

Third National Energy Efficiency Action Plan for the Netherlands

30 April 2014

FOREWORD

This third National Energy Efficiency Action Plan (NEEAP) for the Netherlands was drafted as part of the obligation to report to the European Commission under the Energy Efficiency Directive (2012/27/EU) hereinafter the EED.

This Action Plan contains a description of measures to promote energy efficiency in the Netherlands, a calculation of the savings achieved and expected in the period 2011-2013 and other reporting obligations arising from the EED and EPBD. It is structured according to the NEEAP template recommended by the Commission, C(2013) 2882 final.

The preparation of this Action Plan was overseen by the Minister of Economic Affairs and the Minister of the Interior and Kingdom Relations, with input from the Ministry of Infrastructure and the Environment. Calculations were performed and explained by Netherlands Enterprise Agency (bottom-up) and the Energy Research Centre of the Netherlands (ECN) (top-down).

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1 INTRODUCTION

1.1 Main parts of the third NEEAP

The Energy Efficiency Directive (EED) obliges Member States to submit a national energy efficiency action plan (NEEAP) to the Commission by 30 April 2014 and every three years thereafter. These plans must cover significant energy efficiency improvement measures and expected and/or achieved energy savings, including those in the supply, transmission and distribution of energy as well as energy end-use.

This NEEAP was prepared in accordance with the reporting template produced by the European Commission in accordance with the Commission Implementing Decision of 22 May 2013 for the reporting of legal obligations.

Chapter 2 contains a summary of the national energy efficiency targets for 2020 and savings calculated for the Energy Efficiency Directive. It also summarises the final energy saving achieved and the expected saving for 2016 under the Energy Services Directive (ESD). These savings are calculated in two ways. The total ESD saving is determined for the Netherlands as a whole, and by sector, on the basis of national statistics and evaluation models. For selected measures, the savings are then mapped in more detail with bottom-up monitoring, allowing more direct connections to be made with policy measures. The measures monitored with bottom-up monitoring account for a large part of the total savings achieved, well above the 30% of total savings to be clarified by bottom-up monitoring under the ESD.

Chapter 3 contains a summary of the policy measures the Netherlands has already taken or plans to take to implement the EED. It also discusses the government's own energy efficiency. The Annex summarises the energy efficiency measures the effects of which are included in the calculation of the energy saving.

Annex 3 to this NEEAP also contains the Annual Report in accordance with Article 24 (1) EED.

1.2 National energy saving framework

Energy saving is important, not only for the conservation of energy supplies, but certainly also to maintain the competitiveness of the commercial sector in the Netherlands and consumer buying power. The cabinet therefore aims to use energy efficiency cost-effectively to achieve the objectives (20% reduction in greenhouse gases and 14% renewable energy in 2020). Energy efficiency is an economically advantageous means of reducing CO₂ emissions. The policy aims to get the potential for economically rational investments off the ground. The government is creating the basic conditions for this. The overarching framework for this is provided by the Energy Agreement for Sustainable Growth (Social and Economic Council of the Netherlands 2013) signed in September 2013 by a large number of parties, including

public bodies, employers' and employees' organisations, financial institutions and nature conservation and environmental organisations. Energy efficiency in all sectors of society is an important pillar of the energy agreement. The energy agreement is an alternative means of implementing Article 7 of the EED in the Netherlands.

2 SUMMARY OF THE NATIONAL ENERGY EFFICIENCY TARGETS AND SAVINGS

2.1 National energy efficiency targets for 2020

The indicative national energy efficiency target for 2020 is 482 PJ final end-use efficiency improvements to be achieved in the period 2014-2020 (Daniëls et al 2013, p.11 ff); in primary terms this is 671 PJ. These are cumulative figures (as required by the EED).

Table 2.1 contains an estimate of the primary energy consumption in 2020 (generally and by sector).

Table 2.1 Energy consumption in primary terms generally and by sector in 2020

	Energy consumption in primary terms (PJ primary)
Generally	2 541
Sector	
Energy sector	470
Built environment	771
Industry and SMEs	675
Transport	456
Agriculture and horticulture	169

2.2 Supplementary energy efficiency targets

The Energy Agreement for Sustainable Growth was drafted at the end of 2013. Its agreed objectives include an average final energy consumption saving of 1.5% a year and a final energy consumption saving of 100 PJ in 2020 (Social and Economic Council of the Netherlands, Energy Agreement for Sustainable Growth, 2013).

2.3 Primary energy savings

Table 2.2. contains an estimate of the total energy consumption saving by sector in 2020.

Table 2.2 Estimated total energy consumption saving in primary terms by sector in 2020 (including established, proposed, EU and autonomous policy, non-cumulative)

	Energy saving in 2020 in primary terms (PJ)
Sector	
Built environment	122
Industry and SMEs	66
Transport	30
Agriculture and horticulture	19
Total	237

2.4 Final energy saving

2.4.1 Final energy saving achieved and saving expected in 2016

Table 2.3 summarises the energy saving objectives (final) in accordance with the ESD as set in the first NEEAP and the savings achieved.

Table 2.3 Summary of energy saving in comparison with 2007 in accordance with the ESD

	Energy saving objective		Realised*/expected# energy saving	
	Absolute (GWh)	Percentage (%; based on average consumption 2001-2005)	Absolute (GWh)	Percentage (%; based on average consumption 2001-2005) ¹
2010	11 376	2	19 339*	3.4%
2016	51 190	9	57 282#	10.1%

¹This percentage shows the difference from the reference consumption in 2020 and 2016; in other words the consumption if there were no savings.

Table 2.4 shows a breakdown by sector of the savings calculated by the top-down method in final terms.

Table 2.4 Summary of energy saving by sector (top down)

Sector	Saving realised in 2010 (GWh)	Saving expected in 2016 (GWh)
Built environment	9 912	31 317
Industry and SMEs	1 548	5 576
Transport	2 172	10 639
Agriculture and horticulture	5 706	9 750
Total	19 339	57 282

2.4.2 Methodology

For the methodology used, please see paragraph 2.2 (Methodology for determining the saving achieved) of the Second National Energy Efficiency Action Plan for the Netherlands as submitted on 30 June 2011 and the references therein.

3 POLICY MEASURES FOR THE IMPLEMENTATION OF THE ENERGY EFFICIENCY DIRECTIVE (EED)

3.1 Horizontal measures

3.1.1 Schemes for alternative policy measures in accordance with Article 7 (9) and (10).

The Energy Agreement for Sustainable Growth (Social and Economic Council of the Netherlands, 2013) brings together the activities of over 40 organisations, including central, regional and local authorities, employers' and employees' organisations, nature conservation and environmental organisations, other social organisations and financial institutions, in fields such as energy efficiency. These parties aim to achieve an average annual saving of 1.5 % of the final energy consumption with the Energy Agreement and are thus expected to meet the EED objectives comfortably. Under this Agreement the parties have agreed a package of measures which is expected to produce a final energy consumption saving of about 100 PJ in 2020¹.

This objective is linked to two calibration points: at least 35% will be achieved by 31.12.2016 and at least 65% by 31.12.2018. If the Netherlands does not appear to be on course to meet the agreed targets, additional measures will be taken. These could include more compulsory and/or fiscal measures or other voluntary or non-voluntary measures, which will increase the certainty of achieving the 100 PJ energy saving. Like the measures referred to in this agreement, the package will be targeted at the energy user and thus not the supplier.

The energy saving agreements are aimed at the built environment, at increasing the energy efficiency of industry, the agricultural sector and the rest of the commercial sector and at energy saving in mobility and transport. Please see Annex 1 for a description of the measures.

A permanent committee within the Social and Economic Council of the Netherlands, in which all parties, including the government, participate, monitors and guarantees the results of the Energy Agreement. This committee is chaired by an independent chair. The parties themselves are responsible for implementing the parts of the agreement assigned to them. The central government is responsible for working out, implementing, executing and evaluating the policy measures referred to in the agreement and is accountable to parliament for this.

3.1.2 Energy audits and energy management system (EED: Article 8)

In the built environment, energy audits are promoted by the energy label, the energy performance advice (EPA) and the energy management system. These instruments are implemented independently by qualified experts and are verified by independent bodies.

¹ See Daniels et al (2013, p.19)

For the energy label this is done on the basis of the Energy Performance of Buildings Decree and the Energy Performance of Buildings Regulation.

The use of energy audits in industry is promoted by the LTA3 (*Long-Term Agreement 3*) and the Long-Term Agreement for the energy efficiency of ETS enterprises (MEE). The LTA3 and MEE agreements are accessible to all commercial final customers. In practice there are around 1 100 participating companies which account for about 80% of the energy used by industry and about 25% of energy use in the Netherlands. These agreements specify that all participating companies must draw up an energy efficiency plan (EEP) every four years and implement cost-effective measures from these energy-efficiency plans. The companies report on the measures taken every year. The energy audits are evaluated by the Netherlands Enterprise Agency, providing the independent implementation and review required by the Directive. EEPs for the period 2013-2016 were drawn up in 2012 for the 1 095 companies in all that participate in the LTA and MEE. These companies thus comply with the obligation to carry out a survey comparable to an energy audit before 5 December 2015.

The use of energy audits for non-residential buildings is also encouraged under the Long-Term Agreement on Energy Efficiency 2001-2020 (LTA3) and the Netherlands Enterprise Agency's programme for energy saving in the built environment (for those not participating in the LTA3).

The State has entered into a Green Deal with the Dutch Federation of Small and Medium-Sized Enterprises to achieve energy-efficiency in SMEs. Households are informed of the advantages of energy audits by Milieu Centraal (the *Consumer Energy Advisory Council*).

To ensure that Article 8 of the Directive is fully implemented, additional requirements will be included in the Activities Decree on Environmental Management. This will stipulate that all large enterprises which do not carry out an energy audit under the LTA3 and MEE must carry out an energy audit before 5 December 2015. The Activities Decree on Environmental Management will also guarantee that all large enterprises repeat their energy audit every four years. Large enterprises which already carry out an energy audit under the LTA3 and MEE, will already be planning to do this under these agreements. The provision of the Activities Decree on Environmental Management that companies who fall within the European Trading System in greenhouse gases, cannot be subjected to any obligations related to energy audits, will be scrapped, as the requirements of the Directive also apply to these companies.

Article 8 (5) states that access of market participants offering energy services must be based on transparent and non-discriminatory criteria. The Competitive Trading Act and the supervision thereof by the Authority for Consumers and Markets (ACM) will ensure this.

Article 8 (6) of the Directive states that enterprises that are not SMEs and that implement an

energy or environmental management system - certified by an independent body according to the relevant European or International Standards - are exempt from the requirement to carry out an energy audit once every four years under the Directive.

The Activities Decree on Environmental Management will include an exemption from the requirement to carry out an energy audit for this situation.

Article 8 (7) contains an optional provision for district heating and cooling networks. As part of the promotion of efficiency in heating and cooling a cost-benefit calculation must be made for new or substantially refurbished installations with a total input of more than 20 MW of the operation of the installation as a high-efficiency cogeneration installation. To determine whether a comprehensive cost-benefit calculation is necessary, the Activities Decree on Environmental Management will stipulate that a quickscan must be carried out as part of the energy audit.

3.1.3 Individual metering, meter reading and billing (EED: Articles 9 - 11)

Individual metering

The 1998 Electricity Act, the Gas Act, the Heating Act and the EU Energy Efficiency Directive (Implementation) Act contain regulations for the provision of meters. These acts provide that small consumers of gas, electricity, cooling and heat and large consumers of cooling can have an individual meter.

Individual meters for small consumers of cooling are provided for about 14 000 dwellings which obtain cooling via a geothermal energy system. The supply of cooling is connected to the supply of heat and is necessary to ensure the heat balance in the ground. The supply of cooling in the summer adds heat to the ground. This heat is re-used in the winter to heat the dwellings. The supply of cooling and heat is therefore necessary for the technical operation of the system. The metering of the supply of cooling will therefore not generally lead to energy efficiency as, if the consumer uses less cooling, another source will have to be found to restore the balance and that will cost money and energy. In addition to small consumers who obtain cooling from a geothermal energy system there may also be small consumers who obtain cooling not from a geothermal energy system but, for example, from a collective cooling installation. This is a very small sector of the market which covers a wide variety of situations. The potential for energy efficiency will thus generally be negligible. If it nevertheless appears to be technically possible and cost-effective to install cooling meters, a meter will of course be installed in these situations.

In principle, it is assumed that individual consumption meters can be installed cost-effectively. If there are any instances in which the installation of these individual heating meters is not cost-effective the supplier must explain why and must consider alternative cost-effective methods of metering heat consumption. The evaluation must not be limited to the energy efficiency benefits obtained by the supplier, but must also examine the energy

efficiency benefits to be obtained by customers with an individual meter. The calculation of this can be based on the method described in EN standard 15459 (Energy performance of buildings - Economic evaluation - procedure for energy systems in buildings), for example. If it is not technically possible or cost-effective to install an individual consumption meter, the supplier will preferably install heat cost allocators on radiators. Only if this is not technically possible or cost-effective, can the supplier propose alternative calculation methods. This provision is already included in the Heating Act for the allocation of costs to small consumers of heat in apartment complexes. It is not currently necessary to establish further rules for cost allocation for large consumers of heat and for large and small consumers of cooling.

The Remotely-Readable Meters Decree:

- specifies the functions that a smart meter must have;
- establishes rules for securing the metering data and personal data (in combination with the Personal Data Protection Act);
- specifies that a smart meter must ensure that a customer who produces electricity with a solar panel, for example, can see how much energy has been supplied to the network;
- implements the requirement that the smart meter must provide clear metering data which a customer can use to evaluate deals offered by other energy suppliers.

Article 9 (2) of the Directive provides that a customer with a smart meter must receive clear information about the input of electricity to the network and the off-take from the network. This information must facilitate the comparison of deals offered by other suppliers. This requirement has already been implemented in the Energy Cost Statement Decree. Small consumers can authorise a third party to view their metering data by means of an explicit declaration.

Under Article 9 (2)e of the Directive, a customer must be given advice at the time of installation of a smart meter. This information must lead to good utilisation of the features of a smart meter. The amendment to the EU Energy Efficiency Directives (Implementation) Act proposes to oblige the installer of the smart meter at a small consumer's premises, usually the network operator, to provide this information. This information puts the customer in a better position to save energy. The party installing the smart meter must also provide information about the data on the smart meter's reading display and the possibilities offered by the P1 port. This is the consumer data port on the smart meter, to which reading displays and energy management systems, for example, can be connected. A list of the energy management systems that can be connected to the smart meter can be provided. Parties other than the party responsible for installation can of course always inform customers of the energy-saving features of the smart meter.

Metering and billing

The regulations for the billing of final customers who do not have a smart meter and minimum requirements for information on the bill have already partly been implemented in the Energy Cost Statement Decree. This does not yet apply to bills for heat and cooling. The amendment to the EU Energy Efficiency Directives (Implementation) Act includes the possibility of establishing requirements for heating bills also by creating a basis in the Heating Act and the EU Energy Efficiency Directives (Implementation) Act.

Under Article 10 of the Directive, the information contained in these bills should not be considered to constitute a request for payment. In these cases, flexible arrangements must be offered for actual payments. This regulation is consistent with practice in the Netherlands, where customers make largely equal monthly payments in advance and receive the final bill annually in arrears on the basis of their actual consumption. The cost statements which the customers receive in the meantime allow them to adjust their energy consumption. These cost statements provide information about actual periodic consumption and the associated costs. The advance payment system has the advantage that the customer pays the same amount for energy every month. In view of the introduction of the smart meter there is not considered to be any economic justification for increasing the frequency of billing or the amount of billing information for customers who do not have a smart meter. Customers with a smart meter can receive a two-monthly consumption and cost statement. Providing customers who do not have smart meters with this kind of information more often places burdens both on the customer and the energy supplier while all customers who so choose can be provided with a smart meter in the next few years. Furthermore, this does not exclude the possibility of customers themselves agreeing with the energy supplier about the frequency of bills or billing information. The option in the Directive to have a different metering and billing policy for gas used only for domestic cooking purposes is not being used in the Netherlands.

