



**EXPERT EVALUATION NETWORK
DELIVERING POLICY ANALYSIS ON THE
PERFORMANCE OF COHESION POLICY 2007–2013
YEAR 1 – 2011**

**TASK 1: POLICY PAPER ON RENEWABLE ENERGY AND
ENERGY EFFICIENCY OF RESIDENTIAL HOUSING**

THE NETHERLANDS

VERSION: FINAL

PROF. DR. F.W.M. BOEKEMA

V.M.C. KETELAARS MSc. MBA

L.L.W.M. VAN RAAIJ MSc.

N.D. PILKES BSc.

EUROPEAN REGIONAL AFFAIRS CONSULTANTS

A report to the European Commission
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LIST OF ABBREVIATIONS

- CBS – Central Dutch statistics agency (Centraal Bureau voor de Statistiek)
- EEN – Expert Evaluation Network
- ERDF – European Regional Development Fund
- ESF – European Social Fund
- NSRF – National Strategic Reference Framework
- NRP – National Reform Programme
- OP – Operational Programme
- SDE – Grant Scheme on Sustainable Energy
- Min EL&I – Ministry of Economic Affairs, Agriculture and Innovation

1. EXECUTIVE SUMMARY

At national level, policies, objectives and financial support for renewable energy and energy efficiency of residential housing are set out very clearly. However, in the case of the ERDF, the goals of the Lisbon Agenda are of utmost importance. Sustainability is a key aim in ERDF Objective 2 Programmes. Comparing the financial support from national sources and from the EU, the difference becomes even more evident. In 2008–2011, the Dutch government spent about EUR 8 billion on renewable energy and the energy efficiency of residential housing. The total budget of the OPs in these two areas is about EUR 46 million – 6.4% of the total funding available for the 2007–2013 period – of which around EUR 31 million has been committed so far.

The Dutch government is aware that renewable energy is precious and economically important for the Netherlands. The targets set on reducing CO₂ emissions and the increased use of renewable energy up until 2020 are ambitious. Nonetheless, the national policies and measures implemented in the past represent a solid foundation for the upcoming reversal of policy towards less governmental involvement and fewer grants. A clear rationale for public intervention, other than a lack of profitability, in these areas is missing. By involving all actors from development to selling the final product and relying more on free market forces, the production of renewable energy is expected to become profitable, which will help achieve the goals set for increased use of renewable energy. By adapting (fiscal) legislation and regulations, the government is seeking to stimulate private sector investment the development of renewable energy and energy efficiency.

