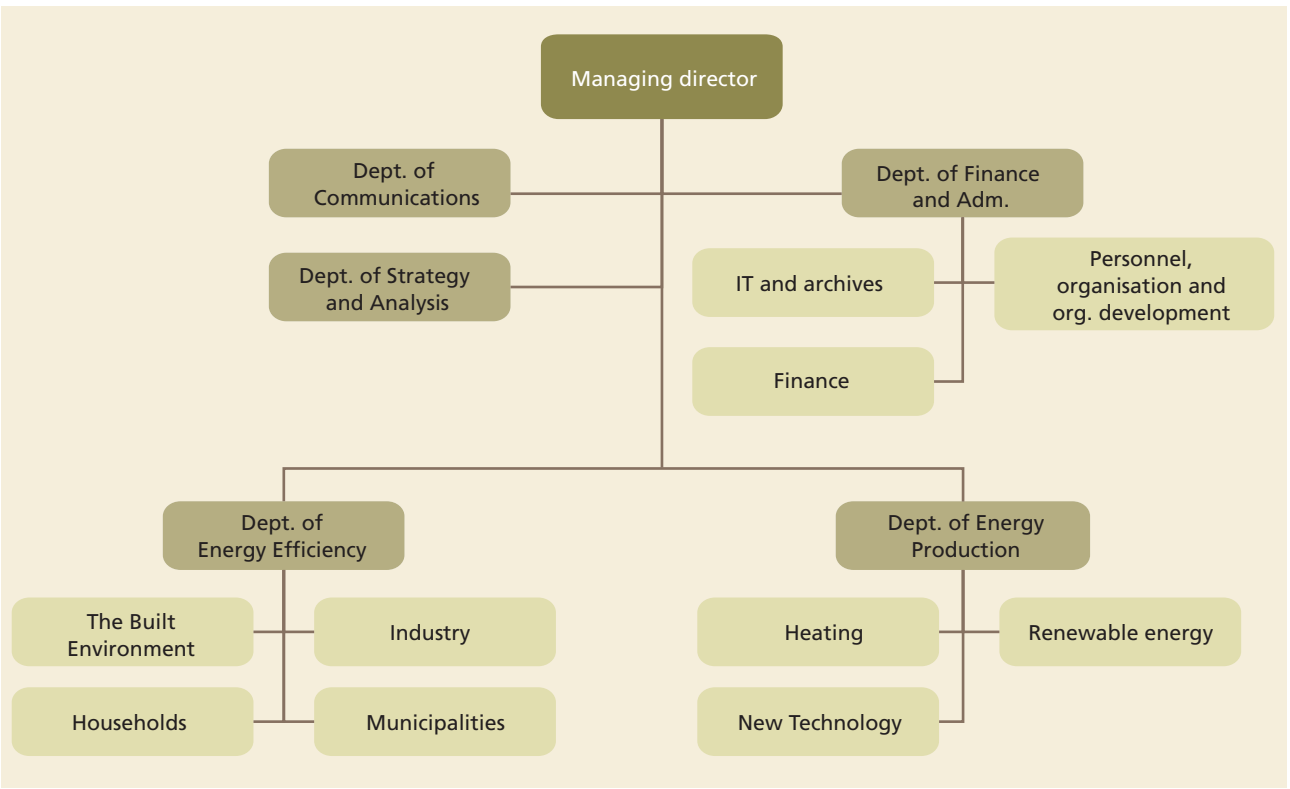
In addition to the guidelines in the HR umbrella, Enova has also updated the procedure manual that describes the administrative procedures relating to the administration of grants.

185) The action plan for strategy and development does not follow the same template as the other plans. Since the Department of Communication is a new department, its action plan does not use the same template as the other plans and it only applies to autumn 2009.

186) Enova SF – slik tar vi vare på vår helse, vårt miljø og vår sikkerhet ('Enova SF – how to safeguard our health, our environment and our safety'), HSE manual, 2008, page 4.

187) Enova's Code of Conduct 2008, Recruitment Policy 2009, Pay and Career System 2008, IT Security 2009 (reviewed annually), HSE manual 2008, Personnel Handbook 2009.

Figure 8 Organisational chart for Enova as of September 2009



Source: www.enova.no

7.2 The control environment in Enova

7.2.1 Organisation, authorisation structure and guidelines for the work

Until 2007, Enova's organisation was characterised by a form of matrix thinking in which management tasks and support functions were spread throughout the organisation. The organisation was based on eight market groups (the built environment, industry, heating, wind, new technology, strategy/analysis, information and training). These market groups largely reflected Enova's programme structure. Each market group had a leader with professional responsibility, but without personnel responsibility. This form of organisation meant that the distance from top to bottom was relatively short, and it resulted in a high percentage of employees having some form of managerial responsibility.

