

# Danish climate and energy legislation - how?

By Professor, Doctor of Laws, LLD Ellen Margrethe Basse, President of the University of Aarhus Panel on Climate Change and Head of the Climate Secretariat.

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This briefing note is due to a request from NOAH, who has asked me for an intervention on a conference on 10 November 2009. My remarks should be based on an instruction of how a coherent climate law might look like. As background for answering the question, it is very useful to know something about how the law stands today.

NOAH has even developed "Draft climate law". Some of the individual elements involved in NOAH's proposal can not be implemented because they would conflict with international and EU law (harmonization obligations) cf. ch. IV. Others are for practical reasons probably not entirely realistic. I am not in my memo relating to NOAH's proposal.

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[Re translation see end of text]  
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As shown below, there is not in Denmark comprehensive climate legislation where you can find information on the reduction objectives, procedures, publicity etc. which is a part of the Scottish respectively the English [hereafter: UK] climate law. It can be concluded that legislation only is used indirectly and that there is not a well-arranged climate policy. The National Allocation Plan (NAP) relates to already enacted legislation that is characterized by many individual laws which do not appear to be coordinated.

Information on the Danish reduction commitments and targets has to be found in various documents. The objectives are basically only a fulfilment of international obligations and obligations towards the EU in the period 2008-2012. Information on the Danish targets, values and instruments are primarily found in:

- The National Allocation Plan, NAP, of 2007
- Political agreements reached between the government and other parties (different combinations)
- The government's action plans and
- Ministerial strategies
- Preliminary work of individual laws
- Ministry publications and letters etc.

In the preliminary work of some laws there are set expectations regarding their effect on emissions. For example, it is assumed that adopting a law on sustainable biofuels will lead to a reduction of CO<sub>2</sub> emissions from the transport sector from 2010. The law requires oil companies to ensure that at least 5.75% of total annual sales of petrol and diesel should be sustainable biofuels.

The Danish Energy Agency assumes that the law will ensure that there is an annual CO<sub>2</sub> reduction of 0.82 million tonnes, including indirect effects. This corresponds to an average of just 0.5 million tons / year for the entire period.<sup>1</sup>

The five Danish regions have specific tasks in the fields of regional development, business, education and culture, nature and environment and public transport. As part of "Local Agenda 21" each of the regions are required to publish an account of their contribution to a sustainable development in 21st century. The 98 municipalities in September 2009 have published their joint climate initiative under the auspices of Local Government Denmark (LGDK) "Local Climate Initiatives - together, we take the challenge" and "Local Climate Initiatives – dividing the tasks".

Greenhouse gas reductions will be achieved primarily through energy-efficient solutions, better waste management, use of biomass in energy production etc. Measures vs. climate adaptation concerns water use planning, protection of coastlines, municipal emergency preparedness and requirements for buildings, nature management and afforestation. Six cities are selected as the official design examples on how to work with local climate and energy challenges.

It is necessary to be aware of the political agreements that may restrict the parties' ability to change current key policies in a number of years.

Finally issued action plans and strategies are relevant - not least by an assessment of what is politically realistic to expect. They are therefore discussed briefly in Section II. The many existing laws that already regulate the factors relevant to climate policy must be involved in an assessment of the possible frameworks. There are an incredible number of relevant regulatory areas – each based on different regulatory tradition.

The note contains in Section III a summary of the most important existing rules etc. just to give an idea of how complex it will be to ensure a coherent Danish climate law.

The area - like the environment and energy area, that climate legislation is a part of – is characterized by a very confusing regulatory system. The note does not examine their actual content and meaning - most are discussed in Ellen Margrethe Basse (ed.) "Environmental Law 1-6," (Jurist- og Økonomforbundets Forlag). Volume 6 is central here, since it deals with all the energy and climate change rules. They are listed simply to provide insight in the complexity. Below in Section IV key international and EU rules etc. are included.

## **I. The English [British] respectively the Scottish climate law**

The virtue of the two climate laws that are implemented in UK respectively in Scotland is that they provide an overview of how much the politicians have decided that emissions must be reduced within specified time periods.

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<sup>1</sup> DEA letter dated 10 February 2009 j. nr. 1201/1083-0006 "DEA advisory opinion on the memo from Think Tank Concito: Assessment of conditions and instruments for achieving the Kyoto Denmark obligation 2008-12.

The UK and Scottish climate laws present binding targets on reducing national CO2 emissions. There are both long-term goals related to the level in 2050, and more short-term goals for 2020. The target reduction vs. 2050 is 80%.

In the UK climate law this is laid down in annual budgets. They are presented each year in the period 2010-2050 and represent a cap on the maximum allowable emissions for the periods stated. Five-year CO2 budgets are sequentially established for a minimum of 15 years forward (three periods), to stimulate investment in green technologies – in order to create certainty among businesses about what to do. There should at least be determined CO2 budgets for three consecutive periods.

Within each five-year period, emissions may vary as long as the total emissions for the entire period are not exceeded. The Scottish climate law also includes annual budgets. The first relates to a period of 10 years - from 2012-2022. The following relate to five-year intervals with sub-targets, which indicate a pathway to reach the overall reduction target of 80% reduction in 2050. Targets may be revised with parliamentary approval if the development demands it.

Relevant factors in this context are e.g. new scientific findings on climate change, technological, economic and financial conditions, social conditions, energy policies, environmental conditions and trends in the European and international law / policy.

With each of the laws in the two countries an independent consultative 'Committee on Climate Change' is established, which advises both government and work out proposals for the size of the 5-year CO2 budgets. The Committee will submit annual progress reports to parliament related to the achievement of the long-term goal for 2050, respectively the milestones set for the shorter periods.

The government is obliged to relate to the annual reports. The laws contain obligations for the UK respectively Scottish government to present concrete strategies developed in cooperation with the Commission. The laws specify only in a limited extent, how reduction targets are to be achieved.

They contain, however, waste rules - including rules on waste recycling, waste disposal and management.

The UK [UK] respectively Scottish Government is required to report to parliament every five years on the implementation of the CO2 budget and the led climate policy. The government is also obliged to submit to the parliament:

- A report on climate adaptation
- A strategy vs. land use, etc.
- A report to parliament on energy efficiency - including in relation to buildings.

Legislation must be implemented that promotes energy performance.

Public institutions and authorities are required to contribute to the achievement of the targets by calculating their own contributions. In relation to the proposals of bills and other regulatory actions assessments of efficacy vs. climate must be carried out.

Such reviews should be submitted to parliament. The authorities are also required to report. There has to be measurements of emissions by designated persons /bodies that must also report the results.

Local authorities are also required to establish energy efficiency measures and to adapt charges paid by consumers.

The concept has to be viewed in light of international obligations and EU law obligations, which Denmark - like UK and Scotland – has to respect, see Section IV.

## II. Danish climate and energy policies

It appears in the government's climate action plans etc. that the Danish climate measures must be characterized by an objective that it should be as cheap as possible – cf. the principle of cost effectiveness.

The Business Climate Strategy from October 2009, which is the newest, is a part of the government's "Plan for cutting red tape for the vocational area" from March 2009. It is apparent from the quantity of relevant legislation, mentioned below that there is an urgent need for a deregulation.

### 2.1. National Allocation Plan etc.

In the Danish NAP from March 2007 the projected greenhouse gas emissions per year in the period 2008-2012 is expected to be around 67.8 million tonnes CO<sub>2</sub>-equivalents.<sup>2</sup> The quota regulated emissions (ETS) are reported to emit 24.5 million tons of CO<sub>2</sub> annually in average in the period 2008-12. The non-trading activities (non-ETS) shall not exceed 30.3 million t CO<sub>2</sub>e in 2008-21.<sup>3</sup> In the NAP it is estimated that the non-ETS emissions will be 38.1 million t CO<sub>2</sub>e in 2008-21, and therefore with a shortfall in reductions of 7.8 million tonnes CO<sub>2</sub>e from these activities. Subsequently the Energy Agency downgraded the estimated amount of emissions in light of the latest energy agreement so they "only" expect a shortfall of 5.7 million t CO<sub>2</sub>e.<sup>4</sup>

*Concito* [Danish think tank] have some different numbers in a memo published in February 2009.<sup>5</sup> It stated that the emissions in Denmark in the base year 1990 was 69.5 million tonnes and since maximum emitted 54.8 million tonnes. It appears from the note that the discharge rate in 2006 was 70.5 tonnes, which was 17% above emissions in the base line year.<sup>6</sup>

Climate projects abroad (CDM / Clean Development Mechanism or flexible mechanisms) is an important element in the Government's climate strategy. You find that it is expected primarily to be private companies that are making such purchases. However, there is allocated large public sums for state purchase of credits.