Article 10 (3) of the Directive provides that information about the billed energy and historical energy consumption, to the extent it is available, be made available, at the request of the final customer, to an energy service provider designated by the final customer. Network operators must already provide small consumers of electricity and gas with quarter-hourly, hourly and daily values free of charge. There are sufficient legal bases to oblige suppliers to allow this group of customers to see their historical energy consumption, but this needs to be worked out in more detail. There is as yet no legal basis for setting further rules for information about energy billed and historical energy consumption for large consumers of electricity and gas and for small and large consumers of heat and cooling. It is therefore proposed that the amendment to the EU Energy Efficiency Directives (Implementation) Act will specify that a network operator (for the electricity and gas sectors) or a supplier (for the heat and cooling sectors) must provide a large consumer with this metering data. The amendment will also include a basis for developing this rule for all groups of consumers, for example in the Energy Cost Statement Decree.

Customers must be able to choose electronic billing information and must also receive a clear explanation of the bill. We propose specifying in the amendment to the EU Energy Efficiency Directives (Implementation) Act that a legal basis for implementing this be included in the EU Energy Efficiency Directives (Implementation) Act, the 1998 Electricity Act, the Gas Act and the Heating Act. It will then be further developed in the Energy Cost Statement Decree. The information concerned includes current prices, actual energy consumption, comparisons of current consumption with the previous year's consumption and with that of similar customers, and contact information for organisations where information can be obtained about energy efficiency, benchmark information from similar customers and objective technical specifications for energy-using equipment. Information about energy efficiency measures and (changes to) the agreements must also be sent with the bill.

Finally, Article 10(e) of the Directive specifies that consumers be provided with information and energy cost estimates in a timely manner on demand and in an easily understandable format enabling consumers to compare deals on a like-for-like basis. To implement this rule, the amendment to the EU Energy Efficiency Directives (Implementation) Act will incorporate a legal basis into the EU Energy Efficiency Directives (Implementation) Act, the 1998 Electricity Act, the Gas Act and the Heating Act. As the Energy Cost Statement Decree already contains rules for information connected with this, we propose to include a provision in that decree that suppliers must provide the customer, on demand and within a reasonable period of time, with comparable energy cost estimates on a like-for-like basis. In practice, there are also many websites where consumers can obtain energy cost estimates, deals or billing information.

Article 10(2) of the Directive requires customers who have a smart electricity or gas meter to be provided with accurate billing information based on actual consumption. Information about the historical energy consumption, for example, must be easily accessible. The customer must also be able to obtain detailed information about consumption in various times of use (day, week, month, year) via the internet or the meter interface. This should be available for a period of 24 months or, if the contract period is shorter, for the duration of the contract. This paragraph applies only to smart meters for electricity and gas. The Remotely-Readable Meters Decree establishes requirements to ensure that smart meters allow the provision of accurate billing information on the basis of actual consumption. Ease of access to metering data for electricity and gas will also be included in the Energy Cost Statement Decree.

A supplier of aviation or marine fuel must also provide the billing information described in this subparagraph. The customer in these sectors is not the person who actually fills up with the fuel but the person who pays the bill. These requirements have already been implemented in the EU Energy Efficiency Directives (Implementation) Act. Additional implementation is therefore unnecessary for these sectors.

Article 11 (1) specifies that customers should receive all their bills and billing information for energy consumption free of charge, and have access to their consumption data in an appropriate way and free of charge. We propose to include a basis in the 1998 Electricity Act, the Gas Act, the Heating Act and the EU Energy Efficiency Directives (Implementation) Act to develop these provisions further. These bases can be used to ensure that costs cannot be charged for providing the bill or the consumption and indicative cost statement. This does not rule out the possibility that energy suppliers will give customers who choose electronic billing and billing information an advantage.

Article 11 also specifies that the distribution of the costs of billing information for the individual consumption of heating and cooling in multi-apartment and multi-purpose buildings must be carried out on a non-profit basis. However, third-party costs may be passed on to a customer. This paragraph requires implementation in the Heating Act and the EU Energy Efficiency Directives (Implementation) Act. With this bill, we propose to include in these acts a basis for implementing the provision of the Directive in the Energy Cost Statement Decree. The Energy Cost Statement Decree will then ensure that a supplier of heat and cooling to multi-apartment and multi-purpose buildings does not charge for the billing of individual consumption. Under the current provisions of the Heating Act, a supplier of these multi-apartment and multi-purpose buildings may still charge the metered tariff to cover the cost of managing and maintaining the heating meter or cost allocators/cost allocation. The option to pass on third-party costs to customers will not be used. The Heating Act already provides for a standard, reasonable tariff for activities which are charged in connection with the supply of heat. This would also be detrimental to the 'No More than Otherwise' principle of the Heating Act. There is no need to provide for regulation of tariffs for the supply of cooling either.

3.1.4 Consumer information and training programmes (EED: Articles 12 and 17)

Examples of instruments and policies implemented in the Netherlands to promote behavioural change by fiscal incentives include the Energy Investment Allowance (EIA, Article 3.42 of the 2001 Income Tax Act) for small entrepreneurs and the excise on mineral oils (Section 6, Chapter II of the Excise Act) for small customers and consumers.

The EIA is a budgeted fiscal scheme for entrepreneurs who invest in energy-saving fuels. These entrepreneurs can deduct part of their investment costs from the taxable profit of their enterprise under the EIA. The effective financial advantage depends on the tax rate and is 10.5% of the approved investment costs on average.

The energy tax and excise duties on mineral oils are putting up the cost of using gas, electricity, petrol and diesel, for example, for small customers and consumers. This gives them an additional incentive to use them efficiently. The energy tax and excise duties for small customers, including households, are higher than the minimum rates set by Directive (2003/96/EG) on the taxation of energy products and electricity and therefore constitute

additional national policy.

The Netherlands Enterprise Agency distributes information via the internet about sustainable leases for buildings, for example, (Green Leases), performance contracts for the management and maintenance of buildings, and forms of mortgage which are combined with energy-saving measures. The website www.energiesubsidiewijzer.nl has been developed by the Netherlands Enterprise Agency and provides a list of subsidies, loans and other schemes for energy efficiency.

Milieu Centraal and the National Institute for Family Finance Information provide consumers with information about energy efficiency via the website www.bespaartest.nl.

There are various enterprises offering energy services in the Netherlands. The independent network organisation Esconetwerk aims to put these parties in a better position to gather information about the provision of energy services and to utilise opportunities in this field. Esconetwerk's focus is on reducing the cost of setting up an energy service provision contract between the energy service provider and the owner, manager and/or user of a building and to increase the quality of the energy saving measures in these buildings. These measures provide banks and other financial institutions with information about the possibilities of participating in the financing of measures to improve energy efficiency, by setting up public-private partnerships, for example.

3.1.5 Availability of qualification, accreditation and certification schemes (EED: Article 16)

The level of competence, objectivity and reliability of energy advisors in the Netherlands is very high. There are various training programmes for energy advisors and certifying bodies for the certification and accreditation of the training programmes for energy advisors. An example of a certifying body is the Stichting Kwaliteitsborging Installatiesector (*Foundation for Quality Assurance in the Installation Sector*) (KBI). KBI is an industry organisation which, amongst other things, certifies the design, installation and management of installations and assesses means of ventilation in dwellings. Another example of a certifying body is the Platform for Certification of Environmental and Occupational Health & Safety Management Systems (SCCM). The SCCM is working on a clear certificate for example for ISO 14001 (environment), EMAS (environment) and ISO 50001 (energy). The SCCM establishes certification systems for this and publishes them on its website.

The Accreditation Council (*Raad voor Accreditatie*) supervises the certifying bodies. This structure contributes to realising the national energy efficiency objectives. Milieu Centraal's website, aimed at consumers, refers to the importance of a certified customised solutions advisor.

3.1.6 Energy services (EED: Article 18)

The Netherlands Enterprise Agency website distributes information to promote the market

for energy services and access of small and medium-sized enterprises to this market. This information includes a template for a performance contract for the supply of heat and/or cooling by an ESCo and a number of other performance contract templates. The website of the Netherlands Enterprise Agency also provides information about financing structures and possible subsidies, such as the EIA.

In the green deal with The Confederation of Netherlands Industry and Employers (VNO-NCW), The Royal Association MKB-Nederland, LTO Nederland (*Netherlands Agriculture and Horticulture Organisation*), Stichting Natuur & Milieu (*Nature & Environment Foundation*), Stichting Natuur- en Milieufederaties (*Foundation for Nature and Environment Federations*) and CSR Netherlands (House of Representatives, session 2011-2012, 33 043, No 7) the State agreed with these parties that the advice given by the Energiecentrum midden- en kleinbedrijf (*Energy Centre for Small and Medium-Sized Enterprises*) will be moved into the Green Deal for SME Projects. The Energy Centre for Small and Medium-Sized Enterprises currently provides objective information about energy-efficiency and implementation in practice.

Energy service providers are listed on the internet (www.esconetwerk.nl). The list includes 41 suppliers and relevant parties. There are certainly far more service providers available in the Netherlands, but these providers are not (yet) part of this accessible network. We do not know the extent to which ESCO services are used in the Netherlands. However it will probably increase significantly in the coming years because the working method fits with a trend towards further cooperation, not simply tendering on the lowest price, but on the cost-profit ratio and finding and using core competencies (not every company is good at all aspects of operation). It is difficult to say how quickly the use of these services will rise, as it is also subject to conservative forces. ESCOs have a future, but they will develop slowly.

3.1.7 Other horizontal energy-efficiency measures (EED: Articles 19 and 20)

The independence of the network operators is guaranteed in the 1998 Electricity Act and the Gas Act (House of Representatives, 30 212). Good market access is assured by existing energy regulations and competitive trading legislation. We are also implementing this by making an open standard compulsory for the consumer port on the smart meter. This obligation is included in the General Order in Council on Remotely-Readable Meters. This gives third parties access to the measurement data obtained by the network operator via the smart meter, provided they obtain consent to this from the small consumer (privacy regulations).

The problem of the split incentive in social housing is solved by the Housing Valuation System in which investments in improving energy efficiency are encouraged by means of a points system based on the energy label. An energy-efficient dwelling delivers more points under the points system than a dwelling that is not energy efficient.

From 2016, the Government Buildings Agency will also always take energy costs into account in housing costs. The Government Buildings Agency will therefore also take on the costs of energy for offices and will be entirely responsible for the energy management of the buildings owned by it. This avoids a split incentive. For other buildings, different market participants will work together to remove obstacles in a Platform for Sustainable Housing. A possible solution to the split incentive problem is sustainable building leases and this is currently being investigated and worked out in more detail by the Platform for Sustainable Housing.

The Netherlands has chosen to set up a national fund to implement the alternative policy measures under Article 7 of this Directive. Under the Housing Agreement (Parliamentary Papers II, 2012/2013, 32 847 No 42) the cabinet will contribute a total of € 150 million in 2013 and 2014 to a fund for energy saving in the built environment. This will be a revolving fund, which means that the expenditure of the fund will be returned to the fund over time in the form of interest and repayment. This revolving fund is aimed at energy saving for tenants and homeowners and will be supplemented with funds from the market, to achieve a total investment of € 600 million. The revolving fund will start in 2013. The state will also provide a € 400 million subsidy for landlords in the rental social housing sector for investments in energy efficiency for the period 2014 - 2017 with the aim of contributing to the objectives of the Energy Saving Agreement for the Rental Sector.

3.1.8 Building renovation strategy (EED: Article 4)

Article 4 of the EED requires European Member States to establish a long-term strategy for the renovation of buildings. The Netherlands strategy (see Annex 2) is based on the Energy Agreement entered into in September 2013. The basic assumption of the Energy Agreement is that citizens and companies will themselves take responsibility for investments in energy-saving measures. The role of Central Government is to facilitate and encourage where necessary and to deal with restrictive regulations. The State has provided an incentive for the financing of energy-saving measures in particular with the Revolving Fund for Energy Saving in Dwellings and a subsidy for social landlords. Additional measures will also be provided to assist municipal authorities in their role as promoters of energy efficiency at a local level and to provide homeowners with an (indicative) energy label. The aim of this is to increase energy efficiency awareness. Adapting legislation and regulations is important for schemes such as Acceleration (a deal between housing corporations and builders) which enables around 100 000 housing corporation dwellings to be renovated to zero-on-the-meter standard. Together with the other agreements in the Energy Agreement and with the commitment of all signatories, we expect that this will provide a coherent approach, which will produce a steady incentive over the coming years (Tigchelaar and Menkveld 2013). This is good for the energy and climate objectives, but above all also for increasing affordability for citizens and creating additional activity and employment in the construction and installation and associated sectors. The part of the Energy Agreement that relates to the

Environmental Management Act is also important for the built environment. A number of decrees under this Act also work in favour of the Energy Agreement. A Guarantee Committee ensures that the agreed measures are taken, and the Energy Agreement goes beyond intentions. The results achieved under the Energy Agreement will be evaluated at set times; a decision can then be made to adjust the measures to be taken if the result achieved is inadequate. The next full evaluation of the Energy Agreement is planned for 2016. This produces the input for the mandatory 3-year report to the European Commission.

The government facilitates and encourages third parties to take energy-saving measures and deals with restrictive regulations. In this sense, the government's renovation strategy can be broken down into three activities:

1. Own responsibility
2. Facilitating and encouraging
3. Financing and subsidising

This approach applies both for the building of residential and non-residential buildings.

3.1.9 Other energy efficiency in the building sector

Table 3.1 shows part of the annual savings for the built environment. A list of the measures is given in Annex I.3.

Table 3.1 Annual savings for dwellings (bottom-up) (excluding electrical equipment)

	2008	2009	2010	2011	2012
Savings from house building/year (GWh)	1 550	1 500	1 400	2 250	2 500
- new buildings (GWh)	0	300	250	200	200
- existing buildings (GWh)	1 560	1 200	1 150	2 050	2 300
Total saving in comparison with 2007 (GWh)	1 550	3 050	4 450	6 700	9 200
Total saving in comparison with 2000 (GWh)	13 000	14 500	15 900	18 650	21 150

3.2 Energy efficiency of public bodies

3.2.1 Public bodies' buildings (EED: Article 5)

Article 5 EED obliges Member States to renovate 3% of the floor area of buildings owned and occupied by its central government each year and offers Member States the opportunity to opt for an alternative approach to achieve an equivalent objective. On the basis of Article 5(6) the Netherlands has opted for an alternative approach.

For the choice of an alternative approach, the Energy Research Centre of the Netherlands (ECN) has compared the saving delivered by the 3% renovation obligation with the saving realised by the Netherlands with an alternative approach. The ECN has set out its findings in the report 'Alternatieve aanpak artikel 5 Energy Efficiency Directive (*Alternative approach to*

Article 5, Energy Efficiency Directive), ECN-E--13- 031, May 2013'. The ECN report contains macrodata about the group of government buildings covered by Article 5 of the Directive. On the basis of its investigation, the ECN has demonstrated that the existing approach already produces greater energy efficiency than would be achieved by renovating 3% of the buildings a year.

In the coming years we will monitor and demonstrate on the basis of the Annual State Management Report and the Defence Annual Report that the obligation under Article 5 (1) EED will be met.

A large proportion of government buildings has also been provided with an energy label in accordance with the EPBD. A list of these buildings, with relevant energy information, is available to the public in the relevant register of labelled buildings (<http://www.ep-online.nl/Default.aspx>).