Since 2007, the work of the enterprise has been organised in a line structure around the two specialist departments, the Department of Energy Efficiency and the Department of Energy Production, and a number of administrative departments. Within the two specialist departments, there are seven sections that largely reflect Enova's programme structure. Enova had two administrative departments from 2007 until mid-2009: the Department of Finance and Administration and the Department of Strategy and Analysis. A separate unit for communication was established in June 2009, see Figure 8.

The managing director has day-to-day responsibility and authority, and is responsible for following up the board's decisions. The managing director reports to the board. Enova has had two managing directors since its formation in 2001. The present managing director was appointed in June 2008.

The managing director has a management team with which to discuss matters of principle, strategy and long-term issues, and this team is also intended to serve as an advisory forum and discussion forum. This management team consists of the managing director, the heads of the two specialist departments and the heads of the three staff departments.

Enova's administrative departments have been strengthened and refined as the enterprise has developed. Today, the Department of Finance and Administration is responsible for tasks in the following fields: personnel, organisation, governance, finance, IT and archives. The Department of Strategy and Analysis is responsible for Enova's overall strategy work, and also for ensuring that the enterprise's plans and

Figure 9 Overview of the number of employees in Enova as of 31 December 2009

programmes are consistent with the overriding strategic direction. The Department of Communications is responsible for ensuring uniform contact and for communicating Enova's tasks and programmes to external parties.

Enova widened the managing director's authority in October 2009. This change was due to a substantial increase in the number of matters considered by the board over the past few years, which meant that much of the board's time was spent considering applications that were not deemed to be of an unusual nature or great importance to the enterprise's operations. The board of directors hoped that this change would allow it to focus more on management and control and on organisational development of the enterprise.

In step with the development of Enova, the number of employees has risen strongly, from 12 when the enterprise was formed in 2001 to 51 in autumn 2009 (see Figure 9, 26 women and 25 men). This increase is the result of Enova's wish to increase its workforce to 61 in 2011. The growth in the number of employees is, among other things, related to an increase in the funding at Enova's disposal through the Energy Fund and an increase in the project portfolio. This growth is also important in terms of ensuring that the enterprise is capable of performing the administrative tasks it has been assigned.

7.2.2 Expertise

One of Enova's objectives is to be an expert enterprise, which means that expertise is a critical success factor and an important strategic policy instrument. It is also important that the expertise possessed by Enova's employees is appropriate to the tasks that the enterprise is charged with solving.

In some areas, external expertise is purchased. This is particularly common in connection with the processing of applications, cf. chapter 6. The external Programme Coordinators process cases on behalf of Enova, but have no decision-making powers. In addition to Programme Coordinators, Enova has also outsourced tasks relating to accounting, finance and the operation of IT systems.

In connection with Enova's increased focus in recent years on strengthening its organisation, a need has been identified to dedicate resources to key functions such as IT, risk management and control, public procurements and archiving. These are areas in which Enova has previously hired external expertise. The organisation has set aside more resources for several of these key functions in 2008 and 2009

7.2.3 Staffing plan and recruitment policy

The main responsibility for ensuring that Enova has the right expertise and adequate resources rests with the individual heads of department. The heads of department map individual

employees' needs and wishes in relation to competence-raising in performance appraisal interviews. They also draw up an overview of their departments' general resource and expertise needs. This overview must be in line with strategic guidelines and priorities.

Enova has produced a guide to expertise and recruitment work. Work on the guide started in 2006, and internal competence-raising was divided into three main areas:
- basic/enterprise expertise
- specialist/departmental expertise
- tailored/personal expertise

During the preparation of action plans and risk reports for 2009, it emerged that a large proportion of Enova employees needed to improve their expertise in core areas such as the Freedom of Information Act, the regulations relating to state aid, the case processing system, the archive system and the reporting module. Several internal courses have been held in 2009 in order to ensure that all employees have the required basic knowledge in these fields.

Both the staffing plan for 2008–2011 and the recruitment policy for 2009–2011 point out that Enova needs to increase its staff. According to the staffing plan, the need for reinforcements is greatest in the following areas: Households, the Built Environment, Industry and Renewable Energy. For the administrative departments, the staffing plan states that a number of persons will be hired in the fields of finance, IT, communication and performance reporting in 2008. The departments' risk reports in recent years have also stressed the need to increase the enterprise's resources, either by increasing the number of employees or by entering into agreements for external assistance.

7.2.4 Reward and incentive systems

Enova's pay policy emphasises that Enova is a state-owned enterprise and should therefore not be a market leader in terms of pay. However, it is underlined that the enterprise wishes to be competitive in relation to the private sector. The grounds given are that Enova must be able to attract employees with the required expertise. It is also stated that the pay policy should contribute to the enterprise being perceived as a modern, inclusive and challenging workplace, so that Enova can recruit, develop and retain employees in a competitive labour market.