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<sup>2</sup> National Allocation Plan for Denmark in the period 2008-12, 6th March 2007, page 30

<sup>3</sup> DEA letter dated 10 February 2009 j.nr. 1201/1083-0006 "DEA advisory opinion on the memo from Think Tank Concito: Assessment of conditions and instruments for achieving the Kyoto Denmark obligation 2008-12."

<sup>4</sup> According to the DEA's letter of 10 February 2009 j.nr. 1201/1083-0006.

<sup>5</sup> Pöyry note "Assessing the conditions and instruments for achieving Denmark's Kyoto Commitment 2008-2012 ", 8 Feb. prepared for Concito.

<sup>6</sup> Pöyry note page 5

- The allocation plan from March 2007 shows that in the period 2003 to 2007 credits for 930 million DKK were bought.
- 650 million DKK is secured for the purchase of credits in the period 2008-2012.
- In a newsletter from September 2009 it is reported that additionally 275 million DKK is allocated to JI / CDM projects in order to ensure that Denmark meets its commitments.<sup>7</sup>

The information appears to be quite perceptive. I therefore may have misunderstood them. If I have not misunderstood something, Denmark has chosen to use 1855 million DKK to purchase credits in order to ensure it can meet its reduction commitments under the Kyoto Protocol, as set out in details in the EU burden sharing.

The Danish Government has also decided to exploit the possibility of including the removals of CO<sub>2</sub> (sinks) which are permitted under the Kyoto Protocol Art. 3.4 and which are within the limits accepted by the EU.

## **2.2. Political agreements, government strategies and action plans etc.**

Information about the Danish climate effort - including specific objectives and instruments - has largely to be sought in political agreements etc., in action plans, etc. The central ones are therefore discussed below.

### **2.2.1. Climate Action Plans**

Climate Action Plans relate to both the reduction of emissions etc. and actions that are motivated by climate changes, which are certain to occur. The Danish government has a climate strategy from 2003 and a climate adaptation strategy from 2008.

In 2009 a growth strategy with focus on business was issued. None of the action plans tells of concrete targets.

In short, the instruments are the following:

The national climate change strategy, "A cost-effective climate change strategy" that was issued by the Ministry of Finance, Ministry of Environment, Ministry of Taxation, Ministry of Economic and Business Affairs in February 2003. It identifies the instruments, which are assessed by the ministries to have a large, respectively less potential (see page 9). It is as follows:

Tools with great potential:

- Heat pumps - supplant decentralized cogeneration
- Reduction of electricity production
- Flexible mechanisms
- Conversion from coal to natural gas
- Heat pumps - displaces central cogeneration
- Offshore wind farms
- Upgrading of biogas facilities
- Sequestration on land or in oil fields [Carbon Capture and Storage – CCS]

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<sup>7</sup> Torsten Malmdorf (eds), "Danish Energy Agency Newsletter. JI and CDM."

Instruments with less potential:

- Standards for windows
- Standards for oil and gas boilers
- Flare gas recovery
- Heat pumps - displace oil-fired heating
- Establishing common biogas plants
- Additional methane capture from landfills
- Changed feeding of dairy cows
- Use of biofuels
- Road pricing
- Increased fuel taxes

Adaptation to climate change is addressed in a strategy by March 2008 "Strategy for Climate Change in Denmark". The strategy does not call for proper legislation. The Forest and Nature Agency drew up a background report on climate change and land use planning, dated 20 January 2006. It is assumed in this report that there currently is a need for amending the existing provisions on coastal proximity zone and coastal conservation lines etc. The climate adaptation strategy focuses on the following areas:

- Coastal Management
- Building and construction
- Water supply
- Energy supply
- Farming and forestry
- Fishing
- Nature and Nature Management
- Planning
- Health
- Rescue services
- Insurance aspects

The responsibility for the necessary sector-specific adaptations to climate change will be in the sectoral ministries. Since adaptation to climate change will often be horizontal, e.g. within agriculture / environmental / natural health / building / environment, there will be a need for coordination between ministries and with the regulation and developments in the EU and other international fora. It is ensured in the strategy through the transversal Coordination Forum for Climate Change Adaptation and the national centre of excellence.

*"Business Climate Strategy. Global Challenges - Danish possibilities"* The government published this plan in October 2009, which is largely focused on legislation. It is intended to establish a code of "innovation-regulation" - based on a further development and deepening of good business regulation. It is emphasized that it is a cost-effective strategy. It is a growth strategy geared towards the Danish business sector in general. It will help Danish companies exploit the market and growth opportunities that climate change has created.<sup>8</sup> The government will work to ensure that a number of initiatives will be prioritized in connection with the implementation of the Globalization Fund.

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<sup>8</sup> Business Climate Strategy page 5

The Codex for the regulation to promote innovation of the climate and energy sector, which is taken as a basis, is mentioned like this:<sup>9</sup>

- "Partnership Approach: The regulation must be developed and reviewed in close cooperation between the Government, businesses and organizations.
- International vision: The framework conditions for Danish companies must be seen in an international context. The regulation must be worked out in a way that it as far as possible brings companies in Denmark at the forefront of international long-term trends.
- Focus on endpoints: The regulation should be designed based on the desired effects of regulation.
- Timing: New requirements on climate issues should, where possible, should be timed so that enterprises have time to innovate while requirements should not be so far in the future that business innovation is driven in excess of the ordinary. Another aspect of timing is that the regulation should create a continuous incentive for innovation. Charges, tradable quotas or continuous phase of new and more stringent requirements may be ways to create a continuous stimulus.
- Clear communication and long term measures: Business must be well informed about future regulatory changes. Regulation should generally be stable and long term. It can be a prerequisite for enterprises implementing investment in facilities for producing renewable energy.
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- Consistency in regulation: There must be focus on how the total amount of regulatory actions affects innovation in the business climate. Different regulatory approaches should be mutually complementary. Opposite effects should be avoided.
- Mandatory minimum standards combined with incentives for excellence: To create incentives for innovation in all companies, mandatory minimum climate standards can be combined with e.g. voluntary labelling for "front runner"-companies.
- Competition: The regulation should seek to ensure that innovation takes place in a market with free and open competition. In some cases, existing technologies, however, can be so dominant that it can be difficult for new technologies to establish themselves in the market. Here a time-constrained regulation can help to ensure that new technologies are allowed to ripen.

This list of good initiatives should be evaluated in light of international obligations - including vertical harmonization of laws and the restrictions imposed by IPR legislation, the ban on state aid, etc. Unfortunately, the plan is completely purged of references to such a framework.

### **2.2.2. Energy Action Plans from the 1970s**

Many of the reduction measures in force today cf. the list of Danish law below, can be traced back to the energy crisis in the early 1970s.

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<sup>9</sup> Business Climate Strategy page 12

The first Danish energy plan "**Danish Energy Plan 1976**" was triggered by the first energy crisis that occurred in 1973. It had as a main theme ensuring energy security through the conversion of fuel consumption (less dependency on oil) and through energy savings / energy efficiency.

The next plan "**Energy 81**" was motivated by a tripling of oil prices and problems vs. supply uncertainty caused by the Iran-Iraq war. It focused on a multifaceted energy supply system and on energy efficiency. The plan was set with the objective that 10% of Denmark's electricity consumption would be covered by the 60,000 small wind turbines and 5,000 biogas plants. The two action plans laid down the guidelines, which determined the energy sector's development in the 1980s.

In 1986 the Danish government signed an energy agreement with political parties in parliament that among other things meant that decentralized cogeneration plants with a total power of 450 MW - of which approx. 100 MW biomass based - was to be constructed. The Allocation Plan that was forwarded to the EU in 2007 involves the action plans adopted in the period 1990 to 2001.

It is as follows:

In 1990 a third energy plan "**Energy 2000**" was adopted, which - inspired by the Brundtland commission's "*Our Common Future*" - introduced the concept of sustainable development in the electricity sector. There was a target of 15% reduction in energy consumption and at least 20% reduction in CO<sub>2</sub> emissions by the year 2005, measured vs. 1998 levels. The plan was a blueprint for increased use of natural gas, solar, wind and biomass. It included an objective that 10% of Danish electricity consumption in 2005 would be met by wind turbines with a total capacity of 1,500 MW.

The thermal power plants were in the agreement obliged to use 1.2 million tons of straw and 0.2 ton of these straw obligations should be met through the use of wood chips.<sup>10</sup>

In 1996 "**Energy 21**" was adopted, which complemented the ambitions of long-term goals, which covered the period up to 2030. It was the objective of halving CO<sub>2</sub> emissions by the year 2030 vs. 1990 base year. Biomass should contribute to achieving the target by entering as raw material to a production of 85 PJ in 2005 and 145 PJ in 2030.