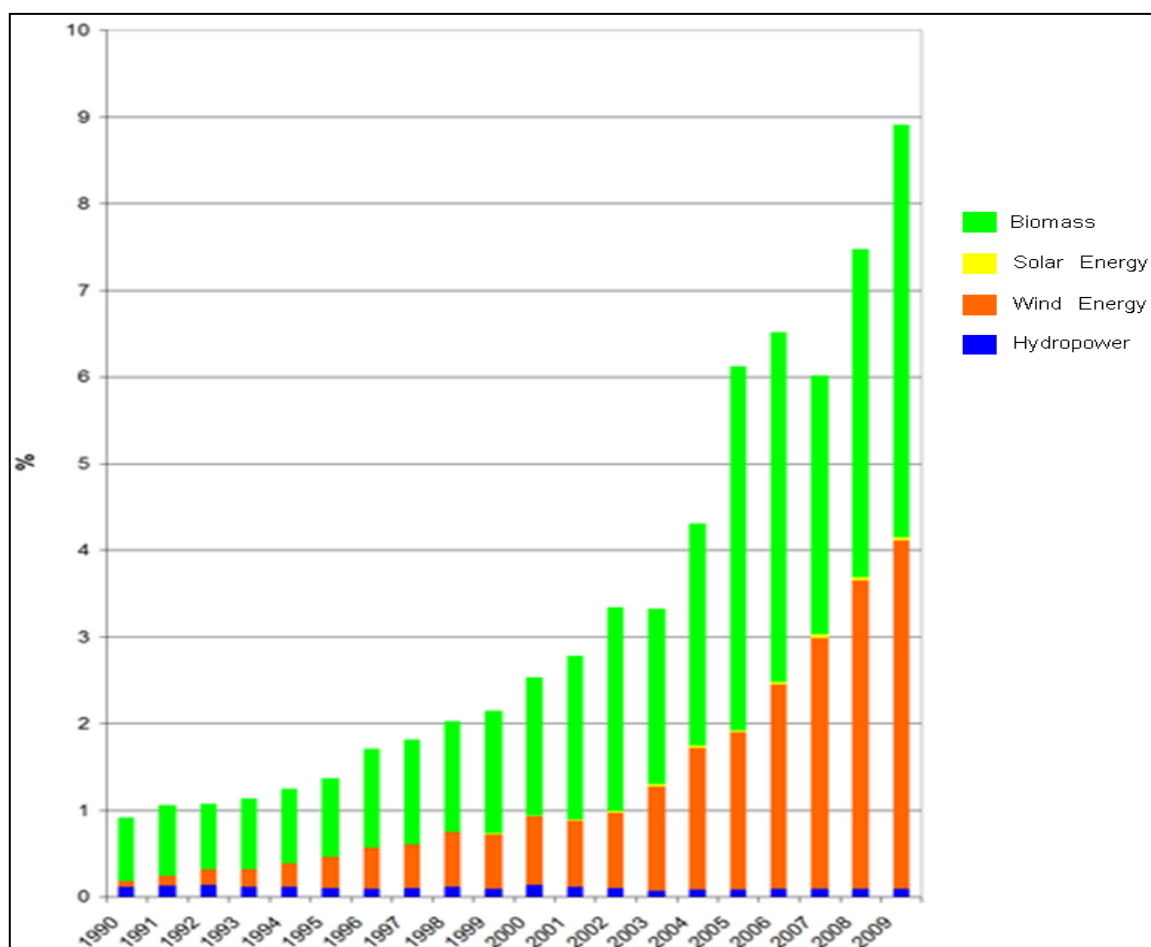
At present, the lack of profitability of renewables means that the market does not act in the desired way and intervention of national government is therefore essential to increase profitability. This it does through subsidies which are linked to the cost of renewable energy production and which do not vary between regions.

The Government's aim is decentralisation to regional governments where possible. The energy efficiency of residential housing is, therefore, a matter for the provinces and municipalities, which can tailor measures to specific regional needs.

2. NATIONAL POLICY

The government targets for 2020, as set out in the national 'Clean and Efficient Work Programme' are to achieve a 30% reduction in CO₂ in 2020 compared to 1990, a *renewable energy* share of 20% in 2020 and an annual energy saving of 2% from 2011 on.

An overview of the growth of *renewable energy* production in relation to the total energy produced is given below (see Figure – the bars indicate the overall percentage growth each year and the way that it is divided between different sources)¹. The production of energy from renewables increased by about 9% in 2009. Wind power and biomass show an impressive growing over the 2006–2009 period as a result of the national investment.



In the Netherlands a new government took office in October 2010. For this reason new policies, including on (renewable) energy and sustainability, are still in the process of being developed. Financial support for energy in the future is therefore not yet evident. The coalition agreement indicates that the government will increasingly provide indirect support². In addition to public expenditure, in the form of grant schemes, a number of tax incentives for the production of *renewable energy* have been implemented in the past and will become more important in the future in order to achieve the energy targets. The

¹ Central Statistical Office (Centraal Bureau voor de Statistiek – CBS), 2010.

² Coalition Agreement VVD–CDA (Coalitieakkoord VVD–CDA), Central Government, 2010.

coalition agreement included a number of sustainability measures, with tax incentives as well as raising energy prices and tariffs stated to be options³. Regulations and legislation will be adapted in order to stimulate the private sector to produce *renewable energy* and invest in *energy efficiency*⁴.