Enova's pay policy is set out in a cooperation agreement with *Husforeningen* and local agreements with the unions represented in the enterprise. Pay is stipulated individually in connection with the annual pay interview. Individual assessments are carried out on the basis of a set of criteria that take both job-related and personal factors into consideration.[188]

7.3 Risk management

7.3.1 Risk management

Since 2008, Enova has taken a new approach to its risk management work. It has become a distinct function, and there is now greater awareness of risk management in the enterprise. Enova uses the Government Agency for Financial Management's (SSØ) risk model as the basis for its risk management work. This means that the work must be linked to both the goal and planning process.

Since 2008, Enova has prepared risk reports for the enterprise as a whole and for the two specialist departments. In connection with the preparation of risk reports for the second half-year 2008, it became clear that the format used at the time was not working, and the work was therefore not completed. Instead, work started on identifying a more expedient form of reporting and a better method for the 2009 risk reports.[189] The reports were therefore prepared quarterly, and a separate risk report was prepared for the Department of Finance and Administration.

Work on the risk reports takes place in connection with the preparation of annual action plans for the departments and for Enova as a whole. Through this work, the departments identify the most critical risk areas within their areas of responsibility, and an overall risk profile for the whole enterprise is also prepared. In addition to uncovering the most critical risk areas, the departments must also identify risk-reducing measures for each risk.

A review of risk reports for the Department of Energy Efficiency and the Department of Energy Production for 2009 shows that expertise, capacity and knowledge of the Freedom of Information Act, procurements and notifications are risk

188) The criteria used to assess pay are working conditions, responsibilities, initiative, efficiency and implementation capacity, relations and cooperation, education and experience, labour market situation, Enova's financial situation and other reward schemes. From chapter 4: Pay and remuneration in Enova.
189) E-mail of 8 October 2009 from Enova.

factors that both these specialist departments need to work on during the year. It is also pointed out that there are shortcomings in Enova's systems, procedures and policy instruments that could result in grants being awarded to the wrong projects, in grant amounts not being calculated correctly, or in applications being tailored to the support criteria. For the Department of Finance and Administration, most of the risk factors concern internal factors – expertise and capacity, and failure to update procedures.

Although Enova has focused more on risk management in recent years, the enterprise is still in an early phase in terms of systematic risk management work. The review of the risk reports for 2009 shows that a number of risk factors are only described in the form of keywords, including the descriptions elaborating on the risk factors. This can make it difficult to clarify what the risk factor actually consists of. When risk factors have been uncovered, the departments must draw up improvement measures. The review of the improvement measures shows that many of the measures are worded as targets and goals rather than actually describing how the risk factor is to be reduced.

The status description is supposed to be updated in connection with the quarterly reviews of the risk reports. The review of risk reports shows that few changes have been made from the second to the third quarter. For some risk factors, the measures are described as implemented in the status description without the risk level having been reduced. For other risk factors for which the risk level has not changed since the first quarter, no explanation is given for why the risk factor remains unchanged.

The year 2009 was the first year in which Enova prepared risk reports in this format, and much of Enova's focus has therefore been on implementation of the risk work itself. During the third quarter 2009, Enova has also included risk management in the enterprise's Balanced Scorecard (BSC) system.

7.4 Monitoring of work and the internal control system

7.4.1 Monitoring

Enova has used BSC as a management tool since 2004, and the enterprise's BSC system was reviewed in 2008 and 2009. The plan is that BSC will be a management tool that contributes to good corporate governance by:

- focusing on what is important
- structuring management information
- ensuring coherence between overriding goals and management and control parameters
- covering both performance and process targets
- covering management of activities as well as risk management

In connection with the preparation of action plans, all departments and areas have defined measurement parameters within the following perspectives: *results* (energy/finance), *customer/market*, *internal processes* (case processing) and *organisation/working environment*. For most measurement parameters, concrete targets have also been stipulated on the basis of adopted plans and budgets.

The new BSC system requires full reporting to the management group and the board every quarter, and monthly follow-up by departments and areas. This means that all measurement parameters must be reviewed and checked, and that non-conformities must be commented on and dealt with. Activities are followed up and evaluated in relation to the following main indicators: progress, effect/gain, delivery and resource use, plus a risk assessment.

7.4.2 The board of directors

Enova is led by a board of directors that is responsible for managing the enterprise, and that is tasked with ensuring that the enterprise operates in accordance with its object, articles of association and adopted guidelines. It is also the board's responsibility to ensure that Enova is organised in an expedient manner in relation to its tasks and to contribute to the enterprise achieving its goals.

As of November 2009, the board of directors consists of the chair, deputy chair and four board members. One board member represents the employees. After the enterprise general meeting in 2005, only the deputy chair remained of the original board. The new board from 2005 remained unchanged until the enterprise general meeting in 2009, when three of five members resigned, including the chair of the board and the employee representative. The board was also expanded by one representative and it now has six members. The board members have broad financial and legal expertise.