3.2.2 Other public bodies' buildings (EED: Article 5)

The Energy Research Centre of the Netherlands (ECN) has compared the saving delivered by the 3% renovation obligation with the saving realised by the Netherlands with an alternative approach. The ECN has set out its findings in the report 'Alternative Approach to Article 5 of the Energy Efficiency Directive, ECN-E--13-031, May 2013'. The existing approach already produces greater energy efficiency than would be achieved by renovating 3% of the buildings a year, as referred to in the Directive. This alternative route will therefore be used and no additional policy measures are required.

In addition to the obligations for government buildings, other public bodies and housing corporations must also be encouraged to take saving measures. The Minister of Infrastructure and the Environment is encouraging municipal and provincial authorities to draw up a local climate agenda setting out energy efficiency objectives. A local climate agenda also contains policy to reduce energy consumption in the built environment. The 'Road map to a climate-neutral municipal and provincial organisation' is one of the measures developed to achieve this. The Rijkswaterstaat (*State infrastructure authority*), living environment department, assists with the drafting of a local climate agenda.

Housing corporations are also developing initiatives to reduce energy consumption in the built environment. This is to implement the Energy Saving Agreement for the Social Rental Sector, which the Minister for Housing and the Central Government Sector has entered into with the housing corporations, in which they agree that housing corporations will reduce building-related energy consumption by 33% over the period 2008 - 2020.

319 of the 420 municipal authorities in the Netherlands made use of the subsidy scheme to promote local climate policy (*subsidieregeling stimuleringsmaatregel lokaal klimaatbeleid*) (SLOK), which ran from 2008 to 2012. The payment helps local authorities to implement local climate policy. These municipal authorities have translated their energy objective into

policy. Other local authority organisations also have plans, but they are not known centrally.

3.2.3 Purchasing by public bodies (EED: Article 6)

The State and the other authorities have been purchasing sustainably since 2007 to encourage sustainable production. Since 2010 the central government has been purchasing entirely sustainably. Municipal authorities have been purchasing 75% sustainably since 2010 and are aiming for 100% sustainable purchasing in 2015. Provincial authorities, water authorities, universities and higher and secondary vocational education institutions have set themselves the aim of purchasing wholly or partly sustainably.

To strengthen sustainable purchasing a general purchasing framework is being developed to take account of energy efficiency in the central government's purchases. This framework is used for the purchasing process by those purchasing for the central government and can, if desired, also be used by other public bodies and businesses. Once this purchasing framework has been adopted, it will be placed on the website of PIANOo (*the Dutch Public Procurement Expertise Centre*) to allow other authorities to use the framework for purchases. The implementation of the purchasing policy is accounted for in the Annual State Management Report.

The State encourages purchasers to take opportunities, in cooperation with companies wherever possible, to achieve the most sustainable, or even innovative, solutions. It does so both by providing information via the PIANOo website and, where possible, by making agreements on a systematic approach to making tendering as sustainable and innovative as possible.

3.3 Other energy end-use efficiency measures in industry and transport

Table 3.2, 3.3 and 3.4 give the annual savings for industry, including SMEs, agriculture and horticulture and the transport sector. See Annex I for a description of the measures.

Table 3.2 Annual savings of industry/SME under LTA (bottom-up)

	Unit	2008	2009	2010	2011	2012
Primary energy consumption LTA industry (incl. EU ETS)*	GWh	46 988	51 472	58 372	57 989	57 966
Primary energy consumption LTA industry (excl. EU ETS)*	GWh	21 547	23 903	28 964	30 289	29 978
Saving from process measures (excl. ETS)	GWh	346	377	910	675	421
Saving from Sustainable Energy 'behind the meter'	GWh	76	66	50	50	94
Percentage saving a year	%	1.9%	1.8%	3.2%	2.3%	1.7%
Total saving in comparison with 2007	GWh	422	789	1 683	2 359	2 824
Total saving in comparison with 2000	GWh	3 355	3 723	4 617	5 293	5 758

* The rise in energy consumption between 2008 and 2012 is almost entirely a result of the

entry of new companies. Some new sectors have joined and around 20 companies from the Benchmark Agreement have joined the LTA.

Table 3.3 Annual savings in agriculture and horticulture (bottom-up)

	2008	2009	2010	2011	2012
Primary energy consumption, greenhouse cultivation sector (GWh)	34 722	38 056	36 735	34 762	34 939
- Primary energy consumption (electricity) (GWh)	15 000	20 000	15 012	14 591	13 618
- Energy consumption for heat (GWh)	19 445	17 778	21 723	20 171	21 320
Improvement in energy-efficiency index in comparison with 1995	45%	41%	42%	47%	48%
Electricity production by cogeneration (GWh final)	7 500	10 833	12 233	11 734	10 671
Heat production by cogeneration (GWh)	10 000	13 889	14 874	13 661	13 534
Total saving, demand side (cultivation-related) in comparison with EEI 2007 (GWh)	2 222	-1 111	268	3 329	2 880
Total saving, supply side (cogeneration excl. ETS installations) in comparison with EEI 2007 (GWh)	3 889	5 278	5 092	4 862	5 059
Total saving, demand side (cultivation-related) in comparison with EEI 1995 (GWh)	14 167	10 556	11 677	15 074	14 541
Total saving, supply side (cogeneration excl. ETS installations) in comparison with EEI 1995 (GWh)	7 778	9 167	8 661	8 575	8 997
Total saving demand side (cultivation-related) in comparison with EEI 2007 (GWh)	2 222	-1 111	268	3 329	2 880
in comparison with EEI 1995 (GWh)	14 167	10 556	11 677	15 074	14 541
Total saving, supply side (cogeneration excl. ETS installations) in comparison with EEI 2007 (GWh)	3 889	5 278	5 092	4 862	5 059
in comparison with EEI 1995 (GWh)	7 778	9 167	8 661	8 575	8 997

Table 3.4 Annual savings in transport (bottom-up)

	2008	2009	2010	2011 ¹	2012 ¹
Shift to efficient passenger cars (label shift plus setting of CO ₂ standards)					
Saving in comparison with 2007 (in GWh)	429	927	1 853	3 241	4 617
Saving in comparison with 2001 (in GWh)	1 119	1 617	2 543	3 932	5 307

¹ For 2011 and 2012 partly on the basis of provisional figures.

3.4 Promoting efficient heating and cooling

3.4.1 Comprehensive assessment (EED: Article 14)

The investigation into the potential for using high-efficiency cogeneration and efficient district heating will be carried out by the central government and will involve the relevant sector organisations. The investigation will be repeated every five years. The first investigation will be completed by 31 December 2015.

The potential for using high-efficiency cogeneration and efficient district heating must also

be investigated under Article 14 of the Directive. In connection with this, a provision will be included in the Activities Decree on Environmental Management that anyone who informs a competent authority of their intention to build or renovate a large installation for the generation of electricity, must assess in advance whether the heat or cooling released by this can usefully be used for district heating or cooling. Anyone who intends to construct a new district heating or cooling network must also assess whether this network can be fed with heat from nearby industrial installations. The Activities Decree on Environmental Management will specify that, if the costs of connecting the installation to a (future) district heating or cooling network are lower than the benefits to be obtained, the owners of these installations must supply heat and cooling to a district heating or cooling network.

Under Article 14 (7) of the Directive, the owner of a new power station, or a power station that requires renovation, must investigate whether it can also be used for high-efficiency cogeneration or as a source for district heating or cooling networks. This will also be included in the amendment to the Activities Decree on Environmental Management. Article 14 (9) specifies that a number of obligations it contains will also apply to installations which fall within the scope of Directive 2010/75/EU on Industrial Emissions. The prohibition in the Environmental Law Decree on setting requirements for energy efficiency will thus lapse.

Article 14 (10) sets rules for guarantees of origin for high-efficiency cogeneration. These rules will be implemented in the Regulation on Guarantees of Origin for Electricity Generated in an Installation for High-Efficiency Cogeneration.

3.4.2 Other measures connected with heating and cooling efficiency (EED: Article 14)

The development of efficient heat and cooling networks will be promoted by means of fiscal incentives such as the EIA and energy tax, but also by the LTA3, MEE, Green Deals, the Nationaal expertise Centrum Warmte (*National Heat Expertise Centre*) and the setting of EPC standards.

3.5 Energy transformation, transmission and distribution and demand response

3.5.1 Energy efficiency criteria for energy network regulation and electricity tariffs (EED: Article 15)

Article 15 (4) of the Directive specifies that incentives must be removed from transmission tariffs for both gas and electricity that are detrimental to the overall efficiency (including energy efficiency) of the generation, transmission, distribution and supply of electricity or that might hamper participation of demand response in connection with system efficiency or in balancing markets and ancillary services procurement. The 1998 Electricity Act, in common with the Gas Act, already promotes network tariffs that are related to the most effective operation and quality of the electricity chain. As the network tariffs do not distinguish between providers of balancing and ancillary services by means of demand response measures or other measures, no additional requirements are needed for this.

Annex XI.2 to the Directive specifies that tariffs or conditions for the transmission of electricity may not prevent network operators or energy retailers from offering services for demand response measures, demand management and distributed generation. Examples of these services are the shifting of the peak load or demand reduction by energy efficiency measures. The current tariffs and conditions make no distinction between the services that can be used to implement these services.

The ACM will be appointed to supervise the tariffs and conditions of network operators to ensure that they do not constitute an impediment to the provision of the specified services and the energy efficiency of the electricity and gas market. We propose specifying expressly that network operators cannot use regulations that prevent the offer or performance of energy efficiency. The ACM can supervise network operators to ensure that their tariffs and conditions do not constitute an impediment to the development of energy efficiency.

3.5.2 Facilitating the promotion of demand response (EED: Article 15)

Providers of demand response services must be treated in a non-discriminatory way on the market for balancing and associated services. This is already the case in the Netherlands. All producers or customers with balance responsibility, including providers of demand response services, can compete in the market for the provision of system services if, by switching installations on or off, they can contribute to balancing the system.

Annex XI.3 of the Directive provides the possibility of using dynamic electricity and network tariffs for demand response measures by final customers. This is already being implemented. The electricity transmission tariffs depend on the voltage of the network to which the customer is connected and the capacity of the electricity connection.

3.5.3 Energy efficiency for the design and regulation of energy networks (EED: Article 15)

The regulation of quality aspects of the operation of electricity and gas networks already provides incentives for optimising energy efficiency in the energy system. This Bill also specifies that the ACM must take account of energy efficiency when performing its duties on the electricity and gas market. This will allow maximum use of the potential for energy efficiency in the electricity and gas networks. It also further implements Article 15 (2) of the Directive, which asks Member States to assess the remaining potential for energy efficiency in the networks.

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ANNEX I. DESCRIPTION OF MEASURES

I.1 General measures

The following measures relate to at least four sectors:

- Energy tax (all sectors)
- Energy Investment Allowance (EIA, all sectors)
- Long-Term Agreements (trade, services and public bodies, industry, transport and agriculture)
- Green investment and finance (VAMIL (*Random Depreciation of Environmental Investments*) /MIA (*Environmental Investment Allowance*))
- Green Deal (all sectors)

Name	<i>Energy Tax</i>
Category	Energy tax
Geographical area	The Netherlands
Target group	All end-users who fall within the scope of the EED
End-user activities to be influenced	Behavioural change (more efficient use of energy) and investment in energy-saving measures
Effectiveness	Increasing the energy price makes investment in an energy-saving measure more attractive and encourages energy-saving behaviour.
Status of implementation and planning	Implemented. Introduced on 1 January 1996 as the Regulating Energy Tax.

Description

The Energy Tax is a levy on energy consumption which improves the cost-effectiveness of measures aimed at energy efficiency and renewable energy. Taxing energy use makes energy efficiency (by changing behaviour or investing in energy-saving measures) more attractive. The use of energy-saving techniques is more cost-effective for the investment. The price elasticity (the extent to which consumption reacts to a price change) of the Energy Tax is low and varies from -0.1 to -0.25 in the short term. In the longer term, the elasticity is higher as a result of changes in investment behaviour.

The Energy Tax is levied on:

- electricity;
- natural gas.

Since 2004, the level of the Energy Tax has depended on a customer's energy consumption. The higher the consumption, the lower the Energy Tax levied. In January 2010 the tax on mineral oils was transferred to the Excise Duty Act (2010 Fiscal Simplification Act).

Households

The Energy Tax significantly increases energy prices for all small consumers (up to 5 000 m³ gas and 10 000 kWh) and, to a lesser extent, for large consumers. The Energy Tax accounted for approximately 30% of the natural gas and electricity price for small consumers in 2010.

The tax is charged by the energy supplier. The income from the energy tax is fed back to the taxpayer through measures such as reduced wage and income tax. The Energy Tax is a

measure of the Ministry of Finance.

Non-ETS industry

Industry that does not fall within the scope of the emissions trading system pays a higher price for natural gas and electricity than energy-intensive industry (which does fall within the scope of emissions trading).

Agriculture

The energy tax has a separate lower gas rate for greenhouse cultivation (certainly until 2013). This means that these companies are treated in the same way as the energy-intensive large consumers.

The Energy Tax rates for 2014 are as follows:

Table 1: Regular Energy Tax rates on natural gas and electricity (2014 rate in € per unit excl. VAT)

Natural gas	0 - 5 000 m ³	€ 0 1894
	5 000 - 170 000 m ³	€ 0 1894
	170 000 - 1 million m ³	€ 0 0446
	1 million - 10 million m ³	€ 0 0163
	> 10 million m ³ non-commercial	€ 0 0117
	> 10 million m ³ commercial	€ 0 0117
Electricity	0 - 10 000 kWh	€ 0 1185
	10 000 - 50 000 kWh	€ 0 0431
	50 000 - 10 million kWh	€ 0 0115
	> 10 million kWh non-commercial	€ 0 0010
	> 10 million kWh commercial	€ 0 0005

Name	<i>EIA: Energy Investment Allowance</i>
Category	Tax reduction and other taxes that reduce the energy consumption of final consumers
Geographical area	The Netherlands
Target group	Entrepreneurs from all sectors that pay income or corporation tax (excluding households, public bodies and the non-profit-making sector)
End-user activities to be influenced	Influences the choice of investment (encourages investment in energy-efficient equipment and equipment for generating renewable energy)
Effectiveness	The instrument reduces the financial threshold for the purchase of energy-efficient equipment.
Status of implementation and planning	Implemented in 1997; ongoing.

Description

The Energy Investment Allowance (EIA) is a fiscal measure that offers the possibility of an additional allowance on taxable profit. EIA applications can be made for the purchase of designated energy-efficient equipment and equipment for the generation of renewable energy. From 2014 investments in renewable energy are supported only by SDE+ (*the Stimulation of Sustainable Energy Production*).

The EIA enables companies to deduct 41.5% of the investment amount from their taxable profit so they do not have to pay as much tax. EIA applications can be made for the cost of purchasing or producing energy-efficient equipment and renewable energy. The energy-efficient equipment must save more energy than the conventional equipment available in the market. Equipment for generating renewable energy is eligible for the EIA if it generates more energy-efficiently than conventional equipment. Only the latest types of equipment are thus eligible for the EIA.

A general EIA application can be submitted, using an energy-saving calculation to demonstrate that equipment that is not on the energy list meets EIA standards. Proposals can be submitted for techniques to be included in a new energy list.

An investment may relate to (a part of) equipment that is eligible both for the EIA and for other fiscal measures (Small-Scale Investment Allowance (KIA), VAMIL and/or MIA). You cannot use both the EIA and MIA for the same investment element, although it is possible to combine the EIA or MIA with VAMIL.

The EIA is a measure of the Ministries of Finance and Economic Affairs. It is administered by the Netherlands Enterprise Agency and the Tax Administration.