While the policy on sustainability of the government is under construction, the old Clean and Efficient Work programme remains in force. This states that ‘Dutch *renewable energy* policy is driven by the need to help tackle the climate problem, to safeguard a secure energy supply and to maintain the long-term affordability of energy.’⁵ It also focuses on *energy efficiency* from a broad perspective and goes into detail on the *energy efficiency* of residential housing only in very limited way. Wind power is supported explicitly and a separate plan for this has been formulated.

The Dutch ‘More with Less’ measure was a scheme for promoting *energy efficiency* in residential housing. However, implementation was the responsibility of the provinces and municipalities, each of which developed different means of putting the measure into effect. The programme was closed down at the end of 2010. So far no evaluations have been completed, so no figures are available to give an insight in the effectiveness of this measure.

In addition, there was a grant scheme for double glazing. During the crisis, between 2009 and 2010, EUR 45 million was spent on grants for this purpose in residential housing. Both measures acted to support the struggling building industry in the crisis.

Over the 2008–2010 period, the Dutch government invested about EUR 7.5 billion on *renewable energy* supplies and intensified (inter)national energy policies.⁶ The Grant Scheme on Sustainable Energy (in Dutch *Stimuleringsregeling voor Duurzame Energie* – SDE)⁷ was one of the main measures of the former government for stimulating the production of *renewable energy* during the economic crisis and was introduced as specifically as a counter recessionary measure. It was the successor to ‘Environmental quality of electricity production’ (in Dutch *Regeling Milieukwaliteit van de Energieproductie*) grant scheme which was in force from July 2003 until August 2006. The SDE was used to promote and stimulate the development of wind power, cogeneration, biomass and solar energy. The Dutch 2011 National Reform Programme states that the generation of renewable energy has to become competitive as quickly as possible and therefore receives an extra (financial) incentive in the transition period⁸.

Due to absence of any new national policy statement on the energy efficiency of residential housing it is not possible to say whether public support for this will be reduced or modified

3 Clean and Efficient Work Programme (Werkprogramma Schoon en Zuinig), Central Government, 2007.

4 Clean and Efficient Work Programme (Werkprogramma Schoon en Zuinig), Central Government, 2007.

5 Clean and Efficient Work Programme (Werkprogramma Schoon en Zuinig), Central Government, 2007.

6 2008– 2010 National Reform Programme the Netherlands, Ministry of Economic Affairs, 2008.

7 This was a national grant scheme which supported developments of (renewable) energy sources. This grant started in 2008 and expired at the 1st of January 2011.

8 2011 National Reform Programme the Netherlands, Min EL&I, 2011.

in the near future. However, the 2011 National Reform Programme for the Netherlands states that the government attaches great importance to the further reduction of energy consumption. There is much potential to increase *energy efficiency* in (residential) buildings (both new and old) and the government intends to develop specific policies to this end in the near future but will decentralise their implementation where possible⁹.

Up until the end of 2010, the SDE was financed by revenue from natural gas. The SDE was then transformed into the SDE+ grant scheme¹⁰ financed by a new levy on the use of electricity and natural gas which was imposed by the government and paid by consumers. The SDE+ regulation is still in the process of being developed. In its present form, the scheme reimburses the additional costs of producing *renewable energy* over and above traditional energy production costs for a period of 12 to 15 years. The following table indicates the SDE budget on renewable energy over the 2008–2011 period.

Table A – Committed SDE budget on renewable energy per category 2008–2011 period

Category	Committed budget (EUR million)
Wind Energy	6,705
Solar Energy	291
Biomass (electricity)	1,503
Hydropower	55
<i>Total</i>	<i>8,554</i>

Source: Annual Report 2010 SDE and MEP (Jaarbericht 2010 SDE en MEP), NL Agency, 2011

Due to constraints on public expenditure, the direct support provided by means of grant schemes has been reduced.