There should be increased use of straw and wood chips in the decentralized power plants, increased deployment of decentralized cogeneration based on straw and wood chips as well as access to the establishment of biofuel plants in areas that previously were reserved for natural gas.

Wind capacity in 2005 is assumed to be 1500 MW on land. Capacity at sea in 2030 is assumed to be 4,000 MW. The goal is that 50% of Denmark's electricity consumption in 2030 is wind energy.

In 1999 a political agreement on an **electricity reform**, which indicates that the target share for renewable energy in 2003 shall be 20%. The Environment and Energy Ministry publishes "*Climate 2012 - Status and perspectives for Danish climate policy*" in March 2000, which focuses on the

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<sup>10</sup> The action plans are treated in e.g. Ellen Margrethe Basse (ed.) "Environmental Court 6. Energy and climate" Lawyers and Economists Union Publishers, 2008, p. 81ff.

relationship between electricity reform and climate action.

The means are specified in the allocation plan as split vs. sectors.

It is as follows:<sup>11</sup>

*Related to energy:*

- Subsidies to private wind turbines (0.27 DKK / kWh) - from 1999 changed to favourable settlement rules financed through the electricity price for wind energy
- Directions to the power companies to install a certain amount of wind power plants on land and at sea - from 1999 a government production subsidy of 0.10 DKK / kWh for electricity from utility owned wind turbines was given
- Development of decentralized CHP - incentives in the form of purchase obligation / 3-link-tariffs, electricity production subsidies, etc.
- Agreement on biomass use, involving the imposition on large power plants to use a certain quantity of biomass (straw and wood chips). It included electricity generation grants of 0.10 DKK / kWh for biomass-based cogeneration on central utility owned plants.
- Subsidies for energy conservation in industries - including investment in energy efficient technology, establishment of industrial cogeneration, development, test and demonstration projects, advising of firms and information
- Agreement scheme which provides grants to the CO2 tax on 22%-points typically for companies with heavy process. Involved e.g. certified energy management, special studies of the central core processes and implementation of projects with a payback of less than four years.
- Subsidies for conversion of older homes built before 1950 without central heating. Grants for the installation of central heating and hot water system, and to support facilities, technical advice, management, etc.
- Grants to promote connection to coal-fired cogeneration - by switching from oil burners for heating in areas with a supply of coal-fired cogeneration
- Grants for solar heating, heat pump and biomass-fired boilers to replace other methods of heating in households
- Energy labelling of buildings in connection with sale. In large buildings energy management systems are established with an annual review of the building
- The CO2 tax was introduced in 1993
- The Tax package from 1994: increased energy tax on electricity and coal during the period 1995-

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<sup>11</sup> According to the National Allocation Plan for Denmark in the period 2008-12, 6th March 2007, page 29

- The “Whitsun package” from 1998 - increasing energy taxes

*Related to the industry:*

- Taxes on and regulation of the use of industrial gases

*Related to transportation:*

- Higher fuel taxes. Increases since 1990
- Voluntary agreement between the Commission and industry on improving the energy efficiency of passenger cars
- Conversion of weight tax on new cars to a green energy per. 1. June 1997

*Related to agriculture:*

- Aquatic Environment Action Plan II and other action plans in agriculture has led to reduction in use of fertilizers with following reduction of nitrogen-oxide

*Related to waste:*

- Catchment of methane from landfills. Grants to the development of facilities and from 2001 mandatory methane capture.
- Stop the disposal of waste suitable for incineration - entered into force 1. January 1997

The right-wing government that took office in 2001 issued in 2002 "***Liberalization of energy markets - The government's growth strategy - Determined Growth***". The plan says the government will invite tenders for the establishment of offshore wind power.

***The Energy agreement from March 2004*** between the Government and the Social Democrats, The Socialist People's Party, The Liberal Party and the Christian Democrats, set a goal of continued expansion of offshore wind power, wind energy and distributed cogeneration facilities. The agreement established a new market-oriented pricing mechanism for wind power and laid the groundwork for the construction of two new offshore wind farms at Horns Rev and Nysted.

The agreement of 29 March 2004 on securing the future of the energy infrastructure and the political agreement on energy-saving efforts (of 10 June 2005) followed by the overall national strategy, "***Energy Strategy 2025***" (*Energy saving strategy*).

This overarching national strategy builds on market based and international instruments. It focuses on the potential development of new and more efficient energy technologies. The plan includes an assessment of prospects up to 2025 and a blueprint for an action plan for the future electricity infrastructure. The settlement was evaluated in 2008 - the evaluation showed that a series of actions had not worked as planned.<sup>12</sup>

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<sup>12</sup> Pöyry note page 6, referring to an evaluation "One way to more and cheaper energy" by Ea Energy Analyses, Niras, RUC and 4-Fact for the DEA.

On 19 January 2007 the government presented a proposal for a new energy plan entitled "A Visionary Danish Energy Policy 2025". The plan stresses, just as the climate strategy from 2003 that the policy must be cost effective and that it shall support continued growth, high employment and competitiveness. The initiative resulted in the energy policy agreement which was concluded on 21 February 2008. The agreement, which covers the period up to 2011, was concluded between the Government, the Social Democrats, the Danish People's Party, the Liberal Party, New Alliance and SF (Socialist People's Party). The agreement indicates that the share of renewable energy must be increased to 20% of gross energy consumption by 2011. It has to be ensured through the tendering of two off-shore wind parks (to be finished in 2012) and possibly an adjustment of the tendering model.

The Non-Profit-Principle of waste regulation at the decentralized Combined Heat and Power (CHP) plants should be promoted. According to the agreement, there should be made an adjustment in support for the biomass-based electricity production by the decentralized CHP-s, increasing the amount from 0.10 DKK to 0.15 DKK per kWh.

All new and existing biogas plants should receive support in the form of a fixed electricity settling price and a price surcharge. There should be introduced new settling prices for wind turbines and an additional fixed charge for the scrapping of old windmills.

The energy charges should be covered by new initiatives. The CO<sub>2</sub> tax should be increased vs. the non-trading sectors. Electric cars will be exempted from taxes 2012.

There will be introduced a NO<sub>x</sub> tax. Increased support should be provided for more efficient energy technologies. An annual subsidy of 25 million DKK should be provided to small renewable technologies, such as solar cells and wave power. There will be established funding of testing systems for electric cars and plug-in hybrid cars.

Legislation on renewable energy is planned to be assembled into one law, Renewable Energy (RE) law, which would include national targets for a comprehensive municipal planning of windmills, settlement rules for RE-plants, a compensation scheme and a guarantee fund for local joint ownership. Also, an agreement should be made with Local Government Denmark [the national association of municipalities] for the establishment of a green fund and a guarantee fund for financial aid to new local mill guilds pilot studies etc. Energy saving efforts should be further strengthened. The plans include making the buildings more energy efficient (implementation of the Buildings Directive). The share of biofuels for transport will be increased to 10% by 2020 (consistent with EU obligations). An intermediate target will be established before 2020 if there will be sufficiently developed socioeconomically competitive and environmentally sustainable technology.

In response to the agreement and new developments in the EU the DEA [Danish Energy Agency] issued an agreement projection in the form of a publication in July 2008 "**Projections of Denmark's energy consumption and greenhouse gas emissions by 2025**". The agreement projection includes specific assumptions with respect to the Danish electricity-generating plants. For example it is assumed that biogas development is increased with 8 PJ by 2020. It is assumed that there is no reason to expect additional waste for incineration. Waste incinerated in large centralised plants entail correspondingly less waste in decentralised plants.

### 2.2.3. Aquatic Environment III, structural / CAP reform and the "Green Growth"

Aquatic Environment III is a settlement reached on 2 May 2004 between the government, the Danish People's Party and the Christian Democrats. The plan is assumed to contribute to a reduction of the greenhouse gas called nitrous oxide - reduction to be a consequence of reduced use of nitrogen fertilizers and thus reduce nitrogen wash out. An interim evaluation conducted by researchers at Aarhus University in 2008, however, showed that the action plan not quite has had the desired effect. The reason was that there had been no reduction in nitrogen consumption.<sup>13</sup>

There is a structural development in agriculture that will affect the discharge of for example methane as cattle numbers are reduced. Danish Agriculture [farmers association] has estimated that in the period up to 2015 there will be a decline of 80,000 cattle. Pig population rises simultaneously. The effect of structural changes may be difficult to assess.