Name	<i>Long Term Agreements</i>
Category	Voluntary agreements
Geographical area	The Netherlands
Target group	<ul style="list-style-type: none"> • Industry • Service sector • Agriculture
End-user activities to be influenced	The companies must produce energy efficiency plans, implement them and report on progress. They must also monitor energy consumption annually. Companies that enter into Long-Term Agreement 3 must set up an energy care system.
Effectiveness	An average efficiency improvement of 2% a year was achieved in the period 1989 – 2012.
Status of implementation and planning	The Long-Term Agreements began in 1992. LTA3 and LTA-ETS run until 2020.

Description

Since 1992 the government has entered into Long-Term Agreements (LTAs) for the improvement of energy efficiency with a large number of sectors as part of its energy policy. The first series of LTAs for industry was successfully concluded in 2000. An average efficiency saving of 22.3% was achieved over the period 1989 - 2000. In the period up to 2012 the LTA3 participants achieved a saving rate of 2% a year. Since the start of the MEE agreement (LTA-ETS), participants have achieved a total saving of 4.7% in the period 2009-2012, which is a saving of around 1.6%.

The Long-Term Agreements entered into with various sectors can play an important role in raising awareness of the possibilities for, and benefits of, saving energy. The LTA encourages more economical and rational decision-making on energy-saving techniques by increasing knowledge of the possibilities.

Various (general) instruments are used to support the agreement, such as the Renewable Energy Production Incentive Scheme (SDE), MIA / VAMIL and EIA.

Industry

Two types of Long-Term Agreement are currently running:

- LTA3 for large and medium-sized companies and institutions in industry, agriculture

and the service sector;

- MEE (LTA-ETS) for ETS companies in the industry sector (including the food industry).

The LTAs are concluded with individual companies, sectors *and* the Competent Authorities. They aim to achieve energy-efficiency within the chain, as well as a company's own operating processes and to promote the use of renewable energy. Where appropriate, sectors participating in the programme also carry out strategic studies (roadmaps) based on a 50% reduction in CO₂ in 2030.

LTA3 and MEE run until 2020. A company participating in the programme undertakes to do the following:

- Draw up an energy-saving plan every four years (for LTA3 companies in consultation with the Competent Authority). In the Energy Efficiency Plan (EEP) the company describes the cost-effective measures taken within its own process and within the chain.
- As far as possible, a list of measures is drawn up for each participating LTA sector. Companies carry out the cost-effective energy-efficiency measures from the list.
- A sector objective is established on the basis of all EEPs in a sector. This is laid down in a Long-Term Plan (LTP).
- Within three years of joining an LTA3 programme, the company must have an energy management system.
- The company must report annually to NL Agency and the sector organisation on the implementation of the EEP and energy management.

The effect of the LTA as an instrument is related to the instruments under the Environmental Management Act (LTA3 only), ETS and the Energy Tax: the LTA provides an incentive, the Environmental Management Act and ETS have a regulatory role, and the Energy Tax provides a reward.

The LTA programme is implemented on behalf of the Ministries of Economic Affairs, the Interior, and Infrastructure and the Environment. Implementation is facilitated by the Netherlands Enterprise Agency.

Trade, services and public bodies

Long-Term Agreements have been signed with various subsectors within trade, services and public bodies. These are scientific and higher vocational education institutions, banks and insurers and University Medical Centres.

Agriculture

The Clean and Economical Agro-Sectors agreement sets specific objectives for aspects such

as energy efficiency improvements for greenhouse cultivation, livestock farming, arable farming and bulb and mushroom growing for the period up to the end of 2020.

The flower bulb and mushroom growing sectors have presented new Long-Term Agreements for 2012-2016. These sector-specific LTAs use the 'instruments/measures' research, explanation and also demonstration and knowledge-transfer. The 'instruments/measures' are thus also inter-related.

The CO² sector system agreement has been concluded for the greenhouse cultivation businesses, in which the sector has effectively agreed a CO² ceiling with the government. To achieve the CO² targets set, both from the point of view of energy-efficiency and the desire for greater independence from fossil fuels, a comprehensive 'Innovation and Action Programme for Greenhouse as Energy Source' has been launched within which sector-specific innovations are prepared. Two subsidy schemes set up specifically for greenhouse cultivation (Market Introduction of Energy Innovations (MEI) and Investment in Environmentally Friendly Measures (IMM/IRE)) also provide for the introduction of these innovations to the market.

The Clean and Efficient Agrosectors Agreement was 'recalibrated' in 2014, with the intention that the energy-efficiency objectives set will be maintained and the Long-Term Agreements (which have now expired) will be updated.

The primary livestock sector and arable farming have no specific LTA, and are working on using energy innovations under the Clean and Efficient Agrosectors Agreement.

In recent years, various demonstration projects have been realised in all sectors and the knowledge obtained has been actively disseminated (Energy Project). Some forward-looking farming companies took part in the project 'FarmingandClimate' in which primary companies receive direct assistance from practical researchers to achieve climate-neutral operation (if they wish).

Advantageous Green Deals have also been signed in these sectors aimed at energy-producing companies and further energy saving (including the development of geothermal energy, high temperature geothermal storage and the greening of a cogeneration installation, but also, for example, making a mushroom-growing company energy neutral).

Name	<i>Green Investment and Finance</i>
Category	Tax incentive
Geographical area	The Netherlands
Target group	All end-users that fall within the scope of the EED
End-user activities to be influenced	Increasing the attractiveness of investment in projects with a positive effect on nature and the environment
Effectiveness	Affects the end-user directly.
Status of implementation and planning	Implemented in 1995; ongoing scheme

Description

The umbrella term ‘Green Investment’ covers both green saving and investment and also green finance. To be eligible for green finance, projects must have a ‘green statement’ which shows that they meet certain criteria. Green Investment is made possible by two schemes: the Green Funds Scheme and the Green Projects Scheme.

The Environmental Investment Allowance (*Milieu-investeringsaftrek*) (MIA) gives entrepreneurs who invest in environmentally-friendly equipment the opportunity to deduct 36% of the investment costs from their taxable profits. The percentage of the deduction depends on the environmental effects and acceptance of the equipment. The Random Depreciation of Environmental Investments (Vamil) scheme offers a liquidity and interest advantage. Entrepreneurs that use Vamil for equipment may write this equipment off at any time of their choosing, or freely. The MIA and Vamil are two different schemes, but are often combined. Both schemes use a common list, called the Environment List, which lists all equipment eligible for the MIA and/or VAMIL. The Environment List is revised every year.

In greenhouse cultivation, the Green Label Greenhouse and the semi-closed greenhouse are frequently listed under Green Investment and in the MIA and Vamil.

- Green Label Greenhouses: greenhouses for commercial cultivation of horticultural crops with low energy-use and a low environmental impact. The greenhouses must fulfil strict requirements for the use of minerals, water and energy. Aspects such as light radiation and biological crop protection methods also play a part. Depending on the number of points obtained in the green certificate, Green Label Greenhouses can participate in the MIA/VAMIL and/or Green Investment schemes.
- Semi-closed greenhouse systems. The environmental and energy performance of semi-closed greenhouse systems is considerably better than that of Green Label Greenhouses,

because the emphasis is on applying the latest techniques and using renewable energy sources. In these greenhouses the hot greenhouse air is cooled and the heat is stored in aquifers.

The Green Projects Scheme offers tax rebates for green investment, which covers investments in sustainable building and energy efficiency. As the government gives a tax rebate to savers and investors for investments in green projects, investors can settle for lower payment and banks can lend money for green projects at lower interest. The scheme was changed on 1 January 2011 to reduce the tax advantage for savers and investors in stages from 2.5% to 0.7%, as agreed in the 2012 Lente Agreement. The asset return tax exemption (1.2% advantage) still applies at the same rate. Savers and investors thus still have a tax advantage of 1.9%. The National Mortgage Guarantee is a guarantee which insures the mortgagee against the risk of being unable repay the mortgage. This guarantee is intended for mortgages up to € 350 000 (1 July 2012), and will be reduced in stages to € 265 000 on 1 July 2014. Energy-saving measures can be co-financed and investments in energy efficiency up to a maximum amount of € 8 000 are still excluded from the income assessment. Energy-saving measures include: High-efficiency boiler, cavity wall insulation, roof insulation, floor insulation, HE++ glass, heat pump, solar boiler and/or solar cells.

Name	<i>Green Deal</i>
Category	Voluntary agreements
Geographical area	The Netherlands
Target group	All end-users
End-user activities to be influenced	Investments in energy-saving and renewable energy measures.
Effectiveness	
Status of implementation and planning	Concrete implementation of Green Deal agreements started in autumn 2011.

Description

The cabinet wishes to enter into a Green Deal with society for energy, with the emphasis on energy efficiency and local generation of renewable energy. Citizens, companies and others are increasingly finding their own solutions for smarter and more sustainable energy management, for example by saving energy or generating it themselves, or by clean energy use. These are often energy projects that pay for themselves, but they do not always get off the ground. Problems encountered by citizens, companies and other parties in setting up energy projects include inadequate staffing, too little information, confusion about permits, unclear or conflicting regulations or failure to find cooperation partners.

The government can help solve these problems in a variety of ways, for example by giving advice, bringing parties into contact with each other and removing obstacles in legislation and regulations. By entering into a Green Deal with parties taking the initiative, the government aims to take action to solve these problems and give the project another chance.

To get the market moving, the government is looking for pioneering initiatives. These could be:

- Initiatives that contribute to increased energy efficiency and the realisation of renewable energy policy and are attractive from an economic point of view. These initiatives must be in the implementation or application phase.
- Initiatives capable of producing results in the short term, preferably within the term of office of the present cabinet.
- Initiatives that preferably have the potential to be repeated, so that comparable projects can be started up without government intervention.

The government is in discussions with companies and individuals from its network to produce a full list of initiatives. A website has also been set up where parties can announce their energy projects. Projects can be announced from 1 April to 1 June 2011. The 2013 Green Deal progress report describes the 146 Green Deals entered into in 2011 and 2012 (http://www.rvo.nl/actueel/nieuws/voorgangsrapportage-green-deal-2013?ns_service=mail&ns_robot=partner-mailplus&ns_mail_uid=2zMTZiRwpggqz7f&ns_mail_job=31191089&ns_mchannel=nieuwsbrief&ns_source=do&ns_linkname=voorgangsrapportage-green-deal-2013).

These are two examples of Green Deals:

- In June 2011, the Province of Overijssel signed an agreement with 25 Overijssel housing corporations to improve the energy-efficiency of the housing stock by 25%. These corporations represent 90% of the rental social housing stock in Overijssel. The Province of Overijssel makes a scheme available to the housing corporations that sign this agreement to finance energy-saving measures or sustainable energy production in existing rental social housing. This approach must deliver a manageable affordability ratio.
- The municipality of Amsterdam aims for all new buildings in the city to be climate-neutral from 2015. This applies to the building of 23 900 new homes from 2015-2020. The Central Government is working with the Municipality of Amsterdam to remove legislative and regulatory impediments to enable the city to establish requirements to produce climate-neutral new buildings. The National Government supports and values this aim and will examine with Amsterdam how any legislative and regulatory impediments which could hamper it can be removed for this transitional period. The city and State will investigate and make a decision about these possibilities within a year.

I.2 Built environment

The following measures apply to the built environment sector:

- Energy tax (see description in paragraph I.1)
- Long-Term Agreements (see description in paragraph I.1)
- Energy Investment Allowance (see description in paragraph I.1)
- Tightening of energy-performance standards (EPC)
- Lente Agreement
- More with Less Agreement
- Changes to the valuation system for residential buildings.
- 'Reduced VAT rate for insulation work' and 'Reduced VAT rate on the labour costs for maintenance and renovation of residential buildings' (ends on 31 December 2014)
- Enforcement of the Environmental Management of Non-Residential Buildings Act
- Block-by-Block approach
- Acceleration
- Revolving fund for energy saving and supplementary measures
- Energy Saving Agreement for the Social Rental Sector
- € 400 million subsidy available for tenants in the social rental sector

Name	<i>Tightening of energy performance standards (EPC)</i>
Category	Building requirements and enforcement
Geographical area	The Netherlands
Target group	<ul style="list-style-type: none"> • Building companies • Project developers
End-user activities to be influenced	Continuously improve the energy-efficiency of new buildings
Effectiveness	High
Status of implementation and planning	Runs until the end of 2015

Description

On 1 January 2011 the EPC for new residential buildings was tightened from 0.8 to 0.6, as established in the Building Decree. The next EPC tightening to 0.4 is planned for 1 January 2015, with the ultimate aim of achieving nearly zero-energy residential buildings in 2020. Non-residential buildings must be 50% more energy-efficient in 2015 than in 2007. New government buildings must be built to nearly zero-energy standards from the end of 2018.

The EPC has been part of Dutch climate policy since 1995 and sets minimum performance requirements for energy in new buildings.

Name	<i>Lente Agreement on energy-efficient new buildings</i>
Category	Voluntary agreements (covenant)
Geographical area	The Netherlands
Target group	<ul style="list-style-type: none"> • Building companies • Project developers • Banks
End-user activities to be influenced	Continuously improve the energy-efficiency of new buildings
Effectiveness	High
Status of implementation and planning	Runs until the end of 2015

Description

To support the tightening of energy performance requirements the Central Government and market participants (Bouwend Nederland, NEPROM (*The Association of Dutch Development Companies*) and NVB (*The Association of Developers and Building Contractors*)) entered into an agreement (Lente Agreement) in 2008. The objective of the Lente Agreement is to improve the energy performance of new buildings by 25% in 2011 and 50% in 2015 (in comparison with the building requirements of 2007), with the intention of creating the conditions for energy-neutral new building in 2020. To achieve this, the State is regularly tightening the legislation and regulations. The sector organisations run a knowledge-transfer and promotion programme for the companies affiliated to them to bring the level of knowledge of their members about the improvement of energy performance up to standard. The Lente Agreement was recalibrated in June 2012. Implementation programmes will be created for this.

Name	<i>More with Less: Agreement for energy saving in existing residential and other buildings</i>
Category	Voluntary agreements
Geographical area	The Netherlands
Target group	<ul style="list-style-type: none"> • Housing corporations • Building companies • Installation sector • Owner-occupiers
End-user activities to be influenced	Improve the energy-efficiency of existing residential buildings
Effectiveness	Affects target group directly
Status of implementation and planning	Runs until 31 December 2020

Description

The More with Less programme is a joint initiative of the National Government, housing corporations, building companies, the installation sector and the energy companies for energy saving in existing buildings. The agreement was recalibrated on 28 June 2012. With the new agreement, the parties intend to improve the annual energy performance of at least 300 000 existing residential and other buildings by at least two energy label classes. Subsidies from More with Less were available until the end of 2011.

Name	<i>Changes to the Home Valuation System</i>
Category	Legislation
Geographical area	The Netherlands
Target group	<ul style="list-style-type: none"> • Landlords • Tenants
End-user activities to be influenced	Promote energy-saving investments
Effectiveness	
Status of implementation and planning	Came into effect on 1 July 2011

Description

The Home Valuation System was changed on 1 July 2011. With this change, the Home Valuation System values the energy performance of the home (on the basis of the energy label) to promote investments in energy-saving measures. The Home Valuation System sets the maximum rent on the basis of the characteristics of the home. By including the energy label in the Home Valuation System the maximum rent of the home is linked to its energy label. The change to the Home Valuation System will be evaluated after three years, immediately after the end of the transitional period. The change to the Home Evaluation System came into effect on 1 July 2011 for homes with an energy label and for homes that must have an energy label under the regulations. A transitional period up to 1 January 2014 applied for homes which do not yet have an energy label; from 1 January 2014 the Home Valuation System with an energy label applies to all rental homes.