In order to achieve the targets for CO₂ reduction and energy saving by 2020, a number of policy documents have been published and related measures have been implemented over recent years. These are set out in the National Action Plan on Renewable Energy Sources¹¹.

According to the new Dutch government, it is time to invest in innovative measures for the promotion and development of *renewable energy* sources and focus less intensively on the *energy efficiency* of residential housing at national level. In the past four years, national financial measures have already focused more on *renewable energy* and in a more limited way on the *energy efficiency* of residential housing. In both cases, there was a shift from direct financial support to indirect support took place.

⁹ 2011 National Reform Programme for the Netherlands, Min EL&I, 2011.

¹⁰ The agreed annual sum is EUR 1.5 billion over a period of 15 years. Producers of renewable energy receive a compensation on the unremunerative production costs of renewable energy.

¹¹ National Action Plan on Renewable Energy Sources (Nationaal Actieplan voor energie uit hernieuwbare bronnen), Central Government, 2009.

In the transition to more reliance on renewable sources, the government, research institutes and the private sector are working together, focusing on the transition paths which offer the best opportunities for the future. The government is therefore supporting research on *renewable energy* sources and energy is one of the 9 key economic sectors which have been identified for future. At the national level, a number of agreements have been signed between the government and energy suppliers as well as between different levels of government (national, provincial and municipal). The actual implementation of the Dutch energy policy, including both *renewable energy* sources and *energy efficiency* of residential housing, is increasingly being executed at local level. Provinces and municipalities have developed specific (financial) incentives in both areas, which are regarded as being linked closely together.¹²

3. ERDF AND COHESION FUND SUPPORT AND CONTRIBUTION TO NATIONAL POLICY

In total the ERDF programmes allocate a sum of t of EUR 46.1 million to the priority of energy for the period 2007–2013, EUR 31.51 million of this going directly to renewable energy, most especially to hydro–electricity and geothermal, with a total allocation of EUR16.2 million (Table B). The rest of the funding (EUR 14.6 million) goes to energy efficiency in general. The latter is not limited to residential housing though this is covered by it. The priority given under the ERDF to hydroelectric and geothermal is not in line with national policy which is focused on wind power.

Table B – Allocated budget and Commitments in the four Operational Programmes in the Netherlands (EUR million)

National Priority themes:	Total budget allocated in the four OP's	Committed (preliminary 31-12-2010)[1]
39 Renewable energy: wind	4.4	1.8
40 Renewable energy: solar	3.8	2
41 Renewable energy: biomass	7.1	1.5
42 Renewable energy: hydroelectric, geothermal and other	16.2	8
43 Energy efficiency, co-generation, energy management	14.6	17.6
Total	46.1	30.8
	(budget EUR 830 million = 5.7%)	(EUR 480 million =6.4%)

Source: National Strategic Reference Framework, Structural funds 2007 – 2013, Ministry of Economic Affairs, 2007

Table B shows that about 6.4% of the total ERDF support available is allocated to renewable energy and energy efficiency. Moreover, Table C shows that half way through the

¹² Clean and Efficient Work Programme (Werkprogramma Schoon en Zuinig), Central Government, 2007.

programming period, commitments (totalling 67% of allocations) are in line with the planned budget except for support to wind and solar power which is lagging behind.

In the period 2008–2010, the Dutch government invested about EUR 7.5 billion on renewable energy supply, as indicated above. In comparison, the ERDF amount of EUR 46 million is small and, moreover, represents an equally small share of the overall support from the EDRF available.