The Government (the Liberal and Conservative) and the Danish People's Party made in April 2009 an agreement "*Green Growth*", which amongst other things has to ensure better environment and climate. Concerning greenhouse gases the plan says that the following is to be ensured:

- Reduction of emissions of greenhouse gases from farming of expectedly 800,000 tonnes of CO<sub>2</sub> annually because of the energy, natural and environmental performance of Green Growth.
- Possibilities for a further reduction of agricultural inputs, including using a market-based model (quotas / taxes), analyzed in detail. The analysis will be an integral part of an overall, comprehensive analysis of possible instruments within the EU climate and energy package on the entire non-trading area. The analysis will be presented in autumn 2009.
- The Government will, on basis of the analysis provide a comprehensive, cost-effective climate strategy until 2020 for the non-trading area.

The role of agriculture as a supplier of green energy is planned to be strengthened. The aim is that up to 50% of livestock manure can be utilized for green energy by 2020. There will in 2012 be taken stock of the development of biogas plants, including an assessment of the need for any further action to achieve greater energy generation from manure. A series of initiatives will be implemented to promote the role of agriculture as a supplier of green energy, including:

- o An initiating pool of 85 million DKK annually for the establishment of new joint biogas plants and farm-related investments in connection to the joint plants in the period 2010 to 2012. The scheme may pay a fixed subsidy of 20% of the investment. In addition, the remaining funding consists of 60% municipality guaranteed loans and 20% own financing.
- o An initiating pool for organic biogas plants totalling 15 million DKK annually in the period 2010-12. The scheme may pay a fixed subsidy of 20% of the investment. An evaluation of the scheme has to be conducted after the first round of applications.

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<sup>13</sup> Midway evaluation of Aquatic Environment III conducted by DJF and DMU at Aarhus University, see this also in Pöyry note page 7

- o Changing the Planning Act to require municipalities to involve the localization of biogas in municipal planning.
- o Grant opportunities between the marketing of biogas, respectively CHP and natural gas network.
- o Planting of perennial energy crops be deductible for tax purposes.
- o Distance requirements for rivers and lakes in the Nature Conservation Act is amended, so cultivation of perennial energy crops are possible within the protective bar.
- o Subsidy for the planting of perennial crops on 32 million DKK annually from 2010-12. The scheme shall come into force from the growing season of 2010. Grants can be given to land in ordinary rotation, which gives great planting nitrogen reduction, and where the land is situated in a way so the nitrate reduction effect can be included in the achievement of the WFD. The grant scheme will be evaluated in 2012.
- o Technological development and innovation in the agricultural industry must be supported. Therefore a grant pool of 145 million DKK annually is set up for the period 2010-15 to apply new environmental and climate-friendly technologies in the primary agricultural industry.

#### **2.2.4. Traffic Action Plan etc.**

The government issued in December 2008 "*Sustainable transport - better infrastructure*," which indicates some actions that will contribute to reductions in transport. The plan disclosed that today transport accounts for approx. 25% of the Danish CO<sub>2</sub> emissions - a proportion expected to increase in the next few years. It has been proposed to use green car taxes and "smart" road pricing - the latter charges assume a satellite-based GPS-system with a unit in each car to measure exactly where and how long the car is running.

The public transport must be promoted and there should be invested in green technology. It is reported that the restructuring of the registration tax in the spring of 2007 has contributed to a reduction in emissions from new cars on an average by 8% per kilometre driven.

In January 2009, an agreement was signed between the government (the Liberals and the Conservatives), the Social Democrats, Danish People's Party, Socialist People's Party, Liberal Party and the Liberal Alliance, on "*A green transport policy*". The Parties agreed that the CO<sub>2</sub> emissions from transport must be reduced and that a number of overriding effort areas will contribute to achieving this goal in the long term, including the significant strengthening of the rail traffic, green road pricing and new sustainable technologies. There will be established some overriding principles - including the promotion of cycling.

With respect to "financial factors", the parties agree to allocate an envelope of 200 million DKK within the Infrastructure Fund for pilot projects to test possibilities for energy efficient transportation solutions in the following areas: (1) Energy-efficient buses in public bus services and buses on alternative fuels; (2) Greater number of vehicles, e.g. in cooperation with public or private companies with bigger car fleets, and (3) Partnerships with businesses and municipalities on transportation plans and systems solutions. The parties further agree to allocate 84 million DKK through the Infrastructure Fund to implement the following initiatives, which the Transport Ministry will launch in 2009:

o Recommendations and advice for the public procurement of energy efficient and environmentally friendly cars will promote a more energy efficient and environmentally friendly car fleet.

o Introduction of a certification scheme for "green transportation company" and "green transport municipality" will promote the use of energy efficient vehicles and better utilization of existing car fleets.

o Optimization of aerodynamics for trucks should be promoted through campaigns and networking on "best practice" and a subsidy for the period of 2009-12 within a budget on a total of 42 million DKK.

o The energy labelling of vans will provide all new vans with an energy label, which shows the fuel-efficiency of a specific car. There will be conducted campaigns on energy labelling combined with spot checking at car dealers (14 million DKK).

o There will be promoted energy-efficient driving techniques through voluntary courses for the individual car drivers, and also guidance campaigns (28 million DKK).

o Environmentally conscious and energy efficient public transport will be promoted through a gradual phasing in of energy efficient transportation solutions, such as supporting experiments with energy-efficient buses or buses dependent on alternative fuels.

There will be allocated 8.1 billion DKK for new funds until 2014 within the framework of the Infrastructure Fund and 1 billion DKK for a separate pool for better access to public transport. There will be: 1) used a rolling planning considering future investments, 2) worked out a green transport vision, 3) established principles for green road pricing, 4) promoted a green research contribution, and 5) provided a stronger basis for strategic planning of transport. The parties agree that the taxi legislation should require that the new taxis would belong to at least energy class C. Also, a requirement for particle filters will be introduced and made mandatory in 2011 after a phasing-in period. The parties further agree that the 3-year trial period of modular wagon trains should be extended.

### **2.2.5. Tax Reform 2009**

In March 2009, a tax reform agreement "*Spring Package 2.0 - growth, climate, lower taxes*" was signed between the government and the Danish People's Party. The agreement concerns the period of up to year 2019.

The reform includes:

*"The tax reform supports the ambitious targets in the Danish climate, energy and environmental policy. Green taxes are effective means of achieving climate and energy policy target. These reduce the gross energy consumption; strengthen the renewable energy, such as reducing greenhouse gas emissions in the non-quota regulated sectors. It is expected that the tax reform will lead to 2 per cent reduction in the total Danish gross energy consumption. Thus, the reform provides a significant contribution to the goal of reducing energy consumption by 4 percent by 2020, while the economic growth will still continue. The emission of greenhouse gases will be also reduced. The reform will deliver nearly 2 percentage units of Denmark's total reduction target of 20 percent forward to 2020 for sectors outside the EU quota system. And the reform will mean an increase in the use of renewable energy in Denmark. The taxes on energy, climate and transportation will be increased overall*

*by nearly 8 billion DKK, of this sum at least 6 billion DKK will be contributed by professional sectors (quote p. 6).*

The tax on the energy for room heating will be increased, and a tax on the energy for air conditioning will be introduced. The energy tax on fuel for heating will be increased by 15%, equivalent to approx. 7.5 DKK per GJ. The energy tax on electricity for heating will be increased by 5%. The tax on energy for air condition equates energy for heating and cooling, which altogether will cover the energy and CO<sub>2</sub> tax on heating. The initiatives will come into force on 1 January 2010 (see p. 15).

Besides the increased energy tax on electricity, there will be introduced an energy tax on the fuels used by the industry for manufacturing, at 15 DKK per GJ. The competitive effects influence the tax duty.

*"The goal of these energy taxes for businesses is to reduce the energy consumption through an improved organization of production, the utilization of environmentally friendly technology, etc. A tax increase may however cause the production, which is necessarily energy demanding due to the current technology, to move to countries with weak regulation, and thus not supporting the global climate. Therefore, the mineralogical processes, chemical reduction, electrolysis, metallic processes, etc. are exempted from tax in accordance with the EU energy taxation directive. The energy tax will be also imposed on horticulture and agriculture of 1.25 DKK per GJ, equivalent to the EU minimum rate. The initiative comes into force on 1 January 2011."*

Basic allowance for CO<sub>2</sub> tax will be reduced. Basic deduction for energy-intensive companies in CO<sub>2</sub> tax law will be phased out in line with the reduction of the free quota within the EU CO<sub>2</sub> quota system. The regulation will ensure the maintenance of equality between quota-covered companies and energy-intensive not quota-covered companies. The initiative comes into the force on 1 January 2013.