Name	<i>Reduced VAT rate on labour costs for fitting insulation and glass and for maintenance and renovation of residential buildings</i>
Category	Tax incentive
Geographical area	The Netherlands
Target group	<ul style="list-style-type: none"> • Housing corporations • Home owners
End-user activities to be influenced	Promoting energy-saving investments
Effectiveness	Targeted directly at the home owner
Status of implementation and planning	Ongoing since 2009

Description

This reduces the VAT rate on energy-saving measures on residential buildings. The reduced VAT rate applies to renovation and refurbishment of residential buildings, the fitting of insulating material and the labour component for the fitting of glass. The VAT rate is reduced from 19% to 6%. Until 1 January 2014 the reduced rate for insulation work also applied to materials. With effect from 1 January 2014 the reduced rate applies only for the labour for fitting insulating materials. This is in line with the reduced rate for labour for the renovation and refurbishment of residential buildings, which may in some cases include insulation work. This restriction is also counterbalanced by an extension. The labour component for fitting glass will be covered by the reduced VAT rate from 1 January 2014. This decision has been made as part of the 2013 Fiscal (Miscellaneous Provisions) Act, which was sent to the House of Representatives on 23 May 2013 and passed by the Senate on 15 October 2013.

Name	<i>Enforcement of the Environmental Management Act for non-residential buildings</i>
Category	Building requirements and enforcement
Geographical area	The Netherlands
Target group	Building owners and users/tenants
End-user activities to be influenced	Enforcement of the legal obligation to take energy-saving measures with a payback time of less than 5 years
Effectiveness	
Status of implementation and planning	Ongoing

Description

The subject of energy efficiency is part of the Environmental Management Act. It is further elaborated in the Activities Decree. Under Article 2.15 (1) of the Activities Decree, large or medium-sized companies must take all cost-effective measures with a payback time of five years or less. The obligation applies for an energy consumption of more than 50 000 kWh and 25 000 m³ gas and also for non-residential buildings including offices, healthcare institutions and schools. The competent authority, usually the municipal authority, can enforce compliance with the Activities Decree. If the business consumes more than 200 000 kWh electricity or 75 000 m³ natural gas a year, the enforcer can compel it to carry out an energy saving study. This study can be imposed if it is likely that insufficient cost-effective measures are being taken.

As part of the Energy Agreement it was agreed that a concrete 'recognised' measures list will be established in the regulation accompanying the Activities Decree. A list of cost-effective energy-saving measures will be drawn up for each sector (payback time of five years or less). The system of recognised measures aims to clarify the existing obligation and improve implementation.

Name	<i>Block-by- Block approach (large-scale approach to energy saving in the existing housing stock)</i>
Category	Demonstration projects
Geographical area	The Netherlands
Target group	Homeowners, corporations
End-user activities to be influenced	Facilitate investments in improving the energy quality of residential buildings
Effectiveness	
Status of implementation and planning	13 local and one regional block-by-block projects were started at the end of 2011. The first 10 000 residential buildings were prepared at the end of 2012. Actual measures will also be taken there in 2013.

Description

The cabinet is taking a large-scale approach to existing buildings to accelerate progress in this sector. A pilot project called block-by-block has been launched in which various consortia of market participants cooperating locally work on taking larger-scale energy-saving measures in existing residential buildings. The aim is to encourage owner-occupiers and landlords to take energy-saving measures with an attractive range of measures and ultimately to encourage the market to operate independently. The pilot started in 2011 with 13 local and one regional project. The local projects are taken on and carried out by market participants in close cooperation with the municipal authorities. The local authority usually plays a directing role. The first 10 000 residential buildings were prepared by the end of 2012. The measures were actually taken in these buildings in 2013. The pilot will run for a total of three years. In this period sufficient information must be obtained about the possibilities of market concepts which can be applied on a larger scale, particularly experience with the various financing structures, marketing models and forms of quality assurance. The State provides financial support for the additional process costs of the projects and takes care of the distribution of knowledge and experience.

Name	<i>Acceleration</i>
Category	Innovation project
Geographical area	The Netherlands
Target group	Corporations Building companies
End-user activities to be influenced	Facilitating investments in improving the energy quality of dwellings
Effectiveness	http://www.stroomversnelling.net/
Status of implementation and planning	Four prototypes delivered at the end of 2013. Phase 1: Prototyping: 1 000 homes in 2014. Phase 2: Industrialisation: 10 000 homes in 2015 and 2016 Phase 3: Scaling up: 100 000 homes in 2017 to 2020

Description

Acceleration is a cooperation agreement between building companies and housing corporations for the realisation of the first 11 000 'zero-on-the-meter' homes. If roll-out is successful we plan to have completed 100 000 'zero-on-the meter' renovations by 2020. The essence of the 'zero-on-the meter' concept is the idea of using the energy bill to finance the renovation of homes into zero-energy homes. Building companies provide landlords with guarantees that the home has no energy costs after renovation. This can only be achieved by significant innovation and by moving up to an industrial scale which will lead to better residential products and significantly lower prices.

Name	<i>Revolving fund for energy saving</i>
Category	Loans
Geographical area	The Netherlands
Target group	<ul style="list-style-type: none"> • Homeowners • Housing corporations • Companies
End-user activities to be influenced	Encouraging investments in energy-saving in existing buildings
Effectiveness	
Status of implementation and planning	<p>- The fund for owner-occupiers has been operational since 21 January 2014.</p> <p>-The fund for landlords and the fund for owners' associations are also expected to be operational in 2014.</p>

Description

The National Government uses revolving funds for energy-saving measures in the built environment (existing buildings). This measure promotes energy-saving and employment and ensures that housing remains affordable for Dutch households if energy prices rise. € 185 million euros of central government funds is available for the three funds together (owners, occupiers, landlords and owners' associations). We are looking to find co-finance of € 555 million for the central government funds. The fund for owner-occupiers has now been launched with € 225 million of co-finance from banks.

Name	<i>Energy-saving agreement for the rental sector</i>
Category	Voluntary agreements
Geographical area	The Netherlands
Target group	<ul style="list-style-type: none"> • Housing corporations • Private landlords • Building companies • Installation sector • Tenants
End-user activities to be influenced	Improving the energy-efficiency of existing buildings
Effectiveness	Affects the target group directly
Status of implementation and planning	Runs until 31 December 2020

Description

The Energy Saving Agreement for the Corporation Sector (existing buildings) of October 2008 has been recalibrated and tightened. The agreement with housing corporations of 2008 is an agreement between the Central Government, Aedes (*the Association of Housing Corporations*) and the Housing Federation. The aim is to guarantee that the corporations work to realise the energy-saving objectives. Corporations have about 2.3 million homes and have now taken steps to make the housing stock more energy efficient. With the new Energy saving Agreement for the Rental Sector of June 2012 the original objective of 20% 'additional' saving in the period 2008-2018 has been converted to a total saving of 33% over the period 2008 to 2020. The rental homes of corporations will therefore have an average B label at the end of 2020. Now that Vastgoed Belang (*the Association of Private Property Investors*) has joined the agreement, it also applies to tenants in the private rental sector. The objective for this sector is that 80% of homes must be improved to label C or above before the end of 2020.

The cabinet is working to reverse legal, financial and fiscal impediments to the general introduction of renewable energy. Non-green labels (D, E, F and G) will then be declared unacceptable and there will be a vision for how to end them. The development of affordability ratios (rent, energy, rental allowance) will be recorded nationally and monitored locally.

Name	€ 400 million subsidy available for landlords in the social rental sector
Category	Subsidy
Geographical area	The Netherlands
Target group	Social rental sector
End-user activities to be influenced	Increase the efficiency of homes in the social rental sector
Effectiveness	Affects target group directly
Status of implementation and planning	Available for investments in the period 2014-2017

Description

The parties to the Energy Saving Agreement for the Rental Sector undertake to achieve the agreed objectives of an average label B (corporations) and a minimum label C (private landlords) for 80% of homes in 2020. To achieve this, central government is providing landlords in the social rental sector with a subsidy of € 400 million for investments in energy-efficiency in 2014-2017 with the aim of contributing to the objectives of the Agreement. This measure promotes a substantial wave of short-term investments to make residential rental properties energy-efficient. The € 400 million will become available to landlords in 2018 and 2019 and will be covered by a temporary increase in the energy tax. This increase in energy tax will be cost-neutral as a result of the proposed lower SDE+ payments from 2018, described below under large-scale renewable generation.

I.3 Industry

The measures for the industry sector are as follows:

- Energy Tax; see description in paragraph I.1
- Energy Investment Allowance (EIA); see description in paragraph I.1
- Long-Term Agreements; see description in paragraph I.1

I.4 Traffic and transport

The measures for the traffic and transport sector are as follows:

- Energy Investment Allowance (for description see paragraph I.1)
- Long-Term Agreements (for description see paragraph I.1)
- Fiscal greening
- Sustainable Mobility pilot projects
- New Driving
- Sustainable Logistics (Connect)
- Lean and Green Logistics
- Lean and Green Personal Mobility

Name	<i>Fiscal greening (other transport taxes)</i>
Measures	<ul style="list-style-type: none"> • Exemption from Motor Vehicle Tax for efficient passenger cars • Passenger car and Motorcycle Tax based on CO₂ emissions • Additional tax liability for company car depending on CO₂ emissions • Promotion of efficient cars through the MIA, VAMIL and KIA schemes
Category	Tax incentive
Geographical area	The Netherlands
Target group	Owners and users of passenger cars
End-user activities to be influenced	Promoting the purchase of lighter and more efficient cars.
Effectiveness	High, affects end users directly
Status of implementation and planning	Ongoing

Description

Motor Vehicle Tax: In the period 2011 - 2013 very efficient cars were exempt from Motor Vehicle Tax. These are diesel cars with CO₂ emissions of less than or equal to 95 grams per kilometre and petrol cars with CO₂ emissions of less than or equal to 110 grams per kilometre. The exemption from Motor Vehicle Tax for very efficient cars expires on 1 January 2014 for both new and existing passenger cars.

Passenger Car and Motorcycle Tax: With effect from 1 January 2010 the basis for setting the Passenger Car and Motorcycle Tax will be shifted gradually from the net list price of a new passenger car to its CO₂ emissions. From 2013 the Passenger Car and Motorcycle Tax will be levied only on the basis of CO₂ emissions. In the period 2011- 2013 very efficient cars were exempt from Passenger Car and Motorcycle Tax. The CO₂ limits for Passenger Car and Motorcycle Tax exemption are regularly tightened so that the most efficient cars are always promoted.

Additional tax liability: Lower additional tax liability rates apply for efficient company cars. In 2011 - 2013 they were as follows: 0%, 14%, 20% and 25%. The intention is to ensure that people who have a company car, and who use the car privately, choose a very efficient car. The CO₂ limits for the categories of additional tax liability will be tightened continuously.

Cars have a reduced additional tax liability for a period of 60 months.

MIA, VAMIL and KIA schemes: Very efficient cars and zero-emission cars became eligible for commercial tax incentive schemes in 2011 - 2013. A zero-emission car is a car which has CO₂ emissions of 0 grams per kilometre. The Environmental Investment Allowance (MIA) allows companies to reduce their taxable profit. The VAMIL allows investments to be written off at a time of the investor's choosing to obtain an interest and liquidity advantage. The KIA scheme is a small-scale investment allowance scheme.

Name	<i>Sustainable Mobility Pilot projects</i>
Category	Subsidies
Geographical area	The Netherlands
Target group	Companies and institutions
End-user activities to be influenced	Purchase of, and practical experience with, running more efficient vehicles on fuels other than petrol or diesel
Effectiveness	
Status of implementation and planning	The Sustainable Mobility Pilot Projects programme runs from 2009 to 2014

Sustainable Mobility Pilot Projects: Drive Electric

A new Drive Electric Action Plan will soon be published for the period 2011-2015. This action plan will announce plans to increase electric vehicles to 20 000 in 2015 and to include scooters, innovative bicycles and boats. Energy saving: 0.05 PJ. This should deliver a 0.5 Mtonne reduction in CO₂ emissions, as well as cleaner air, less noise pollution, particularly in inner cities, and less dependence on fossil fuels.

Within this programme work is being done to promote the use of hybrid and electric vehicles. Nine projects have received subsidy to gain experience with driving a variety of electrical vehicles for a variety of submarkets. This will help to identify constraints and obstacles to large-scale market introduction, which can then be addressed.

Sustainable mobility pilot projects: driving on hydrogen

The aim of this pilot project is to promote the development and acceptance of the technology and remove the main barriers. It should be a further step towards the implementation of the driving on hydrogen project with cars and service stations.

An application round for driving on hydrogen was organised at the end of 2009. The proposals submitted then did not meet the quality requirements and so the decision was made to stop funding the programme. The funds were used in the new programme Driving on Hydrogen (April 2013) and are intended both for vehicles and hydrogen fuelling infrastructure.

Sustainable Mobility Pilot Projects: driving on biogas and higher biofuel blends

The aim of this programme is to encourage emissions reduction, fuel saving and CO₂ reduction in passenger cars, delivery vehicles and light goods vehicles and to promote the level of acceptance. The programme looks at the possibilities for driving on biogas and

higher biofuel blends in practice and looks for constraints on practical application. The programme started in 2011 and the projects ran until the end of 2013. The programme is currently being evaluated.

Sustainable Mobility Pilot Projects: Truck of the Future

The Truck of the Future Action Plan was set up after extensive consultation with the parties concerned in the field. This consultation concluded that there are many opportunities for saving fuel and reducing CO₂ in road haulage, but that they are massively under-utilised as a result of lack of awareness amongst customers and/or the fact that they are unclear and their effectiveness, reliability and commercial/economic rationale are not proven in practice.

The Action Plan builds on this through initiatives such as the Truck of the Future Pilot Project Programme to demonstrate the added value and effectiveness of opportunities in practice and develop a Truck of the Future knowledge centre to collect and transfer knowledge.

See Parliamentary Papers II, 2009/2010, 31209, No 122.

<https://zoek.officielebekendmakingen.nl/kst-31209-122.html>

Sustainable Mobility Pilot Projects: innovative buses for public transport

At the end of 2008 six pilot projects were started to run public transport buses on hydrogen, natural gas or biogas. The provinces of Zuid-Holland, Gelderland, the city regions of Amsterdam and Rotterdam and Eindhoven and Twente regions are taking part in a scheme for innovative public transport buses.

The Ministry of Infrastructure and the Environment has made funds available for practical trials in day-to-day public transport services. Public transport companies also contribute funds. Newly developed vehicle designs are being used for these projects. The aim of this programme is to provide the bodies granting concessions and the public transport companies with information about the operational possibilities of using clean buses. About five thousand public transport buses are currently running in the Netherlands.

Sustainable Mobility Pilot Projects: Intelligent Transport Systems

The aim is to drive forward location-aware mobility services, determining how to reach a group of travellers or vehicles on a particular section of road or route and how to obtain useful data (e.g. traffic flow, preferential access) from this group. This will make use of open source and the development of a technical platform for communication between mobile devices and a number of service providers. This pilot project has been incorporated into the 'Use Better' programme that started in the Netherlands in 2011.

Sustainable Mobility Pilot Projects: sustainable mainports

Both mainports (Schiphol airport and the Port of Rotterdam) have formulated CO₂ reduction targets. The subsidiary programme for sustainable mainports aims to link into the proposals

developed by both mainports. The purpose of the state's contribution is to develop the knowledge and experience gained and to expand the number of successful projects. Three different schemes have been implemented: Well to Wing, Walstroom and LNG Inland Navigation. Well to Wing supports the development of biofuels for aviation (KLM). A closed scheme has been set up for this. Walstroom aims to reduce emissions and restrict noise in the port; a pilot project for this is currently running with a ferry operator (Stena). The LNG Inland Navigation scheme aims to provide LNG fuelling points.