Table C – Allocation of the ERDF between broad policy areas in the Netherlands, 2007–2013

Budget allocated to earmarked categories:	EUR million	%
Research and technological development (R&TD), innovation and entrepreneurship	315.3	60.1
Information society	65.9	12.6
Energy	46.1	8.8
Environmental protection and risk prevention	13.9	2.7
Increasing the adaptability of workers and firms, enterprises and entrepreneurs	12.0	2.3
Improving access to employment and sustainability	36.4	6.9
Improving social inclusion for less favoured people	5.7	1.1
Improving human capital	29.5	5.6
Total	524.8	100.0

Source: Annual Report 2010 SDE and MEP (Jaarbericht 2010 SDE en MEP), NL Agency, 2011

The allocation of the ERDF between types of renewables and between these and energy efficiency measures differs markedly between regions (Table D), with, for example, over 80% of the allocation going to energy efficiency measures in the West region as opposed to 20% in the North and 30% being allocated to biomass in the East as against under 3% in the West.

Table D – Allocation of the ERDF in the four Operational Programmes in the Netherlands, 2007–2013

Scale of support per region					
EUR million	OP East	OP North	OP West	OP South	Total
Wind	1.6	0.7	1.8	0.9	5.0
Solar	1.6	0.7	0.5	0.9	3.7
Biomass	4.9	0.7	0.5	0.9	7.0
Hydro, geothermal and other	3.3	0.7	0.5	0.9	5.4
Energy efficiency, etc.	4.9	0.7	17.0	5.6	28.2
Total	16.4	3.4	20.3	9.3	46.1

Source: National Strategic Reference Framework, Structural funds 2007 – 2013, Ministry of Economic Affairs, 2007

Since the ERDF programmes were formulated in 2007, there have not been any major changes in allocation.

Examination of the projects supported by the ERDF indicates that these primarily involve R&D and innovation and/or are pilot projects (Table E). For example, a large part of the allocation in respect of energy (EUR 12.8 million) went to a pilot bio-processing facility.

Table E Overview of projects supported by ERDF in The Netherlands (not limited)

	Renew. Energy	Energy efficiency.	R&D	PR	Pilots	Committed ERDF amount
1. EMT Innovation motor	X			X		1.1
2. Triple Green Data Centres	X	X	X		X	2.0
3. Sustainable Off-Grid Powerstation for Rural Applications (SOPRA)	X		X		X	0.5
4. Energy!	X			X		0.1
5. Gelders Transition Centre	X	X	X	X	X	0.5
6. C-Energy	X				X	0.5
7. Wind power plant in a residential area	X		X		X	0.2
8. Airborne wind energy	X		X		X	0.6
9. Energy generating dance floor	X		X		X	0.2
10. Bioprocess pilot facility		X	X		X	12.8
11. Heat-matcher		X	X		X	1.3
12. Offshore tidal power	X		X		X	1.7

Source: various project websites: www.op-zuid.nl, www.kansenvoorwest.nl, www.snn.eu, www.go-oostnederland.nl

4. RATIONALE FOR PUBLIC INTERVENTION

In the Dutch ERDF programmes sustainability plays an important role, in line with national policy. However, none of the four Dutch Operational Programmes state a clear rationale for public intervention to promote renewable energy and energy efficiency in residential housing. The National Strategic Reference Framework (NSRF) for the Netherlands, on which the OPs are based, provides a rather general rationale for intervention in these areas. *‘In order to realise as much as possible economic spin-off the investments in renewable energy have to be linked to investments made in innovation and R&D. Regular investments in energy efficiency or sustainable production of energy are not priorities in the Dutch Structural Funds programmes.’*¹³

In the Dutch Structural Fund Programmes, transport infrastructure and strengthening the synergy between the (economic) environment and economic growth are of main importance. Sustainable energy is supported through investing in innovation in new technologies for the production of renewable energy.

¹³ National Strategic Reference Framework for the Netherlands, 26th September 2006

Nevertheless, the methods used for supporting the development of renewables and improvement of energy efficiency is a very topical subject of debate at present, since the Government plans to diminish the amount of financial support available in the form of grants and to replace this with financial engineering sources.