A review of board minutes for the past three years shows that much of the board's time has been spent on assessing and deciding grant applications. The board also considers matters relating to strategies, plans, performance reporting, and budgets and accounts in connection with Enova's management and administration of the Energy Fund. In addition, the board considers changes to Enova's programmes and policy instruments, and the agreement between the Ministry of Petroleum and Energy and Enova.

New instructions for the board of directors were adopted at the board meeting on 1 October 2009 in connection with the changes in Enova's authorisations structure. The instruction contains new procedures for the board's annual plan and the enterprise's reporting to the board of directors. The new instructions require reporting to the board to focus on quarterly reports. The quarterly reports must contain status reports about Enova's operations, the Energy Fund and other administrative tasks. The management shall also provide an overview of grant awards, a market report per market area and BSC status for the enterprise as a whole.

In addition to quarterly reports to the board, monthly status reports must be prepared about Enova's operations. These monthly status reports must contain an accounting report, Enova's portfolio and any cancelled or finally reported Energy Fund projects. The management must also provide information about any other relevant matters concerning Enova's operations.

8 The Ministry of Petroleum and Energy's management of Enova and the Energy Fund

8.1 Management instructions

The State's ownership of Enova is administered by the Ministry of Petroleum and Energy. The Ministry is also Enova's client in relation to its management of the Energy Fund's assets. The Ministry of Petroleum and Energy's management of Enova is based on the Act relating to State-owned Enterprises, general rules for state ownership interests and a memorandum of association adopted by Royal Decree on 1 June 2001.

The agreement between the Ministry of Petroleum and Energy and Enova and the instructions for Enova's financial management of the Energy Fund define the framework for Enova and for the management of the Energy Fund. The agreement describes the background to formal decisions and documents relating to Enova and the Energy Fund, and it provides a general framework for the management of the fund's assets. It also contains a description of the infusion of capital into the fund, provisions relating to the budgetary process, accounting and the coverage of operating and administrative expenses, a specification of internal and external reporting requirements and a description of contact and communication between the Ministry and Enova.

In the agreement, the Ministry of Petroleum and Energy sets out overriding goals and its requirements of Enova in relation to methodology, system and control. Enova is free to carry out its assignment and to make independent assessments in connection with measures and subsidies. This agreement, together with the financing of the fund, is intended to contribute to a long-term perspective and stability in the energy restructuring efforts.

8.2 Owner control

The Act relating to State-owned Enterprises requires an annual enterprise general meeting. Enova's profit and loss account is adopted at the enterprise general meeting, and Enova's annual report on the results of the enterprise's activities is presented. No extraordinary enterprise general meetings have been held since Enova's formation. A review of the minutes of the enterprise general meetings for the period 2002–2009 shows that no other topics than those required by the memorandum of association have been discussed by the enterprise general meeting.

The Ministry states that, as owner, it primarily follows up the board of directors through contact at the enterprise general meetings. The Ministry has not requested board evaluations from Enova, but, in a letter of 31 March 2009, it referred to the Government's ownership policy, which is based, among other things, on the board evaluating its own activities.[190] The Ministry believes that such evaluations may be important as competence-raising measures for the board. The Ministry also receives minutes from board meetings and is in contact with the chair of the board when required.

According to the Ministry of Petroleum and Energy, the whistleblower case has not influenced its follow-up of Enova's board. It is emphasised that the decision to allow the board of directors to remain in office was a sign of the Ministry's confidence in the board. However, the Ministry does not deny that the whistleblower case was a challenge to its role as an owner, and that it has learned important lessons from the case. Because of the whistleblower case, the Ministry has realised how important it is that Enova's management is large enough to support the enterprise's activities.

8.3 The principal role

The Ministry of Petroleum and Energy primarily exercises its role as principal through liaison meetings with Enova. The agreement signed between the Ministry of Petroleum and Energy and Enova is the Ministry's most important governing document as principal. Pursuant to the agreement, two liaison meetings will be held every year, but more meetings can be held should one of the parties so wish. At the liaison meetings, the parties shall discuss budgets, results, accounts, strategies and other issues with a bearing on the implementation of the agreement

190) *The Government's Ownership Policy, section 9.7,* the Ministry of Trade and Industry, 2008.

and the stipulated performance targets and tasks. Since 2002, two liaison meetings have been held per year. One extraordinary liaison meeting was held in both 2008 and 2009.

At all these meetings, representatives of both the board of directors and the management have attended on behalf of Enova, including the chair of the board and the managing director. Neither the chair of the board nor the managing director was present at the extraordinary liaison meeting in 2008, but the managing director attended the extraordinary liaison meeting in 2009.