Name	<i>The 'New Driving' programme</i>
Category	Training and education Subsidies
Geographical area	The Netherlands
Target group	(Learner) drivers; intermediary organisations (fleet managers, driving schools, trade organisations, etc.)
End-user activities to be influenced	Driving and purchasing behaviour
Effectiveness	Varies: some activities are targeted directly at end-users, other activities aim to reach the end-user through intermediary organisations.
Status of implementation and planning	Ongoing (since 1999).

Description

The New Driving programme encourages energy-efficient and safe buying and driving behaviour in (learner) drivers and fleet managers. Figures from practical application show that The New Driving has saved at least 6% fuel. In addition to this cost saving, the New Driving also contributes to greater road safety and driving comfort.

The New Driving programme aims to reduce the emission of CO₂ in passenger transport consistently by at least one megatonne (1 million tonnes) in the period from October 2010 to October 2014. To achieve this, many products have been developed and projects carried out in recent years aimed at specific target groups such as young and commercial drivers.

The Institute for Sustainable Mobility (Instituut voor Sustainable Mobility) is in charge of the project. This is an organisation that operates on behalf of the sector associations RAI Vereniging (*Cycle and Automobile Association*), BOVAG (*Federation of Car Dealers and Garage Owners*), Vereniging Focwa Schadeherstel (*Federation of Bodywork, Car Construction and Associated Companies*) and Stiba (*Organisation of Vehicle Stripping Companies*).

The programme will end in October this year. As part of the 'Energy Agreement for Sustainable Growth' it has been agreed with the Social and Economic Council of the Netherlands that a trade association (RAI, BOVAG, VNA and the ANWB) will define the next step for the New Driving in passenger transport. These trade associations have said that they see possibilities for using the programme to help reduce CO₂, bearing in mind also the opportunities for (fuel) cost savings. More information can be found at <http://www.hetnieuwerijden.nl/>.

Name	<i>Sustainable Logistics (Lean and Green Logistics)</i>
Measures	Companies are helped to reduce the CO ₂ emissions of their logistics chain. They receive a Lean and Green award if they achieve this.
Category	Voluntary agreements
Geographical area	The Netherlands
Target group	Companies with a logistics chain
End-user activities to be influenced	Reducing the CO ₂ emissions of their logistics chain.
Effectiveness	Positive
Status of implementation and planning	Ongoing (Connekt has been running this independently since 2014)

Description

Lean and Green is an incentive programme for companies and public bodies run by [Connekt](#). With Lean and Green Logistics organisations show that they are working actively to make their logistical process more sustainable. It encourages organisations to grow towards a higher level of sustainability by taking measures that not only deliver cost-savings, but also reduce environmental pollution. If an organisation with an Action Plan can demonstrate that it can achieve a 20% CO₂ reduction in five years' time, it is eligible for the Lean and Green Award. Organisations that have actually achieved their 20% CO₂ target receive the Lean and Green Star as a symbol of the achievement of their Lean and Green objective. With Lean and Green, organisations show that they are actively working to make their mobility process more sustainable.

Lean and Green Logistics started five years ago, financed by the Ministry of Infrastructure and the Environment, but Connekt has been independent since 2014. Stickers on the vehicles indicate membership of the scheme. Many large companies such as Heinz and Bavaria have joined. Within this programme new methods are also being developed and promoted via the L&G network and knowledge is being exchanged by its ambassadors (company logistics managers).

L&G is now working on further steps using possibilities for measuring CO₂ performance and thus also encouraging handling and haulage companies to take further measures. The first "Two Stars" have now been awarded to the leading companies.

<http://lean-green.nl/nl-NL/logistics/>

Name	<i>Sustainable Personal Mobility (Lean and Green Personal mobility)</i>
Measures	Companies are helped to reduce the CO ₂ emissions of their employees (commuting and commercial traffic) by 20%. They receive an award if they achieve this.
Category	Incentive scheme /voluntary agreements
Geographical area	The Netherlands
Target group	Large and ambitious companies.
End-user activities to be influenced	Choice of transport, employee driving behaviour (commuting and commercial traffic).
Effectiveness	Positive
Status of implementation and planning	Started in 2013

Description

Lean and Green is an incentive scheme for companies and public bodies run by [Connekt](#). After the success of the Lean and Green logistics scheme it was agreed in the Social and Economic Council of the Netherlands agreement that this scheme should be extended to personal mobility. The aim is to help 300 companies in 2014 to prepare an action plan to reduce the CO₂ emissions of their personal mobility by 20%. They receive an award for a concrete action plan, after assessment by The Netherlands Organisation for Applied Scientific Research (TNO), and a star for realising the plan. Stickers on the vehicles/statements on the website indicate that a company is a member of the scheme. The first companies (including Cap Gemini and Mazar) received their award at the end of 2013. Within this scheme, new methods are also developed and promoted and knowledge is exchanged through the L&G network and its ambassadors (company logistics managers).

<http://lean-green.nl/nl-NL/personal-mobility/wat-is-lean-and-green-personal-mobility/>

I.5 Agriculture

The measures in the agriculture sector are as follows:

- Energy Tax; see description in paragraph I.1
- Energy Investment Allowance (EIA); see description in paragraph I.1
- Long-Term Agreements (see description in paragraph I.1): Innovation and Action Programme for Clean and Economical Agrosectors
- Green Investment and Finance (MIA, Vamil); see description in paragraph I.1.
- Innovation Programme Greenhouse as Energy Source
- Subsidies, such as the Market Introduction for Energy Innovations (MEI), Investments in Energy Savings (IRE) and Demonstration Projects
- Internal CO₂ equalisation system for greenhouse cultivation

Name	<i>Subsidies (such as MEI, IRE, Clean and Efficient Demonstration Projects)</i>
Category	3.1 Subsidies
Geographical area	The Netherlands
Target group	Agriculture, particularly greenhouse cultivation
End-user activities to be influenced	Increasing the attractiveness of investments in projects with a positive effect on nature and the environment
Effectiveness	High
Status of implementation and planning	Ongoing schemes

Description

There are various subsidy programmes within the agriculture sector to promote the development of energy-efficiency measures and efficient energy systems.

The subsidy programme ‘Investments in Energy Saving’ (IRE) offers companies in greenhouse cultivation a subsidy of 25% for measures to increase energy efficiency. The maximum amount of subsidy for each investment can vary. Clusters of companies can also apply for subsidy.

The programme ‘Market Introduction of Energy Innovations’ (MEI) aims to promote and accelerate the introduction of efficient energy systems by greenhouse cultivation companies. Investments in semi-closed greenhouses should result in a local reduction in CO₂ emissions of at least 25%.

The Clean and Economical demonstration projects scheme supports demonstration projects which must involve the application of renewable technologies that produce energy savings, the use of renewable energy and a reduction in the emission of greenhouse gases. The subsidy can be granted for up to 50% of eligible costs and 70% if the project is carried out by a partnership of agricultural companies.

Name	<i>Internal CO₂ equalisation system for the sector</i>
Category	4.1 Voluntary agreements
Geographical area	The Netherlands
Target group	Greenhouse cultivation
End-user activities to be influenced	Raise awareness of energy consumption and encourage investment in energy saving by introducing a ceiling and market price for CO ₂
Effectiveness	
Status of implementation and planning	Measure launched in 2011 for greenhouse cultivation (trial phase)

Description

Greenhouse cultivation is the largest energy-consumer in the agriculture sector. To regulate CO₂ emissions, a CO₂ equalisation system has been set up for this sector. The ceiling for the system is set by the government. The introduction of a market price for CO₂ encourages companies to invest in saving energy.

The basis for the emissions is the gas consumption set off against heat and CO₂ production. The CO₂ price is based on the price in the ETS.

The CO₂ equalisation system will not be linked to the EU-ETS. Around 80 horticulture companies will be offered the opportunity to opt out of the EU-ETS system and join the internal CO₂ equalisation system.

Name	<i>Innovation programme Greenhouse as Energy Source</i>
Category	2.6 Demonstration
Geographical area	The Netherlands
Target group	Greenhouse cultivation
End-user activities to be influenced	Development and application of innovations that make energy saving possible. This involves both the market and research.
Effectiveness	The energy efficiency of greenhouse cultivation in terms of primary fuel consumption per unit of product was 53% lower than in 1990
Status of implementation and planning	Set up in 2002; ongoing programme

Description

The innovation programme 'Greenhouse as Energy Source' contains a strategy of 6 transition paths to produce a sustainable energy system for greenhouses, so that in 2020 crops can be cultivated cost-effectively in new zero-energy greenhouses. The programme also aims to reduce the use of fossil fuels and to make greenhouse cultivation a supplier of sustainable heat and electricity in 2020.

In 'Greenhouse as Energy Source' the government, the commercial world and knowledge institutions work together on long-term innovations and measures that deliver short-term energy savings. The programme uses various instruments for this, such as a design competition, demonstration projects, publicity and the distribution of knowledge and financial support.

One of the innovations developed within the Greenhouse as Energy Source programme is New Cultivation which delivers an energy saving of up to 50% using new cultivation techniques. The programme also looks at low-energy lighting, (bio) cogeneration, solar energy and geothermal energy.

Energy Efficiency Directive, Article 4 - Renovation strategy

(Version of 13 March 2014)

1. Introduction

The EED, the Energy Efficiency Directive, was adopted in December 2012. It was introduced with the aim of reducing energy consumption by 20% in 2020. This energy efficiency strategy focuses on a wide variety of policy areas; this notice discusses the long-term strategy required for the renovation of buildings, as described in Article 4 of the EED.

2. Article 4, EED

In December 2012 the European Parliament agreed the Energy Efficiency Directive (EED). Article 4 of this Directive requires Member States to draw up a long-term strategy for the renovation of buildings.

Renovation of buildings

Member States shall establish a long-term strategy for mobilising investment in the renovation of the national stock of residential and commercial buildings, both public and private. This strategy shall encompass:

- (a) an overview of the national building stock based, as appropriate, on statistical sampling;*
- (b) identification of cost-effective approaches to renovations relevant to the building type and climatic zone;*
- (c) policies and measures to stimulate cost-effective deep renovations of buildings, including staged deep renovations;*
- (d) a forward-looking perspective to guide investment decisions of individuals, the construction industry and financial institutions;*
- (e) an evidence-based estimate of expected energy savings and wider benefits.*

A first version of the strategy shall be published by 30 April 2014 and updated every three years thereafter and submitted to the Commission as part of the National Energy Efficiency Action Plans.

The basis of the Dutch response to this mandatory long-term strategy is the Energy

Agreement recently signed by 40 parties, public and private, with firm ambitions, objectives, intentions and agreements for energy saving in many spheres in the Netherlands over the short, medium and long term. In addition to implementing the Energy Agreement, the Netherlands will be continuing to implement other standing policy on energy saving over the next few years.

Notes on reading

Questions a) and b) are answered by Annexes 8.a. *Energy saving: a combination of home and occupant – Analysis of the Energy WoON 2012 module*, and 8.b. *Improving the reference picture of the non-residential sector (stock, energy use, saving potential, investment costs, labour)*.

Questions c), d) and e) are answered on the basis of the Energy Agreement. The various relevant parts for the renovation strategy for the built environment are dealt with and discussed in sections 3 to 7. Annex 8.c. *Background document for passing on the cost of the Social and Economic Council of the Netherlands Energy Agreement - Built environment sector*, offers more information about passing on the costs of the Energy Agreement, its effects and the expected energy saving in the property.

3. The Energy Agreement

In September 2013 the Energy Agreement for Sustainable Growth was signed by about 40 parties in the Netherlands who are active in the field of energy efficiency and sustainable generation. In this agreement the parties establish the basis for a broad, robust and future-proof energy and climate policy.

The Energy Agreement makes a strong commitment to energy efficiency. This is extremely important because energy efficiency not only contributes towards security of supply and the reduction of CO₂ emissions, but also reduces the energy bills of citizens and companies and gives a strong boost to employment, particularly in the building sector. Agreements have been made, for example, on a national energy saving fund of € 600 million, a subsidy of € 400 million for investments in the social rental sector, encouragement and peace of mind in the purchasing sector, strengthening of the role of municipal authorities in energy efficiency, an indicative energy label for residential buildings, an Energy Performance Assessment for companies and non-residential buildings, better compliance with and enforcement of the Environmental Management Act and additions to the energy-saving agreements with industry.

The measures agreed in the agreement will produce an energy saving of 22 to 60 PJ in 2020. In addition to this, agreements have been made to develop the energy-saving potential of a variety of sectors. These agreements will produce a total saving of 100 PJ in 2020 and will also fulfil the European obligation to save an average of 1.5% of final energy consumption in the period 2014-2020.

The measures introduced into the Energy Agreement by the ECN and PBL (*the Netherlands Environmental Assessment Agency*) encourage gross investments of € 13 to € 18 billion in comparison with the 2012 reference estimate of PBL and ECN. According to the calculations of the EIB, these investments will produce 103 000 to 161 000 gross full-time equivalent in the period 2013-2020. As a result of shifts in the expenditure of citizens and companies the net effect on employment will be lower. The investments will provide around 15 000 net additional jobs over the next few years. The built environment contributes significantly to this.

For more information see the annex: The Energy Agreement: What will it mean?

Assessment of the agreements made, or

http://www.pbl.nl/sites/default/files/cms/publicaties/pbl-2013-het-energieakkord-wat-gaat-het-betekenen-1087_0.pdf

Energy saving in the built environment

Energy saving in the built environment is an important part of the Energy Agreement, as there are opportunities to make significant energy savings in this area. The parties who have signed the agreement have reconfirmed the existing objectives:

- the objectives from European Energy Efficiency Directive (EED), the Energy Performance of Buildings Directive (recast) (EPBD) and the Ecodesign Directive;
- existing buildings: move 300 000 existing residential buildings and other buildings a year up two label stages;
- new buildings: nearly zero-energy from 2020 (and from 2018 for government buildings) in accordance with the EPBD Directive;
- rental: average label B in social rental sector and a minimum label C for 80% of private rental properties in 2020.

The first bullet point is particularly important: the Energy Agreement reconfirms the objectives from the EED. The second and fourth bullet point are particularly important for Article 4 of the EED; and where renovation no longer applies, new building ensures the provision of nearly zero-energy housing (third bullet point).

The Energy Agreement aims to reduce CO₂ emissions by 80-95% in 2050 and to achieve 16% renewable generation in 2023. Under the global climate agreements, the Netherlands has undertaken to achieve at least a 40% CO₂ reduction in 2030. The Energy Agreement aims to achieve at least an average energy label A for buildings in 2030. Under the EPBD Directive, all new buildings must be nearly zero-energy by 2020. Viability, cost-effectiveness and affordability for citizens and companies are taken into account when considering how to achieve these objectives. An important evaluation of the agreement will take place in 2016, when its progress will be assessed and agreements will be made about further action to be taken to achieve the objectives agreed for 2020 and 2030, including investigating additional

measures where possible and desirable. Measures to meet the 2030 objective will be worked out in more detail up to the end of 2016. The evaluation will be used to further adjust of the instruments to be used to achieve the objectives for 2020, 2030 and 2050.

4. Main features of the strategy

The basic principle of the Energy Agreement is that citizens and companies *themselves* take responsibility for investments in energy-saving measures. The role of the National Government is to *facilitate* and *encourage* where necessary and to deal with restrictive regulations. For the financing of energy-saving measures in particular, the State provides an incentive with a revolving fund for energy saving in residential buildings and a subsidy for social landlords. Additional funds will also be made available to municipal councils to assist them with their role of encouraging energy saving and providing owners of residential buildings with an (indicative) energy label. The aim of this is to raise awareness of energy saving. The *amendment of legislation and regulation* is important for Acceleration (the deal between housing corporations and builders), for example, which makes it possible to renovate around 100 000 housing corporation properties into zero-on-the meter homes.