5. RATE OF SUPPORT AND PROFITABILITY

In general the rate of support provided through public intervention varies inversely with the profitability of the activity concerned and there is general belief in the Government that public intervention is needed only when the market fails to meet the needs of the general public. Nevertheless the rate of support through the SDE Grant Scheme does not depend on profitability but on production costs, which are determined nationally – rather than regionally – for each type of renewable (see Table F).

The subsidies available are not affected by changes in the price of fossil fuels but primarily by the costs for producing each type of renewable energy.¹⁴

6. COSTS, PUBLIC SUPPORT AND PRICES

Table F indicates production costs and subsidy amounts (under the SDE) for electricity generated from various sources of renewables in 2010 and 2011. While subsidies increased between the two years for biomass, those for wind power remained the same and those for solar energy declined markedly, though they remained generally higher than for other sources. These movements almost certainly reflect changes in production costs.

Table F – Production costs and subsidy 2010 & 2011¹⁵

Category	Cost of producing (EURct/kWh)	Subsidy amount 2010 (EURct/kWh)	Subsidy amount 2011 (EURct/kWh)
Wind power ¹⁶			
Wind on land <6 MW	9.32	9.6	9.6
Wind on land >6 MW	9.33		9.6
Thermal conversion biomass			
Solid biomass <10 MW	20.72	19.8	21.3
Solid biomass 10–50 MW	11.66	12.1	12.2
Fluid biomass <10 MW	17.25	15.7	17.3
Hydro-power			
Dispensing height <5 meters	11.88	12.3	12.2
Dispensing height >5 meters	6.89	7.2	7.1
Free tidal movement energy	33.65	–	34.0
Solar			
1–15 kW	31.80	47.4	33.3

¹⁴ On assignment of the Dutch Ministry of Economic Affairs, ECN and KEMA have researched the costs of renewable electricity production. This cost assessment for various categories is part of an advice on the subsidy base for the feed-in support scheme SDE. This report contains an advice on the costs of projects in the Netherlands targeted for realisation in 2011.

¹⁵ Consult on subsidy base 2011 for electricity and gas in the framework of the SDE Grant Scheme, ECN & KEMA, 2010

¹⁶ No off shore data available

15-100 kW	26.45	43.0	28.0
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In line with the European Energy Performance of Buildings Directive (EPBD), the Netherlands has also introduced a measure, the 'energy label' (*Energielabel*), which is obligatory, for all houses, to increase public awareness of the energy efficiency of residential housing (in Dutch *Energielabel*), the grades ranging from A++ (efficient) to G (inefficient).¹⁷

A report produced on this (*het energielabel op de koopwoningmarkt*)¹⁸ pointed to the growing popularity of the label and indicated that houses without a label take longer to sell. It also indicated that houses with a green label (A to C) carry a premium of almost 3% (EUR 6,000 on average,) in relation to houses with a label of D to G.

At present, there is no quantitative information available on the influence of energy efficiency on the rents charged for accommodation. In general, it can be assumed, however, that increasing awareness of the energy efficiency of houses will lead increasingly to price differences.

7. CONCLUSIONS

The Netherlands has allocated about 6.4% of the total ERDF budget to renewable energy sources and energy efficiency of residential housing, which, as compared with the EU average (3.8%), is relatively large. The projects supported are mainly focused on innovation and the development of new technologies rather than the production of renewable energy as such.

This reflects the long-term Government objective of preserving energy supplies which looks even beyond 2020 and which, therefore, supports innovative technologies which are costly at present but which might deliver significant economic returns in the future, especially if they give the Netherlands a comparative competitive advantage.

¹⁷ www.energielabel.nl

¹⁸ The energy label on the private housing market (in Dutch 'Het energielabel op de koopwoningmarkt'), D.Brounen & N.Kolk, Tilburg/Maastricht 2011.

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INTERVIEWS

Mrs. F. Chidi – Nederlandse Mededingingsautoriteit

Mr. F. Witte – AgentschapNL

Mr. R. van Essen – AgentschapNL