

DENMARK

Det danske landdistriktsprogram

2007-2013 (*Danish Rural
Development Programme 2007-
2013*)

*(The text of this summary sheet
was finalised in August 2010 in
accordance with the version of
the RDP that was current at this
time)*



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Other useful links:

Rural Development Programme (RDP):

http://ferv.fvm.dk/Landdistrikter_2008.aspx?ID=39082

National Strategy Plan (NSP):

http://ferv.fvm.dk/Landdistrikter_2008.aspx?ID=39082

National Rural Network (NRN):

<http://www.landdistriktsprogram.dk/Netv%C3%A6rk.aspx?ID=35761>

Climate Change and Renewable Energy issues in 2007-2013 RDP

Climate change (CC) is fundamental to the context for agriculture and policy making. EU agriculture must play an important role in mitigating this phenomenon by curbing greenhouse gas (GHG) emissions; at the same time it needs to adapt to the expected climatic adversities which will have serious consequences on production processes. Rural development offers a range of possibilities to support farming practices and investments that can contribute to climate change *mitigation* efforts (including the increase of the use of *Renewable Energy* (RE) resources) and additionally effect *adaptation* benefits. CC challenges have been well recognized in the baseline analysis of the 2007-2013 EU Rural Development Programmes (RDP) and addressed in their strategies. Following the Health Check (HC) of the Common Agricultural Policy (CAP), the 'new challenges' of the RD policy include 'climate change' and 'renewable energy' for which an additional budget of approximately 1 billion EUR⁽¹⁾ have been made available for Member States (MS) to spend on this issues⁽²⁾. As a consequence, the operations related to these newly introduced Community priorities have been further strengthened in the RDPs.

¹ 19.8% of the total additional funds released.

² The budget allocated to the 'new challenges' includes the funds released by the HC of the CAP (including voluntary modulation and transfers according to Art. 136 of Regulation (EC) No. 73/2009) and the European Economic Recovery Package (EERP).

Introduction - overview of Member State RDP

All the three dimension of climate change (mitigation, adaptation and the potential for renewable energies) are addressed by the baseline analysis provided in the Danish RDP. These three aspects have been considered and correspondingly addressed in the RDP strategy and within the implemented measures.

One of the main challenges clearly identified by the RDP relates to ensuring environmental and climate sustainability which can be addressed mainly through technological innovation and the development of the productive sectors (agriculture, forestry, food industry). This implies that specific key actions have to be implemented in order to boost competitiveness while meeting the society's goal of mitigating climate effects. In this view, the national legislative framework implemented through specific environmental action plans integrates and complements the RDP strategy.

According to the baseline analysis, rural development policy in Denmark has already contributed towards reaching some important results in terms of cutting emissions and energy diversification. However, since agriculture accounts for 16% of the national GHG emissions, and in view of the Kyoto protocol's objectives and the new challenges raised by the HC, the current RDP has kept its focus on further reducing GHG emission and increasing the use of renewable energy (RE) sources, such as biogas and biomass deriving from agricultural waste, residual productions and perennial energy crops on marginal areas (supported under pillar 1 of the CAP). The main objective of the RDP in this regard is to support investments in new technologies and promote the diversification of the energy use.