Taxes on central heating, street lighting and transformer stations will be changed. There will be introduced identical taxation of centralized and decentralized cogeneration. This will remove the current distortions between the heat produced in central and peripheral stations. The initiative comes into the force on 1 January 2010. All households, non-VAT registered and professional services will have to pay energy tax on electricity for lighting. The green energy taxes on electricity for households and businesses will be increased generally by 17 DKK per GJ.<sup>14</sup>

The rules relating to tax on electricity for heating of the transformations will be specified; hence the tax will be paid accordingly. The initiative comes into force on 1 January 2010.

### **III. Danish legislation**

The above plans and agreements will be realized including through legislation. Legislation is characterized by the fact that it is placed under different ministries, which are not required to coordinate. Here will not be undertaken an actual review of the legislation. There will only be attached single critical remarks on unfortunate barriers - including insufficient coordination and prioritization of climate considerations. The volume of legislation emerges from the given listing - some are more relevant than the others. EU's new Renewable Energy directive is based on the fact

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<sup>14</sup> According to the Tax Ministry the state earned 36.5 million DKK on energy taxes in 2008.

that the protection of the habitats against the use of biomass production is an integrated part of the climate initiatives under discussion. Therefore, it is obvious to mention the Danish habitat rules.

There are different regulatory perspectives and tools. It should be exemplified:

- For the substances covered by the Montreal Protocol, there is a general product regulation in the form of restrictions on use in the notices issued on the basis of the Chemicals Act.
- Regarding the greenhouse gases covered by the Kyoto Protocol, there is an emissions-regulation with a focus on production processes. The rules can be found in the quota law.
- CO<sub>2</sub> emissions from the businesses not covered by the quota law are regulated indirectly - primarily through taxes on consumption of electricity and heat.
- Environmental impact assessment at project and program level will contribute to securing the climate considerations.
- Requirements for access to environmental information is a key element in safeguarding the public, as assumed in the climate area.

Legislation is not just complicated - it also contains a number of barriers. Not least, the very [in]transparent regulatory system and the many different rationales, different authorities, etc. create problems. Some laws - such as the environmental support law - has probably today no great practical importance.

#### ***Barriers in the legislation - examples***

Considerations about climate are not a high priority in the legislation which is located under the Environment Minister.

It should be highlighted that the Danish parliament accepted ***new waste rules*** in 2009 by amending the environmental protection act of 2009 ("New organization of the waste sector") without any consideration to the climate. For comparison, these rules are an integral part of the UK and also the Scottish climate law. Waste rules are particularly central in the EU's climate policy.

In Denmark, only approx. a half of the potential biomass resources are used. Today, there is a requirement for a consistent and wider definition of ***biomass*** in the Danish legislation.<sup>15</sup> Only the materials listed in the annex to the biofuel authorization are accepted in Denmark as biomass in the CO<sub>2</sub> and energy context. All other biomass material should be treated as waste and regulated according to the Environmental Protection Act. Currently, the climate and renewable energy consideration has no place in the Environmental Protection Act. Biomass can be used in energy production only if the municipality (as waste authority) permits this.

The EU guidelines for CO<sub>2</sub> monitoring include a long list of a number of ***materials which are considered CO<sub>2</sub> neutral in the surveillance context***. The Danish biomass authorization, however, does not follow the list - it is more restrictive. Therefore, it is more difficult for the Danish plants to get acceptance for some types of biomass than is assumed by the EU. The latest revision of the CO<sub>2</sub> monitoring plans of the power plants has also increased the requirements for biomass accounts for the production units, which both use biomass and fossil fuels.

There are built-in conflicts between the authorization mechanisms that are relevant for taking a position in ***phasing out of coal from existing plants***. Energy authorities assess the interaction

<sup>15</sup> The new RES Directive contains such a definition.

between the proposed project and the rest of the energy system (the safety of the supply, etc.) under the electricity supply act. Such a coherent system is on the other hand rather irrelevant to the environmental authorities which evaluate according to the Environmental Protection Act. Environmental authorities can only assess the environmental conditions of an individual facility. They can not include the environmental benefits which could be achieved by an operational flexibility between multiple facilities.

**Renewable Energy (RE) law** introduces a new compensation scheme which can actually be seen as a barrier in the establishment of large wind turbines on land. Since the early 1970's, it has been an established legislative practice to balance the conflicting land use interests by a long-term physical planning. It is only in very rare cases that neighbors may require compensation when the district plans classify areas for certain activities and plans get subsequently realized.

Neighbour compensation rules are directly contrary to the logic behind the planning law and behind the other environmental legislation. The Supreme Court ruled recently in a judgement that prior to the enforcement of the law there could not be paid compensation in the situations, which now justify compensation.

During a visit to a wave energy production plant, the tax minister Kristian Jensen said that he could not promise **exemption from the CO<sub>2</sub> tax**. The minister said according to the press reports that - as with wind power - it will not be possible to separate the environmentally friendly wave energy from the power produced at a coal plant when the energy is first entered into the mains. It can only be justified in an inappropriate rule formulation.

*It could be asked, if it follows directly from the RE-directive's rules on certificates of origin that an opportunity for such a differentiation should be ensured?*

Surplus heat from the supermarkets and production companies is not utilized due to the taxes payable. The problem lays in the so-called **surplus heat rules** that demand tax on the heat which it emerges for free as a secondary effect of industrial consumption of energy for operations. One might ask why the recently agreed tax reform, claiming to be focused on climate, does not remove such a barrier.

The Energy Tax Directive allows Member States to provide support through tax exemption or reduction under certain circumstances.

**The many individual laws and central regulations will be listed here with the proviso that I may have missed some:**

**Waste Tax Act.** Consolidation Act No. 1165 of 27 November 2006, as amended by the Law on amending the Law No. 527 of 12 June 2009 on taxation of electricity and various other laws.

**Tax reductions on district heating etc.,** [Act on ..] Law No. 1417 of 21 December 2005 on amending of various environmental and tax laws.

**Tax on nitrogen oxides.** Act No. 472 of 17 June 2008, as amended by Law 527 of 12 June 2009 on taxation of electricity and various other laws.

**Tax on mineral oil products.** Consolidation Act No. 297 of 3 April 2006, as last amended by the Law on amending Law No 527 of 12 June 2009 on taxation of electricity and various other laws.

**Tax on natural gas and town gas law.** Consolidation Act No. 298 of 3 April 2006, as last amended by Law on amendment of Law 527 of 12 June 2009 on taxation of electricity and various other laws.

**Tax on coal, lignite and coke etc.** Consolidation Act No. 1068 of 30 October 2006, as last amended by the Law on amending Law No. 527 of 12 June 2009 on taxation of electricity and various other laws.

**Tax on sulphur.** Consolidation Act No. 78 of 8 February 2006, as last amended by the Law on amending Law No. 527 of 12 June 2009 on taxation of electricity and various other laws.

**Emergency Law.** Consolidation Act No. 660 of 10 June 2009 on emergency readiness.

**Payment Law.** Consolidation Act No. 281 of 22 March 2007 on payment rules for sewage plants, etc., as last amended by Law No. 460 of 12 June 2009.

**Biofuels Law.** Law No. 468 of 12 June 2009 on sustainable biofuels.

**Building Law.** Consolidation Act No. 452 of 24 June 1998, as last amended by Law No. 404 of 27 December 2008.

**Building Regulations.** Order No. 1353 of 17. December 2008 on publication of the building regulations 2008.

**CO<sub>2</sub> tax law.** Consolidation Act No. 889 of 17 August 2006 on carbon dioxide tax, as last amended by the Law on amending of Law No. 527 of 12 June 2009 on taxation of electricity and various other laws.

**CO<sub>2</sub> package.** Government grants for decentralized heating. Law No. 3 of 3 January 1992 on the state subsidies for the promotion of decentralized heating and use of biofuels.

**CO<sub>2</sub> package. Law on state grants for the completion of the district heating network.** Law No. 4 of 3 January 1992 on state subsidies for the completion of the district heating network, as amended by Law No. 143 of 3 March 1992.

**CO<sub>2</sub> package for enterprises.** Consolidation Act No. 84 of 3 February 2000 on state subsidies for energy saving, etc. at enterprises.

**Ecodesignlaw.** Law No. 308 of 30 April 2008 on environmentally friendly design of energy consumption products, as amended by Law No. 1400 of 27 December 2008.

**Electricity Duty Act.** Consolidation Act No. 421 of 3 May 2006 on electricity tax, as last amended by the Law on amending of Law No. 527 of 12 June 2009 on taxation of electricity and various other laws.