The allocation letter, another key governing document, elaborates on the signals from the budget proposition, and specifies the Ministry's annual requirements for Enova's management of the Energy Fund's assets as well as the performance and reporting requirements. In the allocation letter, it is emphasised that the Ministry of Petroleum and Energy manages Enova at an overriding level and therefore does not define criteria for individual subsidy schemes under the Energy Fund. This has been an important principle since Enova's formation, cf. Proposition No 35 to the Odelsting (2000–2001) concerning reorganisation of the work on restructuring energy use and production, which states in chapter 4.1:

> 'The Ministry's role will be to set concrete performance targets for the enterprise on the basis of long-term energy policy goals, and to follow up the results. The enterprise shall find practical solutions and manage the fund's assets in such a manner that the goals are achieved.'

The Ministry of Petroleum and Energy also stipulates the framework for Enova's management and operations in the allocation letter.

8.4 Setting targets

The Ministry of Petroleum and Energy states that the energy targets are largely set through negotiations with Enova. However, this does not apply to targets for wind power and heating. The targets for these areas were stipulated in connection with the consideration of Report No 29 to the Storting (1998–1999), which dealt with the reorganisation of Norway's energy restructuring policy.[191] The parties currently base their negotiations on empirical figures, developments over years and Enova's annual performance reporting. The Ministry emphasises that it is easier to negotiate and set energy targets for Enova today, now that empirical figures are available, than it was when the enterprise was established.

As regards the stipulation of Enova's results, the Ministry of Petroleum and Energy believes that a balance will always have to be struck between how hard Enova should be pressured into achieving the stipulated energy targets and Enova's focus on achieving lasting energy restructuring. In the Ministry's opinion, Enova must be allowed to think in the long term and on an independent basis in its energy restructuring work. In the event of a conflict of goals, it is up to Enova's board to prioritise through its financial decisions. However, the Ministry is aware that the wind power and heating targets are expensive to achieve and therefore entail certain limitations on Enova's freedom of action.

8.5 Goal achievement

The Ministry of Petroleum and Energy largely bases its performance follow-up and evaluation of goal achievement on contractual results. The Ministry considers continuous reporting of contractual and final reported results to be important in relation to ensuring satisfactory management of Enova and follow-up of Enova's goal achievement. This reporting is also necessary in order to control how the Energy Fund's assets are used and what energy restructuring costs each year. According to the Ministry, it is important that contractual energy results are used because it could take a very long time from the start-up of a project until its energy results are realised.

The Ministry of Petroleum and Energy states that it is satisfied with Enova's goal achievement, particularly in the Heating area, where it is deemed to be highly probable that the target will be reached. However, there is greater uncertainty relating to the aggregate energy target of 18 TWh by the end of 2011. This is related to a certain extent to the fact that Enova will not reach the wind power target of 3 TWh by the end of 2010.[192] The costs of wind power production have become too high for the market to initiate projects in this area.

191) Recommendation No 122 to the Storting (1999–2000).

192) Proposition No 1 to the Storting (2009–2010), cf. Recommendation No 9 to the Storting (2009–2010).

The Ministry of Petroleum and Energy has yet to clarify how it will handle the fact that the projects that Enova supports have planned lifetimes of 10 and 20 years, respectively. It is necessary to consider how the energy results from these projects will be handled when their lifetime expires. In the Ministry of Petroleum and Energy's opinion, this has not been an issue, as there are still no projects whose lifetime has ended. The Ministry states that this is a factor that must be looked into, and that it should be included in the new agreement that will apply from 2012.

9 Evaluations

Enova's object is to promote environmentally friendly restructuring of energy consumption and production. Proposition No 1 to the Storting (2008–2009) for the Ministry of Petroleum and Energy expects Enova, through its use of policy instruments, to trigger projects that will result in new environmentally friendly energy production and energy saving corresponding to 18 TWh/year by the end of 2011.

The investigation shows that the energy results actually realised by Enova fall significantly short of the targets set. The total final reported result for the period 2001–2008 was 4.1 TWh. The final reported result for 2008 was only 0.5 TWh. The verification of the final reported results indicates that the realised energy results for completed projects are somewhat lower than the final reported results. Moreover, 25 per cent of the respondents in the questionnaire survey consider it probable that they would have implemented their projects without Enova's support. In these cases, there is reason to question whether Enova's support has had a triggering effect.

The investigation shows that, at the end of 2008, Enova had a total contractual result of 11.6 TWh, and that each year Enova signs contracts for measures with combined energy results of more than 2 TWh. The investigation shows that Enova faces considerable changes relating to cancellations. One result of cancellations is that the contractual result for a given period is reduced. Cancellations have reduced the realised result by about 40 per cent of the original contractual result for 2002 and 2003, for which most of the measures have been finally reported. Enova faces considerable challenges in relation to its market creation efforts. The investigation shows that 48 per cent of respondents to the questionnaire survey state that they disagree with the description of Enova as a driving force in initiating projects. The investigation points out several factors that increase the challenges in relation to market creation. The factors mentioned include an increase in the project costs of achieving a given energy result, an increase in the number of Enova employees with no corresponding increase in annual energy result, and the fact that Enova will to some extent need to focus more on smaller players in future in order to achieve its long-term performance targets. The investigation shows that smaller players consistently have less expertise, and that the financial threshold for applying for grants and implementing projects is higher in small projects, relatively speaking. In light of this, it is uncertain whether Enova will achieve the contractual result of 18 TWh/year by the end of 2011.

