



The North Sea from oil region to an important European energy region

A balanced and diverse perspective
on European energy and climate policy

Seminar for the Board of OG21
Brussels 1st of July 2009

The seminar consisted of a series of presentations on topics ranging from a general introduction to the political forces and objectives of the EU to more specific presentations of the EU's approach to Energy and Technology.

The aim of the seminar was to provide participants with an understanding of the driving forces and dynamics of the EU and the many different dimensions of its energy and climate politics, as well as to give them an opportunity to discuss energy and research with European experts in the area.

Speakers included a Member of European Parliament and representatives for the European Commission and from the renewable energy industry.

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1 July 2009, Hotel EU Radisson, Brussels

Presentations

Driving forces and political challenges for the EU towards 2015 – Emily von Sydow, journalist and writer

The geopolitical challenges of European energy policy - Seen from Christof van Agt, Senior researcher, Clingendael Netherlands Institute of International Relations

EU's energy and climate policy - Jean-Arnold Vinois, European Commission, Head of Unit Energy Policy & Security of Supply, DG TREN - Energy and transport

North Sea Grid - Market and technological opportunities and solutions for the offshore wind industry - Justin Wilkes, European Wind Energy Association (EWEA), Policy Department, Head of Regulatory Affairs

The Psychology of Energy and Climate Politics in the EU - Lena EK, Member of the European Parliament, Centerpartiet / Group of the Alliance of Liberals and Democrats for Europe -

The SET-Plan as a bridge between politics and research - Dr. Jean-Marie Bemtgen, European Commission, DG TREN - Energy and transport, New and Renewable energy Directorate, Research Coordinator

Future energy technologies for application beyond 2020 - Dr. Jan Erik Hanssen, 1-tech Brussels, Independent Energy innovation expertise



Emily von Sydow - Driving forces and political challenges for the EU towards 2015



Emily von Sydow is a Swedish journalist and writer based in Brussels, Belgium, since the fall of the Berlin wall in 1989. She graduated from Stockholm university with a degree in Russian and History of ideas and specialised in European politics. Emily von Sydow has written books and articles on EU affairs.

“The European Union has a new president as of today when Prime Minister Fredrik Reinfeldt’s Sweden takes over from the Czechs,” Emily von Sydow said in her opening address at the Brussels meeting. “Mr. Reinfeldt is very much focused on climate change and the meeting in Copenhagen, which he holds out as his biggest challenge during the presidency. However, he appears less interested in talking about the Lisbon Treaty, which is still awaiting an Irish referendum and two national ratifications. Yet this might in fact be the single most important question he will face, as it will determine what tools the EU has available to handle climate and all other issues in years to come”. Addressing some of the main challenges facing the EU in the near future, Ms. von Sydow explained the ins and outs of European politics and the psychology that guides it.

She held out four overarching and contradictory forces that she said can be seen as the driving force behind European integration: mutual mistrust, inner polarity, outside enemies and threats and personal relationships. It is the mutual mistrust between the European countries that she says generates a need for binding rules backed with sanctions. When such rules are to be laid down, they have to be worked out in compromises between the many contradicting interests within Europe that clash in the political debate in Brussels. Finally, Ms. von Sydow brought up Osama bin Laden as an example of an outer enemy, naming him perhaps the most influential person in European politics in the past few years, each new attack forcing cooperation in policy areas, formerly reserved for the nation state, such as justice and home affairs.

Besides the climate and the Lisbon Treaty, the economic crisis is a huge problem where all the major European countries appear to have different solutions. “Europe has a common currency but no common economic policy and all countries are pulling in different directions.” Ms. von Sydow drew on the main forces above, and suggested common regulations as a possible outcome. “Either way, there is unanimity as regards the need for a green economy,” she said.

When queried on the view on Norway within the EU she suggested that while, on the one hand, there is a general feeling that Norway belongs in the EU, “on the other hand they are quite happy with the *status quo*. Norway is paying hefty fees and offers highly qualified expertise where it’s needed, but they do not participate in decision-making and they cannot disrupt negotiations on fishing or agriculture with annoying or difficult questions.”

Nevertheless, Ms. von Sydow stressed that the Norwegians are in a very favourable position now as everyone turns to them to find the solution or part of the solution for the climate crisis.

Christof van Agt – The geopolitical challenges of European Energy Policy



Christof van Agt joined the Clingendael Netherlands Institute of International Relations. He is a senior researcher with background from the office for global energy dialogue of the IEA, the Energy Charter Secretariat in Brussels, Institute for Energy Law at the University of Leiden and as administrator for interstate oil and gas networks in Central Asia and Caucasus for the European Commission.