**Electricity Supply Law.** Consolidation Act No. 1115 of 8 November 2006, as latest amended by the Law No. 516 of 12 June 2009.

*Electricity labelling order.* Order No. 145 of 16 February 2007 on declaration of electricity to consumers.

*Electricity saving order.* Order No. 1105 of 9 September 2006 on energy saving benefits at grid- and distribution companies.

*Market access order.* Order No. 1129 of 23 November 2004 on enforcement of these parts of the law that concern amendments to the laws on electricity supply and heat supply.

*Guarantee of Origin order.* Order No. 1 of 6. January 2004 on the guarantee of origin for renewable energy electricity.

*Additional charge order.* Order No. 1096 of 19 September 2007 on payment of surcharges for environmentally friendly electricity.

*Type approval order.* Order No. 651 of 26 June 2008 on technical approval system for the construction, production, installation, maintenance and servicing of wind turbines.

*RE-price surcharge order.* Order No. 732 of 9 July 2009 on surcharges for electricity produced by renewable energy other than wind turbines.

*Windmill order.* Order No. 1365 of 15 December 2004 on grid connection of wind turbines and the surcharge for wind generated electricity, etc.

**Electricity heated buildings Act.** Law No. 407 of 14 June 1995 on state subsidies for the conversion of electricity heated buildings.

**Electricity Generation Subsidy Act.** Consolidation Act No. 1331 of 30 November 2007 on subsidies for electricity production, as last amended by Law No. 461 of 12 June 2009.

**Electricity saving fund, Act.** Law No. 1209 of 27 December 1996 on electricity saving fund, as amended by Law No. 584 of 24 June 2005.

**Energy Agreement Act.** Consolidation Act No. 846 of 17 November 1997 on subsidies to cover the cost of carbon dioxide tax for enterprises with high energy consumption, as last amended by Law No. 1400 of 27 December 2008.

*Energy agreement order.* Order No. 631 of 24 June 2005 on agreement on energy effectiveness and government subsidies for the cost of carbon dioxide tax in certain companies.

*Prom's order.* Order No. 632 of 24. June 2005 on prom's [???] and heating criteria in connection with an agreement on energy effectiveness and state grants to cover costs of carbon dioxide tax and energy tax on heating and hot water.

**Energy saving law.** Law No. 585 of 24 June 2005 on the promotion of energy saving in buildings, as last amended by Law No. 1400 of 27 December 2008.

*Order No. 1018 of 22 October 2008 on the publication of energy labels on buildings and inspection reports on the boilers and heating systems etc.*

*Order*. No. 438 of 3 June 2008 on inspection of boilers and heating installations in buildings.

*Order*. No. 228 of 7 April 2008 on energy labeling of buildings, as amended by the Order No. 615 of 25 June 2009.

*Order* No. 1104 of 20 September 2007 on inspection of ventilation and air conditioning in buildings.

*Circulars* No. 9787 of 1 October 2009 on energy efficiency in state institutions.

*Guide* No. 56 of 29 June 2005 to § 10 of Circular No. 27 of 19 April 2005 on energy efficiency in state institutions.

**Energy Designs Act.** Act No. 308 of 30 April 2008 on the environmentally friendly design of the energy consuming products, as amended by the Law No. 1400 of 27 December 2008.

**Energinet.dk Act.** Law No. 1384 of 20 December 2004 on Energinet Danmark, as last amended by the Law No. 548 of 6 June 2007.

**Energy policy provisions, Act.** Consolidation Act No. 263 of 27 April 1989 on energy policy provisions.

**Energy Saving Law.** Law No. 450 of 31 May 2000 on the promotion of savings in energy consumption, as last amended by the Law No. 1400 of 27 December 2008.

*Order* No. 812 of 22 August 2005 on energy labeling and information obligation concerning dishwashers for household use.

*Order* No. 811 of 22 August 2005 on energy labeling and information obligation relating to electrical light sources for household use.

*Order* No. 1097 of 9 December 2002 on energy labeling and information obligation concerning household air-conditioners, as amended by order No. 563 of 19 June 2003.

*Order* No. 1096 of 9 December 2002 on energy labeling and information obligation for electric ovens for household use.

*Order* No. 320 of 7 May 2002 on energy labeling and information obligation concerning combined washing/drying-machines for household use.

*Order* No. 319 of 7 May 2002 on energy labeling and information obligation concerning (tumble)dryers for household use.

*Order* No. 318 of 7 May 2002 on energy labeling and information obligation concerning domestic washing machines.

*Order* No. 216 of 28 March 2000 on energy labeling etc. of new cars, as amended by Order No. 121 of 27 February 2003.

*Circular* No. 9787 of 1 October 2009 on energy efficiency in state institutions.

*Instructions* concerning § 10 of Circular No. 27 of 19 April 2005 on energy efficiency in state institutions.

**Energy Technology Development and Demonstration Program Act.** Law No. 555 of 6 June 2007 on an Energy Technology Development and Demonstration Program (EDDP).

**Law on state aid for district heating network.** Law No. 4 of 3 January 1992 on state subsidies for the completion of the district heating network.

**Law on state subsidies for research and technological development in energy.** Law No. 1024 of 23 December 1998 on government subsidies for research and technological development in energy matters.

**Law on state subsidies to cover the cost of carbon dioxide tax.** Consolidation Act No. 846 of 17 November 1997 on the law on state subsidies to cover the cost of carbon dioxide tax in enterprises with high energy consumption, as last amended by Law No. 1400 of 27 December 2008.

**Law on state subsidies for energy saving measures in retirement homes.** Law No. 1050 of 23 December 1992, as amended by Act No. 1087 of 13 December 2000.

**Law on state subsidies for conversion of older dwellings to cogeneration.** Law No. 5 of 3 January 1992, last amended by Act No. 128 of 25 February 1998.

**Product-oriented energy savings law.** Law No. 129 of 25 February 1998 on state subsidies for product-oriented energy savings.

**Livestock Act.** Law No. 1572 of 20 December 2006 on environmental approval etc. of livestock, as last amended by Act No. 514 of 12 June 2009.

**Chemicals Act.** Consolidation Act No. 1755 of 22 December 2006, as last amended by Law No. 571 of 9 June 2006. The Law implements obligations established by the Montreal Protocol.

*Order* No. 243 of 19. April 2002 on certain ozone layer destructive substances (prohibitions and restrictions on use), as amended by order No. 735 of 10 June 2008.

*Order* No. 552 of 2 July 2002 on regulation of certain industrial greenhouse gases.

**Municipal district cooling.** Law No. 465 of 17 June 2008 on municipal district cooling.

**Quota Act.** Consolidation Act No. 348 of 9 May 2008 on CO<sub>2</sub> quota, as amended by Law No. 1336 of 19 December 2008. The Law implements the quota Directive. It contains rules that it is forbidden for the plants covered by the Act, to emit CO<sub>2</sub>, unless the Danish Energy Agency (DEA) prior has granted a CO<sub>2</sub> emissions permit. In addition, the Law includes rules on fixing and allocation of quotas, on sale of quotas, on a quota registry and on monitoring, verification and reporting.

*Decree* No. 118 of 27 February 2008 on a quota register and CDM and JI projects and credits.

*Decree* No. 478 of 15 June 2005 for verification and reporting of CO<sub>2</sub> emissions from production units, etc.

*Decree* No. 571 of 18 June 2004 on fees for services under the Act on CO<sub>2</sub> quotas.

**Coast Protection Act.** Consolidation Act No. 267 of 11 March 2009 on coastal protection, as last amended by Act No. 548 of 6 June 2007.

**Environmental Protection Act.** Consolidation Act No. 1757 of 22 December 2006, last amended by Act No. 513 of 12 June 2009 on the organization of the waste sector.

*Waste order.* Order No. 1634 of 13 December 2006 on waste.

*Bio-ashes order.* Decree No. 818 of 21 July 2008 on the application of bio-ashes for agricultural purposes.

*Biomass Wastes order.* Order No. 1637 of 13 December 2006.

**Environmental Targets Law.** Consolidation Act No. 932 of 24 September 2009 on environmental targets etc. for water bodies and international nature conservation areas.

**Environmental Information Act.** Consolidation Act No. 660 of 14 June 2006 on public access to environmental information as amended by Act No. 571 of 9 June 2006.

**Nature Conservation Act.** Consolidation Act No. 933 of 24 September 2009 on nature conservation.

*Order No. 408 of 1 May 2007 on the designation and management of international nature conservation areas and protection of certain species, as amended by Order No. 1443 of 11 December 2007.*

*Environmental Support Act.* Act No. 606 of 23 December 1980 on environmental support.