It is also assumed that by the end of 2010, Enova will contribute to an increase of at least 4 TWh/year in the supply of water-borne heating based on new renewable energy sources, waste heat and heat pumps, and a minimum of 3 TWh/year shall be increased wind power production. The investigation shows that the target for increased wind power production will not be reached by the end of 2010. The contractual result for this area at the end of 2008 was 1.4 TWh, while the final reported result at that time was 0.8 TWh. The Wind power area has been particularly prone to cancellations. Half the original contractual results in this area have been cancelled.

However, the contractual result of 4 TWh in the Heating area seems to be within reach. At the end of 2008, the contractual result for this area was 3.3 TWh/year. However, the final reported result at that time was only 0.9 TWh, and there is therefore reason to question whether the targets can be deemed to have been achieved on the basis of the contractual results.

The Ministry of Petroleum and Energy has stated that the Ministry largely bases its performance follow-up on contractual results. The investigation shows a high cancellation percentage. Cancelled projects are usually removed from performance reporting, but the effect of cancellations on target achievement is not made clear. The investigation also shows that realised results are mostly lower than contractual results, and that Enova does not usually obtain information about realised results to any great extent. In this light, there is reason to question whether the Ministry has established adequate follow-up of Enova's performance.

Report No 22 to the Storting (2001–2002) states that reporting must be as thorough for sector

policy goals as for commercial goals. The investigation shows that the grant recipients' final reporting to Enova mainly focuses on financial data, while the reporting of energy results is not uniform, varies in relation to the amount of detail provided and, in some cases, is completely absent. Enova does little to verify the final reported energy results. This is connected, among other things, to the fact that Enova does not check that the grant recipients report on realised results after the completion of projects, as they are obliged to do under the provisions of the contract. The investigation also shows that some projects reported as active by Enova have actually been cancelled. Enova is aware that the realised production figures for wind power are consistently lower than the final reported figures, but fails to state this in its result reporting.

The agreement between the Ministry and Enova stipulates that Enova shall establish a reporting system for all projects and activities financed by the Energy Fund. The system must ensure that measured, recorded, stored and reported data for all projects are reliable, accurate and relevant. There is no documentation to show that the Ministry of Petroleum and Energy has checked whether the agreement's provisions relating to this have been complied with. The first measures will have reached the end of their expected lifetimes in 2011/2012, at which time Enova will have to deal with the measures that are no longer to be included in the calculation of the contractual and final reported results. This topic has not as yet been raised in the dialogue between the Ministry and Enova.

As regards Enova's processing of applications, the investigation shows that changes are often made to applications after they have been submitted to Enova. Changes to applications are made by the applicant and Enova in cooperation. The investigation also shows that relevant manuals and case processing support tools are little used. Moreover, Enova's own risk assessments also show poor expertise in a number of core areas relating to case processing. The investigation shows that Enova primarily bases its grants administration on the executive officers' expertise and only to a small extent on written case processing procedures. The investigation shows that each individual case is normally processed by a single executive officer until it is ready for a decision. It can therefore be questioned whether a satisfactory system has been established for quality assurance and adequate control that ensures that the case processing is uniform, transparent and reliable.

The investigation shows that, in 2008 and 2009, Enova made a considerable effort to improve the enterprise's organisation, internal control and risk management. The investigation also shows that prior to this, Enova's control environment was characterised by underdeveloped procedures, a complex organisation and a lack of systematic mapping of expertise and risk management. Moreover, the investigation shows that the board of directors considered a large number of individual cases. In view of the changes implemented in 2008 and 2009, it appears that the weaknesses in internal control have been acknowledged by Enova's board and management. As owner, the Ministry of Petroleum and Energy is responsible for following up that the board operates satisfactorily, and that the board has established an independent control function in relation to the company on behalf of the owner.

The investigation as a whole shows that, if it is to achieve the energy targets that have been set, Enova face considerable challenges in the areas of market creation, case processing of applications and project and performance follow-up. The Ministry of Petroleum and Energy, as owner, is responsible for following up that Enova's organisation and framework conditions are expedient in relation to the enterprise's object, risk and activities. In view of the major challenges facing Enova, there is reason to question whether the Ministry is discharging its responsibility in a satisfactory manner.

Definitions[189]

Energy restructuring
Energy restructuring comprises measures that contribute to the restructuring of energy consumption to make it less dependent on a single source of energy and encourage a transition from non-renewable to renewable energy sources.

Renewable energy
Enova's definition of renewable energy is based on the definition in the EU Renewable Directive (2001/77/EC). The directive defines renewable energy as renewable, non-fossil energy sources (wind, solar, geothermal, wave, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases).