Together with the other agreements in the Energy Agreement and with the commitment of all signatories, we expect that this will result in a coherent approach, which will provide a significant boost over the coming years. This will be good for the energy and climate objectives, but above all will increase affordability for citizens and create additional activity and employment in the building, installation and associated sectors.

The part of the Energy Agreement relating to the Environmental Management Act (Wm) is particularly important for commercial and social property, including offices, schools and healthcare buildings (non-residential buildings). A number of decrees under this Act also work to the benefit of the Energy Agreement.

A Guarantee Committee ensures that the agreed measures are taken, and that the Energy Agreement goes beyond intentions. The results achieved by the Energy Agreement will be evaluated at set times; a decision can be made to adjust the measures to be taken if the result achieved is inadequate. The next full evaluation of the Energy Agreement will be carried out in 2016.

Structure of implementation

The government facilitates and encourages third parties to take energy-saving measures and deals with restrictive regulations. The government's renovation strategy in this respect can be split into three areas:

1. Informing and raising awareness
2. Facilitating

3. Financial incentives

This approach applies both for housing and for non-residential buildings and deals with housing first and then non-residential buildings. When dealing with the stock of both houses and non-residential buildings the characteristics and energy saving potential of both are discussed first.

5. Approach to homes for rent/purchase

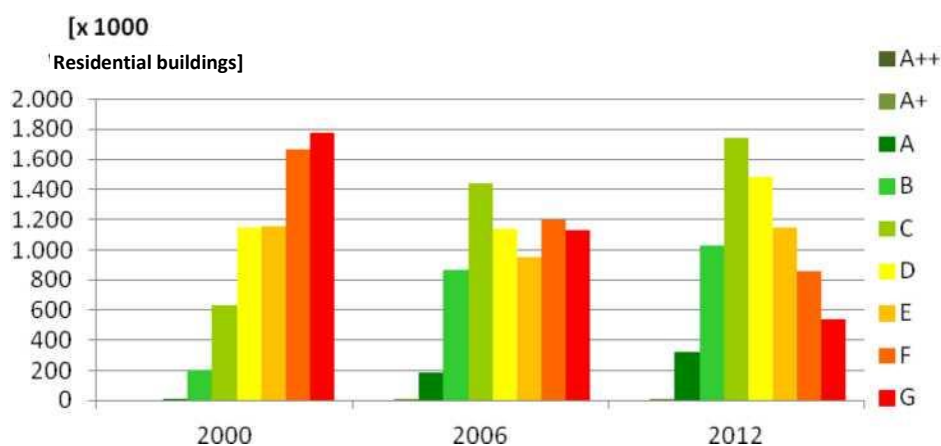
The government focuses its approach to housing on informing and raising awareness, facilitating and providing financial incentives. The Energy Label falls under informing and raising awareness; Acceleration, support for the Association of Netherlands Municipalities, and Block by Block fall under facilitating; the energy tax, the revolving fund, and the subsidy for social landlords and tenants fall under the financial incentives.

5.1 Characteristics of the housing stock

The Dutch housing stock comprises 7.14 million dwellings as at 01.01.2012. The energy quality of the housing stock was recorded by random inspections in 2012, which produced an Energy Index (EI) for each dwelling. The sample is representative of the housing stock.

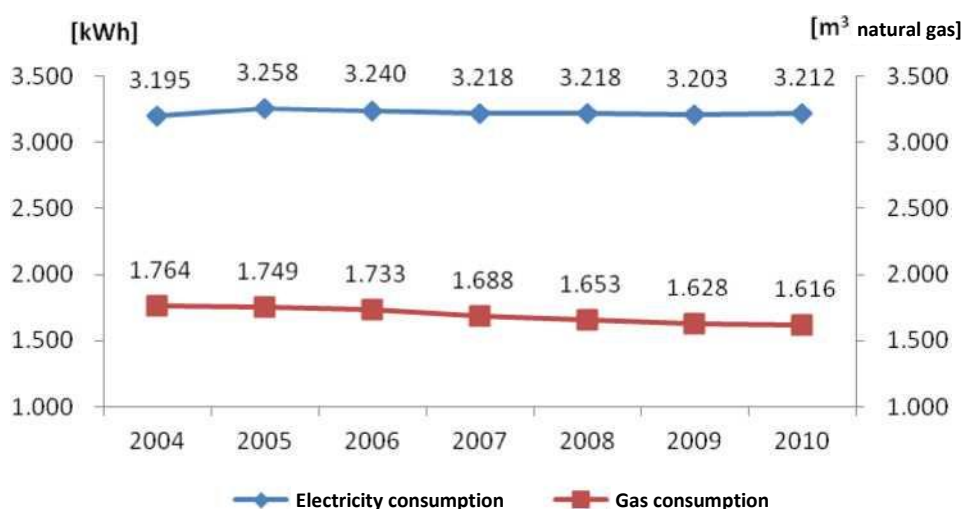
The energy quality of the housing stock is gradually improving. In 2000, 70% of residential buildings still had an E, F or G label. In 2012 it was only 36%, with a fall particularly in the number of residential buildings with a G label. Only 20% of the residential buildings has an F or G label. The Dutch housing stock consists primarily of C and D label buildings.

Figure 1: Changes in energy labels in the period 2000-2012



The average electricity consumption of households has stabilised at just over 3 200 kWh a year. The gas consumption (standardised, in other words made comparable between the years) is falling and is now just over 1 600 m³ a year per household.

Figure 2: Average gas and electricity consumption in the period 2004-2010



Potential savings in the housing stock

The amount of the energy saving (sum of gas and electricity in GigaJoules (GJ)) achieved can be given for each label stage. One GJ is 31.6 m³ natural gas, an average consumption of 1 600 m³ per dwelling is equal to 51 GJ.

The improvement of all residential buildings (where possible) to label A level can deliver a total primary saving of 197 PJ. As an indication, the total primary energy consumption in households was 511 PJ in 2011, three-quarters of which is building-related consumption and a quarter consumption by electrical equipment. Improving the whole of the Netherlands housing stock to label A can therefore deliver a saving of 39%.

Data used:

Energiebesparing: Een samenspel van woning en bewoner – Analyse van de module Energie WoON 2012 (Energy saving: A combination of home and occupant – Analysis of the Energy WoON 2012 module). Casper Tigchelaar (ECN), Kees Leidelmeijer (RIGO), August 2013, ECN-E—13-037.

5.2 Informing and raising awareness

5.2.1 Energy label

It is the homeowner who invests in the energy performance of the home. In general private owner-occupiers are not yet really aware of the opportunities improving the energy performance of their home can offer for their purse and living comfort. If they are aware of it, the thresholds for really taking action are high. The Energy Agreement includes a broad

and coherent programme for this which aims to provide information, financial support and, above all, peace of mind.

At the beginning of 2015 the owners of all residential buildings in the Netherlands which do not have an energy label yet will receive an indicative energy label from the National Government. The indicative energy label is the first step towards making homeowners aware of the energy performance of their home and the costs that they may be able to save by investing in energy efficiency. The market participants can build on this with the information and marketing campaign they plan to develop. Homeowners can amend and update the information on which the indicative energy label is based via a government web page, where they can also find general advice on possible improvements.

If they wish, they can register for a formal energy label on this web page. This is obligatory on the sale, letting and delivery of a residential building. They must have the information entered for this validated remotely by an independent expert.

The energy label will be a simple and accessible instrument that should help to raise awareness amongst residential consumers of the possibilities of energy efficiency. The expectation is that estate agents, valuers and other professionals involved in the sale process will contribute to this so that, at the time of the transaction, the vendors comply with their obligations. However a penalty will still be required under the recast EPBD.

5.3 Facilitating

5.3.1 Acceleration

Four builders and six housing corporations signed the cooperation agreement 'Acceleration' on 20 June 2013, in the presence of the Minister for Housing and the Central Government Sector, for the realisation of the first 11 000 zero-on-the meter homes. If roll-out is successful we plan to have completed 100 000 'zero-on-the meter' renovations by 2020. Nine building industry organisations and 16 corporations have already joined this roll-out by making a declaration of support.

The essence of the 'zero-on-the meter' concept is the idea of using the saving on the energy bill to finance the renovation of homes into zero-energy homes. To demonstrate that a home is free from energy costs, the building companies give the landlords guarantees. Financially, these renovations only be achieved by significant innovation and by moving up to an industrial scale, resulting in better residential products and considerably lower costs for future renovations.

A significant benefit of Acceleration is that tenants of relatively poor residential buildings with high energy bills will get a comfortable and sustainable home for the same housing costs. Corporations also use the new funding stream to invest in the value of their property and the quality of life of residential districts without government subsidies. An additional

advantage is that this partnership brings a lot of employment to the building sector. Acceleration also makes a contribution to sustainability objectives.

As part of Acceleration we are investigating whether the laws and regulations need to be amended to allow projects with a high savings objective, such as zero-on-the meter homes, to go ahead. In concrete terms we are investigating whether tenants and landlords can enter into agreements on a monthly payment (which does not form part of the rent) to cover the cost of renovations with a very high savings objective. This is a general scheme which applies to projects, where energy-saving facilities are combined with energy-generating facilities so that the net energy consumption of a home (including use of domestic equipment) is reduced to virtually zero. We have also agreed in the Energy Agreement that there should be an investigation into whether it is necessary and possible for the rental sector (in addition to private individuals and owners' associations) also to use the reduced energy tax rate for locally generated power. We will also look into the possibility of using the revolving fund for energy saving from the Housing Agreement for this (see 5.4.1).

5.3.2 Support from the Association of Netherlands Municipalities

Municipalities and provinces are already undertaking various activities to encourage energy efficiency in the built environment. However, something else is required to give a targeted stimulus to energy efficiency and sustainable energy generation as part of, and a driver for, the energy society. To support the energy society in which citizens and companies take initiatives themselves, it has been agreed in the Energy Agreement to make € 15 million available in the period 2014-2016 for a support structure for and in municipalities and at a regional level (for example in the form of an energy information centre). The Association of Netherlands Municipalities is taking the lead in developing this support structure. To formulate an action plan, the Association of Netherlands Municipalities has set up a building team and an administrative steering group to conduct a variety of discussions with municipalities, parties from the energy society, knowledge institutions and co-signatories of the Energy Agreement about the most appropriate and efficient way of utilising the funds. The State and the Association of Netherlands Municipalities made further agreements about this in the first quarter of 2014.

5.3.3 Block-by-Block

Block-by-Block aims to launch a movement to save energy on a large scale in existing buildings.

Fourteen projects have started with the block-by-block knowledge and learning process. Market participants, municipal authorities, corporations and provincial authorities, for example, are carrying out a joint plan to make significant improvements to the efficiency of at least 1 500 – 2 000 residential buildings in one municipality.

The view at the start of the large-scale action on energy efficiency in the built environment was that the rate and extent of the action taken must be increased. These projects together must deliver further savings in at least 23 500 residential buildings. The investments by the market participants for implementation will be many times higher than the subsidies granted.

In the block-by-block projects at least three market participants work together in a consortium. They share their knowledge and experience to achieve a possible national introduction to this way of working. The implementation of the project requires investment from the market. The Central Government subsidy was intended only as a contribution to the additional process costs during the pilot phase.

It is therefore the intention to start a movement to achieve energy neutrality. Experiments are being conducted with the Energy Leap innovation programme in various zero-energy housing projects, and the Zero-Energy Regions programme was concluded in 2013. Zero-Energy Regions, consisting of a consortium of market participants, aimed to prepare for the market introduction of zero-energy new building and renovation at a regional level and has provided the (market) participants with a lot of knowledge and experience. The basic principles were a repeatable approach and solutions which are viable and cost-effective without subsidy. This programme is being evaluated; the outcome will be available in the middle of 2014.

5.4 Financial incentives

5.4.1 Energy tax

The government taxes the consumption of electricity and natural gas. Energy suppliers pay this tax to the Tax Administration. They can pass on the tax to their customers. The energy tax in the Netherlands is relatively high in comparison with the surrounding countries. The government wants people to use energy more sparingly and efficiently. The energy tax provides a financial stimulus for energy efficiency. There are some exemptions from energy tax, for building owners who generate electricity for their own use, for example.

5.4.2 Revolving fund

With the revolving fund the State ensures, together with cofinanciers, that new financing opportunities become available to both owner-occupiers and landlords who want to take energy-saving measures on their residential buildings. The possibility of offering loans to owners' associations is also being investigated.

Owner-occupiers

Part of the revolving fund for owner-occupiers is called the National Energy Saving Fund (NEF). The NEF was launched on 21 January 2014 with the offer of low-interest loans to owner-occupiers. The cofinanciers who are supplying € 225 million are Rabobank and ASN

Bank. With the € 75 million of state funds a total of € 300 million is available for loans for owner-occupiers.

On the Ikinvesteerslim.nl website, owner-occupiers can apply for a loan for energy-saving measures. The loans can range from € 2 500 to € 25 000. There is a limitative list of energy-saving measures on which the loan may be spent. The NEF monitors the number of loans granted, for example, the amount of each loan, the total amount of loans and the measures on which the loans have been spent and reports on this to the Minister of Housing and the Central Government Sector every three months.

Landlords

The housing agreement provides € 75 million for energy efficiency measures by landlords. In this case, the state contribution must also be accompanied by € 225 million of cofinance. The fund is intended for both housing corporations and private landlords of rental homes. It is the intention to direct the loans for landlords to projects for existing rental homes with a high energy-saving objective. These could include projects in which rental homes are renovated into zero-on-the meter homes. The important thing for this type of ambitious project is to ensure that sufficient measures are taken to limit the (financial) risks for the tenant. Landlords can even join forces with builders to produce firm proposals for tenants and thus create high-quality and manageable projects. The landlords receive an interest advantage on the part of the loan provided by state funds. This interest advantage gives landlords who work on projects with a high energy-saving objective additional financial assistance on top of the subsidy for which they may be eligible.

The intention is to organise this fund in such a way that the State provides loans for a quarter of the investment required. The landlords can then attract the necessary cofinance themselves using the usual financing methods. This approach has great advantages for organisational simplicity and speed of establishment of the fund. The part of the fund for landlords is expected to come into effect half way through 2014.

Owners' associations

The draft budget for Housing and the Central Government Sector for 2014 includes a supplement of € 35 million to the Revolving Fund. We are looking to see whether it is possible to use this sum to offer finance for energy saving by owners' associations. The apartments owned by owners' associations still offer a lot of scope for energy saving. However banks do not offer loans, or offer only very limited loans, for owners' associations because of the special liability structure of these associations and partly also because of unfamiliarity with this target group. The initial discussions with banks have shown that a contribution from the State could change this.

The offer of loans from the Revolving Fund for owners' associations may provide a significant stimulus for these associations to work on energy-saving. It may also provide

experience for banks which they can then use to develop financing products for owners' associations. It is also consistent with the provision in the Energy Agreement on recording the obstacles faced by owners' associations wishing to take energy-saving measures and, where necessary, removing them.

5.4.3 Subsidy for social landlords and tenants

The € 400 million of subsidy provided by the State for landlords of social housing will be used, as agreed in the Energy Agreement, for investments in energy efficiency for rental social housing in the period 2014-2017. The funds will be paid to landlords in 2018-2019. The applicants themselves arrange the pre-financing of the subsidy amount.

The scheme is a one-off contribution to the renovation of rental social housing with a maximum rent of € 699.48. To ensure an adequate result, the aim is to improve the energy performance by three or more label stages. A minimum of energy label B must therefore be achieved for corporation housing (the objective in the Rental Agreement for corporations). For private landlords a minimum of label C should be achieved, as agreed in the Rental Agreement for private landlords. The subsidy scheme is thus aimed particularly at improving residential buildings with lower labels (D to G) to at least label B or C. The most energy gains are to be made in these categories.