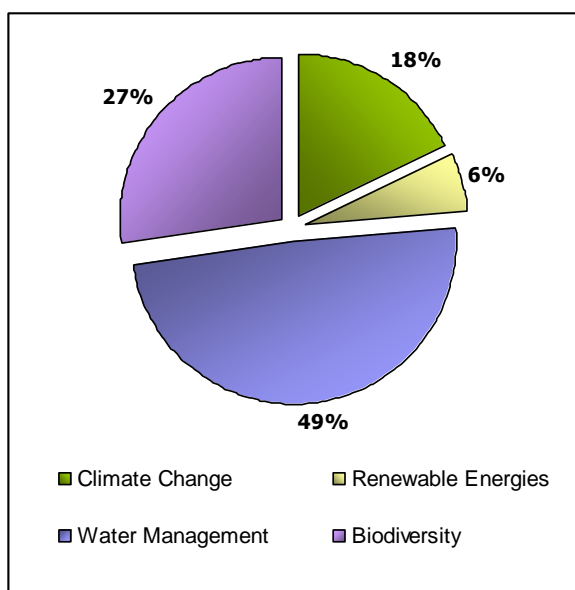
The commitment to environmental management shown by Danish farmers and industries is an undoubted asset for the challenges to be addressed, especially considering the possible adverse conditions that climate change is likely to produce towards production conditions, biodiversity and water resources. However, the productive costs linked to environmental regulation can represent a major threat for the economic actors involved.

According to the RDP strategy, the effort to reduce air pollution and avert CC will be mainly implemented through Axis 1 actions for the *development of environmental technology, new technologies and processes and counselling and education* (which has been further confirmed by the re-distribution of the resources within Axis 1 measures following the HC).

Axis 2 focuses upon delivering environmental-friendly agricultural and forestry practices. The HC revision has also contributed to the enhancement of support for non-productive investments in connection with protection of the environment, nature and animal welfare.

Among the envisaged key actions for Axis 3, a key activity is the establishment of biogas plants.

Allocation of the additional resources per type of priority



The overall budget of the Danish RDP in terms of total public expenditure amounts to €1,020,912,149 of which €577,918,796 is EAFRD contribution. This includes an additional allocation of €123,758,000 (EAFRD contribution) as a result of the new challenges raised by the HC and the adoption of the European Economic Recovery Plan (EERP). Following these changes, additional financial support to the RDP objectives related to climate change (an extra €21.9 million, 18% of the new EAFRD funds allocated to the programme), renewable energy (an extra €7.3 million, 6%) has been enhanced for the period 2010-2013. These new financial supports should be considered in addition to the initial RDP which was already addressing CC and RE.

Targeting investments in support towards production of RES (biogas), investments in environmental technologies, support for projects and cooperation which focus on RE sources and more advanced management of water resources are the main CC-related actions supported under the enhanced RDP strategy.

Full details of the overall RDP budget allocation can be found in the RDP fiche for Denmark that is available at:

http://enrd.ec.europa.eu/rural-development-policy/country-information/rural-development-policy-fiches/en/rural-development-policy-fiches_home_en.cfm

Mitigation

Activities aimed at reducing agricultural greenhouse gases emissions

The Danish RDP provides comprehensive support for a range of activities which could contribute to reducing agricultural emissions. Following the HC revision and the adoption of the EERP, new strengthened operations have been implemented for environmental protection and sustainable agriculture which enhance the uptake of actions to address CC mitigation. These are particularly related to investments in new environmental technologies in agricultural holdings and the promotion of sustainable land management practices.

The main measure through which the RDP seeks to support efforts to reduce agricultural GHG is **measure 214** (agri-environment payments), although other measures also contribute. A considerable number of operations are referenced under this measure which could help to reduce emissions, including: payments for reduced fertiliser use and improved management (including stipulated limits on nitrogen content under certain sub-measures); payments for improved manure management and spreading including support for the conversion to organic practices; conservation of natural areas and wetlands; increased set-aside.

Again under Axis 2, **measure 221** (first afforestation of agricultural land) supports the establishment of forests and their maintenance directly contributes to the uptake of CO₂. According to Denmark's 2002 National Forest Programme's objectives and the Aquatic

Environment Plan III this measure contributes to the increase of forest coverage in designated areas, while conserving and supporting the forests' natural ecological structures and functions.

Further support for activities which could help to mitigate climate change is outlined under **measure 121** (modernisation of agricultural holdings). Explicit reference is made to supporting investments in new processes and technologies which aim at addressing environmental and climate change challenges. Measure 121 specifically aims to reduce localized ammonia and methane emissions through investments to improve the storage and application of manure and slurry, and this is also likely to help reduce overall GHG emissions at farm level.