Main goal
The objective of Enova is to promote an environmentally friendly restructuring of energy consumption and production. This objective is operationalised in the agreement between the Ministry of Petroleum and Energy and Enova as the main goal of Enova's administration of the Energy Fund's assets.

Performance targets
The Storting has stipulated performance targets for limiting energy consumption and increasing the production and use of renewable energy. These targets have since been made applicable to Enova's management of the resources of the Energy Fund. In its agreement with Enova, the Ministry sets concrete performance targets in kWh based on the long-term energy policy goals.

Activity goals
Where performance cannot be uniformly quantified and measured, the agreement between Enova and the Ministry of Petroleum and Energy specifies areas where Enova shall operate. These provisions are intended to help Enova to fulfil its goal of promoting an environmentally friendly restructuring of energy consumption and production, and to compensate for the tendency to focus on measurable results.

Energy results
One of the main goals is to contribute to energy results, either by reducing energy consumption or by increasing environmentally friendly energy consumption. Enova uses three categories of energy results, which are deemed to have been achieved at different times in a project's lifetime.

- *Contractual energy result*
  Expected energy result that form part of the basis for the contract between the grant recipient and Enova. Failure to reach the agreed results will mean a corresponding reduction in the grant. Contractual energy results refer to the energy results expected to be achieved on signature of the contract.
- *Final reported energy result*
  All projects with energy results submit final reports on completion of the project. Final reported energy results are an updated forecast of results expected to be realised on completion of the project.
- *Realised energy result*
  Unlike the contractual and final reported energy results, the realised energy result is not based on expectations and is not, in principle, an estimate. The realised energy result is based on a review/audit of the energy results that the projects have actually achieved. The realised results of Enova's activities include the ripple effects of the grants awarded.

Cancellation
Many projects that have been allocated grants are subsequently cancelled for various reasons. The grant is withdrawn, and the project's results are removed from Enova's result statements.

Investment support
Investment support means that a project can receive a grant to cover a certain proportion of its costs relating to an investment in renewable energy production or energy efficiency measures.

Programme
Enova has chosen to organise its activities in programmes. A programme is a policy instrument aimed at one or more specific target groups and that has fixed deadlines for application and application criteria.

193) The definitions are primarily based on Enova's definitions and terminology explanations as reproduced in Enova's results and activities reports.

Programme area
A programme area groups programmes from the same area, for example Heating or Industry. In 2009, Enova's programme portfolio was divided into eight programme areas organised under Enova's two specialist departments, the Department of Energy Efficiency and the Department of Energy Production.

Triggering effect
Triggering effect means that Enova can contribute an amount that will trigger the implementation of a project that would not otherwise have been implemented, for financial or other reasons. This means supporting the projects up to the level where the financial return is deemed reasonable compared with similar projects in the industry in question. The amount granted is calculated on the basis of a future cash flow that results in a present value of zero. Granting the appropriate amount will trigger the project without overcompensating.

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Appendices

Contractual result, allocation and price per area (adjusted in accordance with the consumer price index)
The tables show price developments for triggering projects in different programme areas. The figures are taken from Enova's annual report for 2008. Lifetimes of 20 and 10 years, respectively, have been assumed for energy production and energy consumption.

Wind power

Year	GWh	NOK million allocated	NOK/kWh	kWh/NOK	Øre/kWh over the lifetime (20 years)
2001	120				
2002	80	39	0.49	2.04	2.45
2003	124	29	0.24	4.21	1.19
2004	454	202	0.45	2.24	2.23
2005	337	147	0.44	2.30	2.18
2006					
2007					
2008	279	445	1.59	0.63	7.97
Total	**1 393**	**863**	**0.62**	**1.61**	**3.10**

Heating

Year	GWh	NOK million allocated	NOK/kWh	kWh/NOK	Øre/kWh over the lifetime (20 years)
2001	328				
2002	166	55	0.33	3.03	1.65
2003	240	39	0.16	6.11	0.82
2004	215	84	0.39	2.57	1.95
2005	192	81	0.42	2.36	2.12
2006	570	315	0.55	1.81	2.76
2007	739	328	0.44	2.25	2.22
2008	840	436	0.52	1.93	2.60
Total	**3 289**	**1 292**	**0.39**	**2.55**	**1.96**

Biofuel

Year	GWh	NOK million allocated	NOK/kWh	kWh/NOK	Øre/kWh over the lifetime (20 years)
2001					
2002					
2003	295	10	0.03	30.02	0.17
2004	255	15	0.06	16.75	0.30
2005	162	7	0.05	21.62	0.23
2006	100	4	0.04	23.89	0.21
2007	162	5	0.03	31.21	0.16
2008	60	3	0.05	20.00	0.25
Total	**1 035**	**41**	**0.04**	**25.24**	**0.20**