Christof van Agt spoke on some of the EU's main efforts to overcome the gas crisis in many European countries. He said that for these efforts to work much creativity is needed, holding up Norway and the North Sea as one example that other countries are now looking to for inspiration, not only on technical solutions but also in terms of governance.

Mr. van Agt identified a number of driving forces such as the Copenhagen summit later this year, geopolitical security which became acutely important after the events in Georgia last year and the need for sufficient energy supply to secure economic growth. At the same time, the recent cut-off in gas illustrated that solidarity is an issue. Bulgaria had suffered death and economic loss, yet countries such as Italy and Germany retained a sceptical attitude of the need to diversify away from Russia. This illustrates how Russia has been very successful at driving a wedge into the internal workings of the EU.

Mr. van Agt drew comparison between the European dependency on imports of gas and oil and concluded that it is not gas dependency that is the problem, but reliability. As a result, the EU has focused its attention on a few key areas: (1) a functioning internal market; (2) infrastructure; (3) diversified sources, trying to connect to other more reliable suppliers.

Dependency on Russian gas would not be an issue if the gas could move freely once it has entered the internal market. This has been a driving force behind the Third Energy Package, aimed at increasing competition and stimulating investment in infrastructure. One reason this would be important is to improve North-South connectivity and to better open up southern Europe to North Sea gas.

Questions about Russian reliability have led to increased efforts to gain access to other suppliers. One such supplier could be Turkmenistan, a country that has had drawn similar conclusions on the need to diversify its access to market. Turkmenistan was selling all their gas through Russia. When demand for gas dropped Russia no longer had the same interest in this gas. "Conveniently there was an explosion in a pipeline and Turkmen exports to Russia stopped." A project is now under way to transport gas from Turkmenistan to China but the Turkmen have a new interest in increasing its potential export markets.

When queried on why he had said nothing on the EU's take on Norwegian gas, Mr. van Agt agreed that all the reasons he had named make Norway much more important to Europe. "Russia is doing an excellent job in marketing Norwegian gas and I think Norway will play a tremendous role in diversifying the European market". At the same time, he confessed that Norway is not considered a problem in the EU as, he said, "it is basically a part of Europe".

Jean-Arnold Vinois – EU’s energy and climate policy

Jean-Arnold Vinois is Head of the Unit responsible for Energy Policy and Security of Supply within DG Transport and Energy of the European Commission. Since April 2006 Mr. Vinois is particularly in charge of the follow up to the March 2006 Green Paper on Energy and of the establishment of the Strategic EU Energy Review



Jean-Arnold Vinois outlined the three pillars of the EU energy strategy policy: competitiveness, sustainable development and energy security. Out of these, the first two were the object of the First Strategic Energy Review, which saw the political commitment on climate (20-20-20) and on energy markets. These political commitments were translated into legal obligations within two years time; indicating the level of concern which Member States share about these issues.

Out of the 20-20-20 targets, which are set down in the Energy and Climate Package, only the first two targets (on renewables and greenhouse gas emissions) are legally binding, the third target on increased energy efficiency is not. The European Parliament has been trying to convince the Commission that this ought to change. We will now have a new Commission, which needs to be approved by the new Parliament. It is likely that this will be one of the main issues when Parliament questions the new Commissioner.

Mr. Vinois admitted that it has been difficult to fit Carbon Capture and Storage (CCS) into this framework as it does not count as gains in CO₂, but he was comfortable a solution was within reach. There are already three EU programs that do include support for CCS: the EU recovery plan, the Seven Framework Program (directed at research and development), and in the EU Structural Funds as a part of the EU Regional Policy. However, “there is a feeling that the oil and gas industry have very deep pockets and that they need to help themselves.” Nevertheless, he thought the attitude to this technology had improved. “I think there is a good future for CCS, and of course Norway will work as a testing ground there.”

Turning his attention to the EU’s external relations, Mr. Vinois proudly announced the news that they had recently reached an agreement with the states concerned on the Nabucco pipeline, which was due to be signed two weeks later in Turkey. “We have moved to accommodate Turkey’s demand and they are very fast growing. They too need to diversify and are looking to Turkmenistan, Azerbaijan etc. So of course they are very interested in cooperating with us.”

In terms of energy security, Mr. Vinois agreed with previous speaker Christof van Agt that that Russia is Norway’s best supporter. “All the eastern countries that were struck by the gas cut-off now want access to Norwegian gas.” The Baltic interconnection plan with nine European states and Norway as an observer was signed by President Barroso two weeks ago with a view to integrate the electricity and energy markets. There is also an ambition to develop the EU’s indigenous resources; at the Berlin Forum some weeks earlier, the EU discussed how to improve conditions for oil and gas production within the EU including Norway.