The formulation of the scheme will take several months. The plan is to have the scheme ready around the summer of 2014. An early start will be made on publicising the scheme to allow potential applicants to prepare for it. This will be done together with the parties concerned.

6. Approach to non-residential buildings

In its approach to non-residential buildings the government aims to inform and raise awareness, facilitate and provide financial incentives. The Environmental Management Act (Wm) with the Activities Decree, and the exemplary role of the National Government fall into the category informing and raising awareness; the Green Deals, and the EPA Pilot fall into the category facilitating; and finally, the EIA falls into the category financial incentives.

6.1 Characteristics of non-residential buildings

Non-residential buildings are a diverse group with a variety of functions (offices, schools, hospitals, shops etc) and a wide range of useful floor areas. The energy quality of non-residential buildings is equally diverse.

There is no single source of available data to provide all the required information. However, an adequate picture of non-residential buildings can be obtained from a combination of sources, registrations and random surveys.

The stock of non-residential buildings in the Netherlands comprises about 600 million m²

Gross Floor Area. For reference purposes, the housing stock comprises about 1 000 million m². By far the majority (nearly 80%) of the non-residential buildings is in the 'Service' sector.

The energy intensity differs widely for each type of non-residential building. The arithmetical average for non-residential buildings in the service sector is 13m³ gas/m² Gross Floor Area and 80 kWh/M² Gross Floor Area.

The total gas consumption within the service sector is 181 PJ and the total electricity consumption is 128 PJ. The subdivision for each type of building can be seen in Figure 3.

Figure 3: Percentage distribution of gas consumption (181 PJ) and electricity consumption (128 PJ) in the service sector, by type of building

Building Type	% PJ gas consumption	% PJ electricity consumption	% Gross Floor Area m ²	% Number of buildings
Office	20%	19%	18%	17%
Commercial building	17%	34%	31%	8%
Eating and drinking	10%	11%	6%	16%
Group practices	6%	3%	4%	13%
Shops without airconditioning	6%	6%	6%	22%
Nursing homes	5%	3%	3%	1%
Hospitals	5%	2%	2%	0%
Sports accommodation	4%	3%	4%	3%
Car companies	4%	4%	5%	5%
Other accommodation	3%	2%	3%	2%
Secondary education	3%	1%	4%	1%
Primary education	2%	1%	3%	3%
Sauna	2%	0%	0%	0%
Shop with airconditioning	2%	5%	1%	3%
Other 10 types of building	10%	7%	12%	7%
Total services	181	128	473	409 000

Saving potential in non-residential buildings

Energy Research Centre of the Netherlands (ECN) has produced calculations which give an indication of the technical saving potential for gas and electricity consumption in non-residential buildings and the level of investments and labour involved. These make a distinction between the maximum attainable technical potential and the potential of measures with a payback time of less than 5 years (Environmental Management Act), taken at normal times.

The maximum attainable technical saving potential for gas is 67 PJ; if only measures that fall within the scope of the Environmental Management Act are applied, it is 23 PJ. The investment costs involved in this are € 18 billion and € 900 million respectively. The direct labour requirement is 63 000 man years and 4 100 man years.

The maximum attainable technical saving potential for electricity is 29 PJ, or 18PJ if using

only measures that fall within the scope of the Environmental Management Act. The investment costs involved with this are € 3.8 billion and € 800 million respectively. The direct labour requirement is 6 100 man years and 1 200 man years respectively.

The description 'maximum' refers here to all buildings within the service sector without taking account of the payback time, and only the measures which are considered in the study. If the objectives are higher, then more is possible.

The ECN based the calculations on a number of assumptions to allow them to be translated to the various sectors. For gas consumption, measures were considered which reduce energy consumption for space heating. According to estimates, this accounts for over 96% of the gas consumption. A package of measures was considered, for example replacement of single glazing with insulating glass, installation of a high-efficiency boiler or the insulation of closed areas to an Rc value of 3.5. For electricity consumption only measures that reduce consumption for the function interior lighting were considered. Interior lighting is estimated to account for 32% of the total electricity consumption within the service sector.

Information used:

Verbetering referentiebeeld utiliteitssector: voorraadgegevens, energieverbruik, besparingspotentieel, investeringskosten, arbeidsinzet (Improvement of reference picture for the utility sector: stock information, energy use, saving potential, investment costs, labour input). J.M. Sipma (ECN), December 2013, ECN-E-13-069.

6.2 Informing and raising awareness

6.2.1 Environmental Management Act/Activities Decree

The Activities Decree (Article 2.15) includes the obligation that 'those operating the installation shall take all energy-saving measures with a payback time of five years or less.' There is currently a lot of uncertainty about the way in which this obligation should be fulfilled. In view of this, it was agreed for this obligation in the Energy Agreement that the 'State will legally establish concrete "recognised" lists of measures in the regulation to the Activities Decree for the energy-saving obligation under the Environmental Management Act (Wm)'. This does not, therefore, introduce a new obligation. The 'saving obligation' has been in force since 1 January 2008. The Energy Agreement agrees 'only' to clarify the existing obligation and to improve implementation by introducing a system based on recognised measures. A list of cost-effective (payback time of five years or less) energy-saving measures is therefore being produced for each sector. This system is new, but the obligation is not.

(Agreements related to the 'saving obligation' were also made in the Social and Economic Council of the Netherlands agreement on an 'Energy Performance Assessment', an expertise centre and priority from the competent authorities, for the implementation of Article 2.15.)

Article 2.15 of the Activities Decree applies specifically for type A and B facilities which

consume at least 50 000 kWh of electricity or 25 000 m³ of natural gas (equivalents) a year. Furthermore, Article 2.15 specifically does not apply to:

- companies which are small users of energy under Article 2.15
- companies covered by the European Emissions Trading System
- greenhouse cultivation companies which are members of the CO₂ equalisation system.

Companies who have joined the LTA3 agreement are also deemed to comply with Article 2.15 of the Activities Decree. The introduction of the recognised system of measures will not change the way the current LTA system works. The 'tripartite' consultation between the commercial world, the competent authorities and the Netherlands Enterprise Agency will continue.

Finally, new buildings less than X years old (the value of X has yet to be decided) and buildings which (under the Energy Performance of Buildings Decree) have an energy label A (or possibly also B) are already considered to have met the saving obligation for building-related measures.

6.2.2 Exemplary role of Central Government

The Central Government is making use of the option to demonstrate that it can contribute to the policy objectives expressed in the EED with an alternative approach to the renovation strategy. In addition to cost-effective measures at normal renovation times, management and maintenance, this alternative approach consists of the following measures:

- The use of sustainable purchasing requirements;
- Reducing the building stock with priority for the emissions of buildings with a poor energy label;
- Optimising the alignment of energy systems;
- Energy performance recommendations to managers of individual properties for implementing saving measures cost-effectively;
- Performance contracts, in which the management of energy installations is transferred for the period of the performance contract and the contractor guarantees a certain energy saving.

The National Government will also set a good example by fulfilling the requirement in the Energy Agreement to promote projects for sustainable energy supplies in social properties with a regional approach. With this approach the State and municipal authorities are creating anchorage points for the development of local, sustainable and cost-effective energy supplies. The Association of Netherlands Municipalities has announced that it will

take the initiative in this and thereby encourage large-scale introduction of this approach. In this way the government shows that it is not only taking measures itself as part of the renovation strategy, but will look to cooperate with other parties to realise sustainable energy provision which fits in with the policy objectives of the EED.

6.3 Facilitating

6.3.1 Green deals

Companies, social organisations or public bodies sometimes encounter difficulties when attempting to realise a sustainable initiative. The Central Government can then help to break through these barriers by entering into a Green Deal with them.

When developing sustainable initiatives, such as a plan to generate electricity or use water more efficiently, companies, social organisations and other public bodies can come up against barriers.

There may be many causes of these barriers. In some cases the laws and rules create delays. In others, initiative-takers can have difficulty finding suitable cooperation partners. Sometimes they don't succeed in collecting enough money either. In these cases the Central Government can help by entering into a **Green Deal** and working to remove these difficulties.

The Netherlands wants to move towards an economy in which sustainable and economic growth go hand in hand; growth that is not achieved at the expense of the environment, but takes account of the living environment and the needs of future generations. The **Green Deals** fit in with this aim. They ensure that a result is achieved quickly. This effect is even greater if other parties follow the Green Deal.

Since the scheme started in 2011 Central Government has entered into around 150 Green Deals with companies, social organisations and other public bodies (such as provincial and municipal authorities). These Green Deals relate to energy, climate, water, raw materials, mobility, biodiversity, biobased economy, building and food. The State intends to enter into more Green Deals over the next few years.

6.3.2 EPA Pilot

Municipal and competent authorities receive help in their legal duty to supervise the energy measures that companies are obliged to take. An assessment of this will be introduced with the Energy Performance Assessment (EPA), a Regular General Assessment for companies.

In the Energy Agreement we have agreed that an EPA system will be introduced as a pilot, with the aim of continuing it after an evaluation over two years. The plan must be worked out in more detail. The intention is that certified companies will check the commercial properties once every four of five years to ensure that the owner has taken sufficient

energy-saving measures. Companies and institutions are obliged to take energy-saving measures with a payback time of five years or less, as described in 6.2.1. The first pilots must be delivered in 2015. Once the results of the pilots have been evaluated a decision will be made about whether the EPA will be voluntary or obligatory.

6.4 Financial incentives

6.4.1 EIA

The Energy Investment Allowance (EIA) gives companies a tax incentive for investing in energy-efficient techniques and renewable energy. 41.5% of the investment costs can be deducted from the taxable profit on top of the usual depreciation.

This reduces the amount of income tax or corporation tax paid. On average, the EIA delivers a 10% tax advantage. In addition to the tax advantage, energy-efficient investments also provide a lower energy bill.

The 2014 Energy List shows the possibilities of saving energy with the EIA tax advantage for each industry. This list contains around 160 energy-efficient investments (which it refers to as equipment), for which the EIA can be used. Clearly described investments (specifically) but also customised investments (generally) which deliver a significant energy saving are tax deductible.

The Netherlands Enterprise Agency administers the Energy Investment Allowance on behalf of the Ministry of Economic Affairs. The budget for 2014 is € 111 million.

7. Evaluation of the Energy Agreement

A Guarantee Committee ensures that the agreed measures from the Energy Agreement are taken and that this agreement goes beyond intentions. The results achieved under the Energy Agreement are evaluated at set times; a decision can be made to adjust the measures to be taken if the result is inadequate. The next full evaluation of the Energy Agreement is planned for 2016. All parties who have signed the Energy Agreement are represented on the Guarantee Committee, which is chaired by an independent chair (Dr E.H.Th.M. Nijpels).

The results of the evaluation of the Energy Agreement will provide input for the report to the European Commission which every Member State is expected to submit every three years, for Article 4 of the EED, Energy Efficiency Directive, the renovation strategy.

8. Annexes (literature)

- a. Energiebesparing: Een samenspel van woning en bewoner - Analyse van de module Energie WoON 2012. Casper Tichelaar (ECN), Kees Leidelmeijer (RIGO), August 2013, ECN-E-13-037.

b. Verbetering referentiebeeld utiliteitssector:

- voorraadgegevens
- energiegebruik
- besparingspotentieel
- investeringskosten
- arbeidsinzet

J.M. Sipma (ECN), December 2013, ECN-E-13-069.

c. Het Energieakkoord: Wat gaat het betekenen? Inschatting van de gemaakte afspraken of http://www.pbl.nl/sites/default/files/cms/publicaties/pbl-2013-het-energieakkoord-wat-gaat-het-betekenen-1087_0.pdf

d. Achtergronddocument bij doorrekening SER Energieakkoord - sector Gebouwde omgeving. C. Tigchelaar, M. Menkveld (ECN), September 2013, ECN-E-13-045.

ANNEX III. 2014 ANNUAL REPORT IN ACCORDANCE WITH EED ARTICLE 24(1)

Article 3(1) expected consumption

2183 PJ (estimated final consumption)

An estimate of the next indicators for 2012

	2012	Unit	Notes	Source	
Primary energy consumption	3 269.14	PJ	Total energy consumption	CBS (Statistics Netherlands)	Energy balance, supply, conversion and demand CBS statline 06.08.2013
Total final energy consumption	1 959.62	PJ	Total final energy consumption, energy customers	CBS	Energy balance, supply, conversion and demand CBS statline 06.08.2013
Final energy consumption per sector					
- industry	544.82	PJ	Industry (excl. energy sector)	CB S	Energy balance, supply, conversion and demand CBS statline 06.08.2013
- transport (broken down by passengers and goods transport if available)	479.63	PJ		CBS	
- households	429.25	PJ	Private households	CBS	Energy balance, supply, conversion and demand CBS statline 06.08.2013
- services	505.92	PJ	Services + agriculture and fisheries + water companies and waste management (waste incinerators)	CBS	Energy balance, supply, conversion and demand CBS statline 06.08.2013
Gross added value by sector					
- industry	67 968	million euros	Gross added value basic prices, actual prices industry (excl. building)	CBS	CBS statline, GDP, production and expenditure 06.08.2013

			and energy		
- services	402 663	million euros	Gross added value basic prices, sum of actual price of commercial and non-commercial service products	CBS	CBS statline, GDP, production and expenditure 06.08.2013
Disposable income of households	264 151	million euros		CBS	CBS statline, GDP, production and expenditure 06.08.2013
Gross Domestic Product (GDP)	599 338	million euros	Domestic product (gross, market prices), actual prices	CBS	National Accounts 2011 (<i>Nationale Rekeningen</i>) CBS publication, key figures
Electricity from thermal energy generation	97 165 556	MWh	Total installations	CBS	CBS statline, electricity, production and means of production 06.08.2013
Electricity from cogeneration	53 115 143	MWh		CBS	CBS statline, electricity, production and means of production 06.08.2013
Heat from thermal energy generation	225 320	TJ	Production steam/hot water	CBS	CBS statline, electricity, production and means of production 06.08.2013
Heat from cogeneration installations including industrial waste heat	225 308	TJ	Production of steam/ hot water	CBS	CBS statline, electricity, production and means of production 06.08.2013
Fuel input for thermal energy generation	952 860	TJ	Total installations	CBS	CBS statline, electricity, production and means of production 06.08.2013
Passenger kilometres (pkm) if available	186.0	billion km	Total number of kilometres travelled by the Dutch population on Dutch	CBS	CBS statline, kilometres travelled by people 06.08.2013

			territory		
Tonne-kilometres (tkm), if available	45 021	million load tonne km	Inland road haulage 2012	CBS + Odysee	CBS statline, quarterly series road haulage 06.08.2013
Combined transport kilometres (pkm + tkm), if passenger kilometres (pkm) and tonne-kilometres (tkm) not available					
Population 01.01.2011	16 730 348	Inhabitants	As at 1 January 2012	CBS	CBS statline, population key figures 06.08.2013

In sectors in which the energy consumption remains stable or grows, the Member States analyse the reasons for this and add their assessment to the estimates.

Energy consumption 3% higher in 2012

The energy consumption in the Netherlands in 2012 was nearly 3% higher than in 2011. The energy consumption in industry rose by almost 2%. This was caused by an increase of 13 PJ in the use of residual gases and 4 PJ in the use of LPG; the increase in the natural gas consumption was 1 PJ while electricity fell by nearly 3 PJ. The consumption of households rose by 6% due to the colder winter of 2011/2012 compared with 2010/2011. The consumption of services and agriculture rose by 7%, also (largely) as a result of the colder winter.