The Built Environment

Year	GWh	NOK million allocated	NOK/kWh	kWh/NOK	Øre/kWh over the lifetime (20 years)
2001	44				
2002	140	53	0.38	2.66	3.76
2003	282	63	0.22	4.45	2.25
2004	257	75	0.29	3.42	2.92
2005	556	132	0.24	4.22	2.37
2006	396	128	0.32	3.10	3.22
2007	362	131	0.36	2.77	3.61
2008	424	159	0.38	2.67	3.75
Total	**2 461**	**703**	**0.29**	**3.50**	**2.86**

Industry

Year	GWh	NOK million allocated	NOK/kWh	kWh/NOK	Øre/kWh over the lifetime (20 years)
2001	300				
2002	177	22	0.13	7.91	1.26
2003	104	19	0.18	5.60	1.78
2004	343	62	0.18	5.53	1.81
2005	278	47	0.17	5.90	1.69
2006	759	173	0.23	4.40	2.27
2007	814	208	0.26	3.92	2.55
2008	537	146	0.27	3.68	2.72
Total	**3 312**	**676**	**0.20**	**4.90**	**2.04**

New Technology

Year	GWh	NOK million allocated	NOK/kWh	kWh/NOK
2001	28			
2002	1	21	21.26	0.05
2003				
2004	35	10	0.28	3.58
2005	1	2	2.14	0.47
2006	7	7	1.05	0.96
2007	5	75	14.95	0.07
2008	11	52	4.73	0.21
Total	**87**	**167**	**1.92**	**0.52**

Contractual result reported per year per area, and total cancelled results

The tables below show aggregated results for all programme areas as reported over Enova's lifetime. The energy results reported for the respective years have in many cases changed under way due to cancellations. For example, Enova's annual report for 2004 states that the contractual result for 2004 is 1,023 GWh of wind power. In the annual report for 2008, the result for 2004 has fallen to 454 GWh. This means that, of the 1,023 GWh contracted for in 2004, 569 GWh have been cancelled.

The total for each year is the reported aggregate result for each area for each year.

Wind power

	Reporting year (annual report)							
Year in question	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Cancelled**
2001	*120	*120	120	120	120	120	120	
2002	80	80	80	80	80	80	80	
2003		450	450	124	124	124	124	326
2004			1 023	650	645	645	454	569
2005				585	585	337	337	248
2006								
2007						260		260
2008							279	
Total	**200**	**650**	**1 673**	**1 559**	**1 554**	**1 566**	**1 393**	**1 403**

Heating

	Reporting year (annual report)							
Year in question	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Cancelled**
2001	*328	*328	328	328	328	328	328	
2002	375	375	289	182	166	166	166	209
2003		583	583	434	262	262	240	343
2004			263	263	262	221	215	48
2005				347	296	235	192	155
2006					681	630	570	111
2007						751	739	12
2008							840	
Total	**703**	**1 286**	**1 463**	**1 554**	**1 995**	**2 593**	**3 289**	**878**

Biofuel

	Reporting year (annual report)							
Year in question	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Cancelled**
2001	*0	*0	*0	*0				
2002	15	15	*15	15				15
2003		370	370	391	295	295	295	75
2004			255	255	255	255	255	
2005				62	162	162	162	(100)
2006					100	100	100	
2007						163	163	
2008							60	
Total	**15**	**385**	**640**	**723**	**813**	**975**	**1 035**	**(10)**

The Built Environment

	Reporting year (annual report)							
Year in question	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Cancelled**
2001	*44	*44	*44	*44	44	44	44	
2002	**166	**166	**160	**155	150	154	140	26
2003		295	**288	**287	284	284	282	13
2004			290		276	266	257	33
2005				577	559	559	556	21
2006					380	378	396	(16)
2007						365	362	3
2008							424	
Total	**210**	**505**	**782**	**1 063**	**1 693**	**2 050**	**2 461**	**80**

Industry

	Reporting year (annual report)							
Year in question	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Cancelled**
2001	*300	*300	*300	*300	300	300	300	
2002	**284	**284	**234	**177	177	177	177	107
2003		128	**124	**123	106	104	104	24
2004			357		355	343	343	14
2005				422	364	287	278	144
2006					891	759	759	132
2007						814	814	
2008							537	
Total	**584**	**712**	**1 015**	**1 022**	**2 192**	**2 785**	**3 312**	**421**

New Technology

	Reporting year (annual report)							
Year in question	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Cancelled**
2001	*28	*28	*28	*28	28	28	28	
2002	1	1	1	0,6	1	1	1	
2003								
2004			35	35	35	35	35	
2005				18	1	1	1	17
2006					7	7	7	
2007						7	5	2
2008							11	
Total	**29**	**29**	**64**	**82**	**72**	**79**	**87**	**19**

*) This figure is not provided in the annual reports, but has been estimated based on subsequent reporting.
**) This figure is not provided in the annual reports, and Enova has been unable to provide it. It has therefore been estimated on the basis of other reporting, calculations and discretionary judgment.

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