*Planning Act.* Consolidation Act No. 937 of 24 September 2009 on planning.

*Forest Act.* Consolidation Act No. 945 of 24 September 2009 on forests.

*SME Act:* Legislative Decree No. 936 of 24 September 2009 on the environmental assessment of plans and programs.

*Storm surge and windfalls Act.* Act No. 349 of 17 May 2000, last amended by Act No. 108 of 7 February 2007.

*Order No. 1167 of 27 November 2006 on minimum conditions for insurance companies' drawing of basic insurance against windfalls.*

*Decree No. 320 of 9 May 2001 insurance of private forest from windfalls and grants for reforestation, etc. after the windfall.*

*Heating Act.* Consolidation Act No. 347 of 17 May 2005 heat supply, as last amended by Act No. 461 of 12 June 2006.

*Order No. 394 of 25 May 2009 on the notification of prices, cost sharing and other conditions for transmission and delivery of district heating and production costs for the setting of price caps.*

*Order No. 31 of 29 January 2008 on connection etc. to collective heating installations.*

*Order No. 1105 of 9 November 2006 on energy-saving benefits of networks and distribution companies.*

*Order No. 234 of 23 March 2006 on setting price limits and maximum prices for heating from waste incinerators.*

*Order No. 1295 of 13 December 2005 for approval of projects for collective heating installations.*

*Order No. 950 of 11 October 2005 to offset the CO<sub>2</sub> allowances granted to the heat in the heat price.*

*Order No. 175 of 18 March 1991 on operational depreciations, provisions for new investments and return on capital loans due to the Law on heating, as amended by Decree No. 596 of 8 June 2007.*

*Guide No. 44, 8 June 2006 decree setting price limits and maximum prices for heating from waste incinerators.*

**VE Act.** Law nr.1392 of 27 December 2008 on promoting renewable energy, as last amended by Act No. 509 of 12 June 2009.

*Order No. 413 of 17 May 2009 concerning the entry into force of parts of the law on promotion of renewable energy*

*Order nr.732 of 9 July 2009 on surcharges for electricity produced by renewable energy other than wind turbines.*

*Order No. 400 of 26 May 2009 on the administration of grants for the green scheme.*

*Order No. 279 of 3 April 2009 on depreciation of real property due to construction of wind turbines.*

**RE-use law.** Consolidation Act No. 692 of 25 August 1999 on the use of renewable energy, etc., as last amended by Act No. 315 of 22 May 2002.

#### IV. International and European framework

The core area is the regulation of the 6 greenhouse gases covered by the Kyoto Protocol and the ozone-depleting substances under the Montreal Protocol. But there are many other aspects that are relevant - including climate adaptation, which is also part of the UK respectively Scottish climate law.

The relevant international standards and EU rules and policies support the initiatives that have as objective to promote comprehensive climate legislation.

**UNFCCC: UN Framework Convention** of 9 May 1992 on Climate Change (UNFCCC).

The main purpose of the Convention is to stabilize concentrations of greenhouse gases in the atmosphere at a level that does not lead to undesirable climate change. *The Kyoto Protocol* of 11 December 1997 to the United Nations Framework Convention on Climate Change. The 6 greenhouse gases covered by the Kyoto Protocol are: CO<sub>2</sub> (carbon dioxide), CH<sub>4</sub> (methane), N<sub>2</sub>O (nitrous oxide), HFCs, PFCs and SF<sub>6</sub>. I've dealt with the negotiations currently taking place up to COP15 in a small paper entitled "Key issues at COP 15", which can be downloaded from [www.klima.au.dk](http://www.klima.au.dk).

**The Vienna Convention** (The Ozone Convention), 22 March 1985 on the protection of the ozone layer. Parties to the Convention are committed to take necessary measures to protect human health and the environment against adverse effects that are resulting from or are deemed to originate from human activities, which modify the ozone layer. *The Montreal Protocol*, 16 September 1987 on substances that deplete the ozone layer. The protocol covers CFCs and HCFCs, halons, methyl bromide and some other halogenated compounds.

The vast majority of the covered substances, including CFCs and HCFCs, are, apart from being ozone-depleting, also greenhouse gases. The protocol is called a phase-out agreement on substances that deplete the ozone layer. It is implemented as a part of chemicals legislation, i.e. REACH and the chemicals Act. The relationship between the two convention systems is that the UNFCCC does not include the gases that are already covered by the Montreal Protocol.

**WTO agreement:** The Agreement of 15 April 1994 establishing the World Trade Organization. It has a central influence vs. what climate demands can be achieved, since there can be no quantitative restrictions on trade or illegal state aid. The Convention is complemented by some agreements: GATS: General Agreement on Trade in Services, 1994 *SPS Agreement*: Agreement on the Application of Sanitary and Phytosanitary Measures, 1994.

*Support code:* Agreement on Subsidies and Countervailing Measures, 1994.

*TBT Agreement:* Agreement on Technical Barriers to Trade, 1994.

*TRIPS:* Agreement on Trade-Related Intellectual Property Rights, 1994.

**Aarhus Convention**, 25 June 1998 on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. The Convention is relevant to public involvement in climate policy. PRTR Protocol (Protocol on Pollutant and Transfer Registers) of May 21, 2003 establishes registration obligations of some hazardous substances, including substances covered by the Kyoto Protocol and the Montreal Protocol.

**Treaty establishing the European Community** (EC Treaty) contains the essential obligations of the Danish authorities in drawing up climate rules - including commitments to respect the regulations as an immediate part of Danish law and obligations to implement the directives. The Treaty prohibits quantitative restrictions on trade and aid. The international agreements are ratified by the EU and implemented by regulations and directives that involve legal obligations for the Danish authorities. In 1988 EU became party in the Ozone Convention and the Montreal Protocol. The Council joined in 1993 and 2002 Climate Change Convention and Kyoto Protocol. A Danish climate law could not be formulated without sufficient regard to the obligations imposed by international and particularly EU legislation.

Therefore some of the instructions that NOAH has established are not realizable. The EU has taken unilateral commitment to achieve at least 20% reduction in GHG emissions by 2020. It will seek international agreement on a 30% reduction by developed countries' GHG emissions by 2020 as part of an international agreement on limiting global warming to 2 ° C above pre-industrial levels.

This will give European industry the opportunity to act on basis of the assumption that there will be significant demand for emission allowances beyond 2012, thus encouraging them to invest in emission reduction technologies and low carbon alternative energy sources.

It has also an objective of strengthening the EU's quota system (EU ETS). A greater proportion of business will be covered from 2013.

*The Quota Directive* stipulates that member countries in their NAP's for the period 2008-12 determine how climate change objectives for this period are met.

The framework for meeting the Danish climate commitment is defined in the National Allocation Plan for 2008-12. Denmark has through EU's burden sharing agreement pledged to reduce average annual emissions of greenhouse gases by 21% compared to 1990 levels.

Progress in implementing commitments evaluated annually in the EU from the reports submitted by Member States under the European Parliament and Council Decision 280/2004/EC of 11 February 2004 concerning a mechanism for monitoring greenhouse gas emissions and for implementing the Kyoto Protocol. Every two years there should be an assessment of the expected progress, and in 2016 there should be a full evaluation of the implementation of this resolution.

*European Parliament and Council Decision* No 406/2009/EF of 23 April 2009 on Member States' efforts to reduce their GHG emissions to meet EU obligations to reduce greenhouse gas emissions in the period 2013 to 2020 is central in establishing the position on the Danish reduction commitments.

The reduction effort of the Member States - minimum contribution – is based on the principle of solidarity between Member States and the need for sustainable economic growth in the Community taking into account their relative per capita GDP.

"Annual emission allocation" means the maximum annual allowable greenhouse gas emissions.

Liabilities are shown in Annex II. Each Member State limits by making use of the flexibility conferred by this resolution etc., each year its greenhouse gas emissions in a linear manner to ensure that emissions do not exceed its cap by 2020 as set out in Annex II. In the period 2013 to 2019, a Member State can transfer to the following year a quantity of up to 5% of its annual emissions allocation. If a Member State's greenhouse gas emissions are below its annual emissions allocation, it can transfer the part of its annual emission allocation in a given year, exceeding its greenhouse gas emissions in that year to subsequent years until 2020.

A Member State may request the Commission to transfer an amount greater than 5% in 2013 and 2014 in the event of extreme weather conditions which have led to substantially higher GHG emissions compared to years with normal weather conditions. To this end, Member States shall submit a report justifying this request.

Within three months the Commission shall determine whether there might be allowed to transfer a larger quantity. EU climate and energy requires an energy efficiency of 20% in 2020 and an RE-share of 20% in 2020.