Energy efficiency and savings are also indirectly encouraged by measures 121, 123 and 124 whereby projects will be prioritized if they lead to reductions in energy use due to increased energy efficiency, use of green energy etc.

According to the RDP strategy, measure 111 (vocation training and information actions) play a pivotal role in building the capacity of the agricultural sector to meet society's goals for environment management. Although the measure does not include explicit reference to climate change, it seems likely that (given the strong focus of the other measures) it will support the uptake of more efficient processes and technologies that will contribute to the mitigation of climate change.

Adaptation

Prevention of, and coping with, potential impacts of climate change on agriculture

In terms of adapting to cope with the potential impacts of climate change a number of actions are supported, notably:

- assistance with the restoration of agricultural potential after natural disasters;
- preventative actions such as dyke restoration and investment in flood protection;
- the management of wetlands, and;
- establishing plant cover and improving genetic resources.

The improvement of land management practices, one of the main elements in the RDP strategy for addressing the CC adaptation priority, benefited from the additional resources released by the HC to support key measures in Axis 2 dedicated to environmental protection.

Measure 126 (restoring agricultural production potential damaged by natural disasters) plays a central role in addressing the need for adaptation in response to the direct impacts associated with climate change, notably the risk of increased flooding. Eligible actions include the restoration of agricultural land damaged after a storm or flood, and introducing preventive actions such as the restoration of dykes. This is important for helping to ensure that agriculture remains sustainable especially in the most sensitive areas (west parts of Jutland).

Measure 216 (non-productive investments) by the reducing emissions of GHGs (greenhouse gasses); supporting the restoration of dykes; the establishment of wetlands; periodical flooding of farmland; specific nature conservation projects, and; restoration of natural hydrological conditions e.g. wet meadows.

According to the Government's priorities (set out in the Aquatic Environment Plan III 2005-2015 and the Green Growth Plan for Danish agriculture, nature and environment 2010-2020), measures 214 and 216 are complementary and can contribute towards implementation of the EU Water Framework Directive and the Natura 2000 Directive (until the related management plans will be available).

Some adaptation measures are also available under **measures 214** with support for the management of wetlands (M214c).

All of these measures have been modified and improved in the light of the new challenges raised by the CAP Health Check.

Further support for adaptation is possible under measure 121 primarily through the mitigation actions relating to reduced use of energy and water, and increased development and use of environmentally efficient technologies including REs.

Main RDP measures which contribute to address CC mitigation/adaptation issues

Axis/Measure	Description	Type of operation	Potential effects
Axis 1			
Measure 121	Modernisation of agricultural holdings	Investments in new environmental technologies particular in relation to: climate; renewable energies; manure and slurry storage and treatment; energy and water consumption efficiency; water quality and biodiversity	Reduce emissions of GHGs at farm level Reduce localised ammonia and methane emissions, especially in areas with high livestock density
Measure 126	Restoring agricultural production potential damaged by natural disasters and introducing appropriate prevention actions	Restoration of agricultural land and soil quality after storm or flooding Re-establishment or restoration of dykes	Ensure continued agricultural competitiveness by introducing restorative and preventive measures against natural disasters caused by adverse climate conditions.
Axis 2			
Measure 214	Agri-environment payments	214b – conversion to organic agricultural production 214c – extensive production on agricultural land 214e – land use change (restoration of natural hydrological conditions on farmland and conversion of farmland into permanent pasture in Natura 2000 areas) 214f – plant genetic resources	Support for low intensity farming systems with reduce energy use and lower GHG emissions Reduced emissions of CO ₂ due to conversion of farmland Biodiversity

Axis/Measure	Description	Type of operation	Potential effects
Measure 216	Non-productive investments	Restoration of dykes and the establishment of wetlands	Reduced emissions of CO ₂ /GHG
Measure 221	First afforestation of agricultural land	Establishment of forest in designated areas according to the national forestry plan	Counteracting climate change through the uptake of CO ₂

Renewable energies

Electricity, heating and transport fuels produced from biomass (such as biofuels, biogas) and other renewable sources (solar, wind, geothermal).