When asked by the audience for his own thoughts on the need for EU to support research on oil and gas to develop available resources in Norway, specifically from an energy security perspective, Mr. Vinois agreed that energy security is a strong argument and it should be used to show that these resources must be taken into account as alternatives. “Energy security is very difficult and it is something the Parliament will have to take into account.” His conclusion is that there is a future for oil and gas in Europe “But”, he added, “this is something you will need to convince the European Parliament of”.

Justin Wilkes – North Sea Grid, Market and technological opportunities and solutions for the offshore wind industry

*The European Wind Energy Association – EWEA is the voice of the wind industry, actively promoting the utilization of wind power in Europe and worldwide.
Justin Wilkes is the Head of Regulatory Affairs in EWEA policy Department*



In his presentation on the future for offshore wind turbines in Europe, Justin Wilkes outlined the existing offshore wind industry of today and its projections for the future. Although he acknowledged that the industry was still far from its projected goal of 50 GW he held out that this was the same goal and within the same timeframe as had already been achieved by the wind power industry on land.

According to Mr. Wilkes, the main challenges are the weak interconnectivity between Member States and the inflexible and fragmented national electricity markets. One solution to these obstacles, he suggested, would be the establishment of a transnational offshore grid with the dual function of improving international trade between the countries and at the same time serving as an access point to the European grid for wind power and other marine energy sources.

On a question about the size of offshore wind turbines Mr. Wilkes said that today's turbines could generate 3.6 MW and added that he was not sure any larger than that is needed. He stressed that offshore and onshore technology is totally different.

In reply to voiced concerns from the audience about what to do when there is no wind, Mr. Wilkes offered three solutions: first, if you manage the grid well and integrate a larger market many of these problems can be mitigated; second, combine with hydropower to cover periods of low wind and; thirdly, combine with either gas or nuclear power.

Finally, Mr. Wilkes agreed as there are synergies between the oil and wind industries and that they certainly have a lot to learn, but he also stressed that there are some very basic differences. As such, he held out that whereas oil has few but very big installations, offshore wind requires many but small installations.



Lena Ek – The Psychology of Energy and Climate Politics in the EU



Lena Ek is a Swedish politician and Member of the European Parliament. She is a member of the Centre Party, part of the Alliance of Liberals and Democrats for Europe.

She sits on the European Parliament's Committee on Industry, Research and Energy. She is also a substitute for the Committee on Women's Rights and Gender Equality and the Committee on the Environment, Public Health and Food Safety, and a member of the delegation to the ACP-EU Joint Parliamentary Assembly.

"In Sweden, where this debate has been dead for decades ever since the traumatic referendum on nuclear power in 1980, people are sometimes surprised to find that energy is such a big issue in the EU," said Ms. Lena Ek.

She explained that there was a debate on the security of supply five years ago, which has since gained an additional security aspect with the new tradition of a recurring New Year's crisis between Russia and the Ukraine. In addition, catastrophic events such as Katrina in New Orleans have altered the debate, shedding light also on effects of climate change here in Europe. In Sweden, Ms. Ek's own constituency said you could already see detrimental effects on public health, such as with the spread of Lyme Disease. The result is a new political atmosphere in which the adoption of strict EU regulations has been possible, something she said would have been unthinkable 25 years ago.

Ms. Ek said it was pivotal that the industry understands this will not go away. Opinion polls reveal that second to jobs, climate change is the big issue that Europeans citizens worry about. "These are issues that are decided through co-decision at a European level, which means the European Parliament holds half the power," she warned. In addition, the Lisbon Treaty, if adopted, would grant it even further powers. Meanwhile, she said Parliament is using its power to approve a new Commission to further increase its power when negotiating the inter-institutional agreements that guide the work of the EU institutions.

Regarding the challenges that face Europe in the energy sector, she held out the inadequate infrastructure. This, she said, is not exclusively an internal problem, but one that also affects security of supply. If Europe has an old and inefficient distribution system, Russia is even worse. "This means that geopolitical differences aside, it is physically impossible to deliver the amount of gas that Russia has promised in its projections," Ms. Ek explained. "In a couple of years Russian deliveries reach their maximum capacity."

Ms. Ek also held out the European electricity grid, much of which is very old and entirely inadequate for green electricity. Another obstacle she mentioned was the almost complete lack of connections across national borders enabling power outages that leave an entire country in the dark, like has already happened in Italy. As a result Europe is left incredibly vulnerable.