The new RE-Directive imposes on the Member States specific obligations both in relation to the use of RE and vs. the quality of biofuels. The EU has prepared a Green Paper of 29 June 2007 "Adaptation to climate change - what can be done at EU level"<sup>16</sup>, respectively a White Paper "Adapting to climate change: a European framework for action"<sup>17</sup>

EU sectoral policies include a high degree of integration of the demands for adaptation.

***Following Concrete acts should be highlighted:***

#### **Regulations**

**Energy Star regulation.** European Parliament and Council Regulation (EC) No 106/2008 of 15 January 2008 on a Community energy efficiency label for office equipment.

**Regulation on certain fluorinated greenhouse gases.** European Parliament and Council Regulation (EC) No 842/2006 of 17 May 2006 on certain fluorinated greenhouse gases.

**Eco-labeling regulation.** European Parliament and Council Regulation (EC) No 1980/2000 of 17 July 2000 on a revised scheme for the allocation of a Community eco-label.

**Ozone Regulation.** European Parliament and Council Regulation (EC) No 2037/2000 of 29 June 2000 on substances that deplete the ozone layer. The Regulation is motivated in the introductory considerations by the need to apply in some cases stricter control measures than prescribed in the Montreal Protocol.

**PRTR Regulation.** European Parliament and Council Regulation (EC) No 166/2006 of 18 January 2006 establishing a European Pollutant Release and transfer of pollutants. (implementation of the PRTR Protocol)

<sup>16</sup> COM (2007) 354 final.

<sup>17</sup> COM (2009) 147 final.

**REACH Regulation.** European Parliament and Council Regulation (EC) No 793/93 of 23 March 1993 on the evaluation and control of risks of existing substances.

**Regulation on State aid for coal mining.** Council Regulation (EC) No 1407/2002 of 23 July 2002 on aid to the coal industry.

**Regulation on State aid to small and medium enterprises.** Commission Regulation (EC) No 70/2001 of 12 January 2001 on the application of Articles 87 and 88 for small and medium enterprises.

**Regulation on Synergy Program.** Council Regulation (EC) No 701/97 of 14 April 1997 adopting a program to promote international energy cooperation.

**Trade regulation.** Council Regulation (EC) No 3286/94 of 22 December 1994 laying down Community procedures in the field of common commercial policy in order to ensure the exercise of Community rights under international trade rules, especially those established under the World Trade Organization.

**Regulation on Type Approval.** European Parliament and Council Regulation (EC) No 715/2007 of 20 June 2007 on type approval of vehicles with regard to emissions from light passenger and commercial vehicles (Euro 5 and 6) and on access to vehicle repair information and maintenance information for vehicles.

### **Directives**

**Waste Incineration Directive.** European Parliament and Council Directive 2000/76/EC of 4 December 2000 on the incineration of waste.

**Waste Framework Directive.** European Parliament and Council Directive 2006/12/EC of 5 April 2006 on waste.

**Biofuels Directive.** European Parliament and Council Directive 2003/30/EC of 8 May 2003 on the promotion of biofuels and other renewable fuels for transport.

**Directive on Fuel economy and CO<sub>2</sub> emissions data.** European Parliament and Council Directive 1999/94/EC of 13 December 1999 on access to consumer information on fuel economy and CO<sub>2</sub> emissions associated with the marketing of new passenger cars.

**Directive on construction products.** Council Directive 89/106/EEC of 21 December 1988 on the approximation of the laws and regulations relating to construction products.

**Buildings directive.** European Parliament and Council Directive 2002/91/EC of 16 December 2002 Energy Performance of Buildings.

**Ecodesign-directive.** European Parliament and Council Directive 2005/32/EC of 6 July 2005 establishing a framework for setting demands for design of energy-using products.

**Electricity Directive.** European Parliament and Council Directive 2003/54/EC of 26 June 2003 concerning common rules for the internal electricity market.

**Security of electricity supply directive.** European Parliament and Council Directive 2005/89/EC of 18 January 2006 on measures to promote the security of electricity supply and infrastructure investment.

**Energy Tax Directive.** Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for taxation of energy products and electricity.

**Energy Efficiency Directive.** European Parliament and Council Directive 2006/32/EC of 5 April 2006 on energy end-use efficiency and energy services.

**Energy Labeling Directive.** Council Directive 92/75/EEC of 22 September 1992 on the indication by labeling and other resources by labeling and standard product information.

**Utilities Directive.** European Parliament and Council Directive 2004/17/EC of 31 March 2004 coordinating procedures for the award of contracts in the water, energy, transport and postal services.

**Combustion Plant Directive.** European Parliament and Council Directive 2001/80/EC of 23 October 2001 on the limitation of air emissions from large combustion plants.

**Transparency Procedures Directive.** Council Directive 90/377/EEC of 29 June 1990 concerning a Community procedure to improve the transparency of gas and electricity to final consumers in the industry.

**Transparency Directive.** Commission Directive 2006/111/EC of 16 November 2006 concerning the transparency of financial relations between Member States and their public enterprises and on financial transparency within certain undertakings.

**Habitats Directive.** European Parliament and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wildlife.

**Appliances Directive.** European Parliament and Council Directive 96/57/EC of 3 September 1996 on energy efficiency requirements for household electric refrigerators, freezers and combinations of these.

**Information Procedures Directive.** European Parliament and Council Directive 98/34/EC of 22 June 1998 on information in the field of technical standards and regulations.

**IPPC Directive.** European Parliament and Council Directive 2008/1/EC of 15 January 2008 concerning integrated pollution prevention and control of pollution. The Quota Directive revised IPPC with the effect that environmental permits for IPPC enterprises discharging one of the 6 greenhouse gases should not contain emission limits for these discharges, unless it is necessary to prevent a significant local pollution.

**Cogeneration directive.** European Parliament and Council Directive 2009/28/EF of 23 April 2009 on promoting the use of energy from renewable sources.

**The Quota Directive.** European Parliament and Council Directive 2003/87/EF of 13 October 2003 on a scheme for trading quotas for greenhouse gas emissions in the Community. The system includes the 6 greenhouse gases in the quota system.

**Environmental Information Directive.** European Parliament and Council Directive 2003/4/EF of 28 January 2003 on public access to environmental information.

**Environmental Responsibility Directive.** European Parliament and Council Directive 2004/35/EF of 21 April 2004 on environmental responsibility concerning prevention and setting environmental damages right.

**Natural Gas Directive.** European Parliament and Council Directive 2003/55/EF of 26 June 2003 on common rules for the interior market for natural gas.

**Natural Gas Supplies Directive.** European Parliament and Council Directive 2004/67/EF of 26 April 2004 on measures to maintain the security for the supply of natural gas.

**Flood Directive.** European Parliament and Council Directive 2007/60/EF of 23 February 2007 on the assessment and controlling the risk of floods.

**The Ozone Pollution Directive.** European Parliament and Council Directive 2002/67/EF of 12 February 2002 on the content of ozone in the air.

**Price Transparency Directive.** Council Directive 90/377/EEC of 29 June 1990 on community procedure concerning the transparency of prices of gas and electricity to the end use consumer.

**Project Publicity Directive.** European Parliament and Council Directive 2003/35/EF of 26 May 2003 on the possibility of public participation in the preparation of certain plans and programs in the environmental area.

**The SEA Directive.** European Parliament and Council Directive 2001/42/EF of 27 June 2001 on assessment of the impact on the environment from certain plans and programs.

**The Tender Directive.** European Parliament and Council Directive 2004/18/EF of 31 March 2004 on coordination of procedures on entering of agreements on public purchases of goods, services and construction projects.

**Water Framework Directive.** European Parliament and Council Directive 2000/60/EF on setting a framework for the water policies of the Community.

**Renewable Energy Directive.** European Parliament and Council Directive 2009/28/EF of 23 April 2009 on advancing the use of energy from renewable sources.

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<sup>ø</sup> Translation by Liina Ränkel and Palle Bendsen  
NOAH Friends of the Earth Denmark

The translation is our sole responsibility. It has not been approved by the author.

The [square brackets] in the text are inserted by us.

Disclaimer: Since this is a text with a large amount of specific legal terminology we cannot guarantee that all expressions are rendered correctly.

The intention with the translation is explicitly to pass on the overview of a very complex patch work of regulation, Danish, EU and International that a future climate law in Denmark will have to co-exist with.

The overview in itself shows us that there is an acute need for a Climate Act that can give guidance to the other legislation.

This is a consideration that is built into the UK and Scottish Climate Acts (e.g. in Part 4 in the Scottish Act) as well as in the proposal put forward in Denmark by NOAH in March 2010.