The Danish RDP integrates several aspects of renewable energy policy. Specifically it encourages the reduction of energy use and supports improvements in energy efficiency in most of the available measures. Support is also provided for moving towards renewable sources of energy for agricultural operations and developing environmentally efficient technologies. The production of biogas as an energy source is a central element of the RDP strategy in increasing the share of agricultural-derived renewable energy.

The key measure for supporting renewable energies under Axis 1 is **measure 121**. According to the national objective of using up to the 50% of the livestock manure production for generating green energy (tripling of biogas production by 2020), the measure complements the measures for biogas production under M311 and M321 by supporting investment in “green” processes and technologies as well as in manure treatment facilities producing biogas for use on farms. The rationale of the measure has been adapted in response to the new challenges raised by the HC and seeks to reduce the environmental effects of agriculture with specific reference to reducing energy use, adapting to renewable energy and increasing energy efficiency.

Measures 123 (adding value to agricultural and forestry products) and **124** (co-operation for development of new products, process and technologies) also have the potential to support improvements and greater co-operation in the field of environmentally-efficient technologies. Both measures make explicit reference to energy efficiency and moving towards green energy sources (renewables).

As a result of the challenges identified in the HC of the CAP and the adoption of the national Green Growth plan, new sub-measures have been introduced under Axis 3 in order to support investments in biogas productions, thus strengthening the RDP’s commitment to increasing the production and utilisation of RE sources in rural areas.

Sub-measure 2 of **measure 311** (diversification into non-agricultural activities) supports such types of energy-related investments through the utilisation of the manure and slurry especially in high density livestock areas. The objective is to produce sustainable energy at local level while ensuring other positive results on local non-agricultural employment and environment. Sub-measure 4 of **measure 321** (basic services for the economy and rural population) supports the establishment of common facilities for biogas production receiving manure slurry from local farmers and supplying biogas for energy production. These measures can be used in combination with support under measure 121 for related on-farm facilities.

Measure 221 (first afforestation of agricultural land) is the main afforestation scheme implemented within the RDP and supports the annual establishment of 750 ha of forest in designated areas. In addition to climate change mitigation, this measure also contributes to the production of an important RE source in the form of wood, although this is not explicitly mentioned in the RDP.

No explicit reference is made in measures 111 and 331 to renewable energy sources, but given the strong focus of the other measures it seems likely that they will support the uptake of more RE sources and associated technologies.

Main implemented RDP measures related to the development of RE sources

Axis/Measure	Description	Type of operation	Potential effects
Axis 1			
Measure 121	Modernisation of agricultural holdings	Support to new environmental technologies, particularly in relation to, renewable energies. Support to investments in manure and slurry storage and treatment facilities producing biogas.	Increase the quota of renewable energy derived from RES (biogas) from agriculture.
Measure 123	Adding value to agricultural and forestry products	Processing of biomass for RE	Substitution of fossil fuels Increased use of RE
Measure 124	Co-operation for development of new products, process and technologies	Innovative operations to support development of RE	Substitution of fossil fuels Increased use of RE
Axis 3			
311	Diversification in non-agricultural activities	Investments in biogas production through utilisation of manure and slurry (especially in high density livestock areas)	Increase the production of sustainable energy at a local level; generate additional non-agricultural employment opportunities and income while at the same time reducing the usage of fossil fuels.
321	Basic services for the economy and rural population	Support for establishing facilities for biogas production	Create an attractive quality of life in rural areas through the provision of a local energy supply from renewable sources and the improvement of environmental conditions.