When asked what would be the likely impact of the success of green parties in the recent European election, Ms. Ek replied that the Greens are still a small group and that they have not been involved in any of the decisions in this area. Instead, she said the Climate Package was the creation of a conservative, German Chancellor Angela Merkel. Ms. Ek held out her own liberal group ALDE as instrumental in this as they hold the balance of power between the left and right. It is in negotiations between these groups that the decisions will be made.



Ms. Ek said there is much the EU could do besides legislation. For example, funds are being diverted towards research and development. She said it is about reassessing concepts that have previously been taken for granted. She gave the example of flight where it has been possible to save much on fuel consumption only by changing the way we fly.

In a word of advice to the industry, Ms. Ek explained that if you were to try to get the EU to invest in oil and gas the answer will be no, plain and simple. A more viable way forward she suggested, might be to consider a project in cooperation with other companies with innovative green solutions, perhaps using the platforms also for marine renewables, presented with the industries involved and what they can contribute. "There is acceptability within the EU for projects of this sort," she said.

As regards CCS, she mentioned Swedish Vattenfall who wanted to try CCS in Germany but has been unable to do so because of resistance at a local level. The question for them is where to store it? "Here again", she suggested, "Norway has a possible solution". "Perhaps we should build another pipeline to pump CO₂ in the opposite direction?" This again would require a lot of research, but she said, after all it is of global concern.



Jan Erik Hanssen (replacing Jean-Marie Bemtgen) – Key technological challenges – the next ten years



Jan Erik Hanssen is the executive director of 1-Tech, a small Brussels company offering independent expertise on new energy & clean technologies and their application, mostly working in EU and international programmes. Following a 16 year career in oil & gas R&D, he served 4 years in the European Commission as a project officer. Jan Erik is originally a petroleum chemist with degrees from Oslo and Trondheim universities and holds a PhD in energy technology from Aalborg based on research performed at Stavanger and Berkeley.

Jean-Marie Bemtgen is a senior expert on renewables and the rational use of energy in the European Commission Directorate-General for Energy and Transport, Directorate of New and renewable energy, Energy efficiency & Innovation. He holds a doctorate from the University of Fribourg.

Dr. Jan Erik Hanssen, in addition to giving his own speech, also delivered the presentation of Dr. Jean-Marie Bemtgen who was unable to make it to the Brussels meeting. Dr. Hanssen thus began after lunch with telling the audience about what efforts the European Commission considers necessary in the coming ten years, in order to be able to achieve the goals set for the period of 2030-2050.

Dr. Hanssen said there are three corners to the EU's new scope for energy policies: competitiveness as per the Lisbon agreement; sustainable development and the Kyoto protocol; and security of supply. These are integrated issues that are mutually reinforcing. Examples of this include the benefits that would come to European competitiveness if we were to take the lead in renewable energy, at the same time reducing dependency on foreign oil and gas.

At the moment, Dr. Hanssen pointed out that European energy is not sustainable and, at that, increasingly dependent on imports. At the same time, most of the current installed capacity will no longer be operational in 2030. Thus, there is a need for a common EU energy technology plan. Dr. Hanssen held that technology is vital to achieve the EU policy objectives but he also listed a number of weaknesses in the European approach. Notably, he said that while international competitors are accelerating their efforts, EU budgets continue to have insufficient funds for energy research and development.

Dr. Hanssen said a distinction is made among the key technology challenges for the future between what can be implemented immediately before 2020, and what needs to be done in this period in order to lay the groundwork for the period 2030-2050. "The aim," he said, "is to achieve a more purposeful research in the field of energy. This is something of a novelty. 'User-driven research' is something that has never existed before in the EU. I would try using this word when I first came to Brussels but nobody understood what I was saying."

Dr. Hanssen described the EU Strategic Energy Technology Plan (SET) and explained some of the main novelties. "The new thing is that they try to visualise it in a way that allows you to compare different things. This has never been done before," he said. "They also map where in the development and in deployment stages they can be found." Dr. Hanssen encouraged the audience to study the tables included in the report as they reveal interesting information about the potential of different energy alternatives.

Dr. Hanssen claimed the choice of a slightly flatter form of governance was essential to the SET's success compared to previous programmes. To ensure any decisions are based on sound knowledge the SET Information System (SETIS) has been established. "This notion of an SET-plan is fairly new. To my knowledge, the Americans do not have anything like it." Projects within the SET are not intended to stay within the framework. Instead, they are transferred to the private sector where they remain operational provided that the actors find it useful. The aim is to avoid creating self-sustaining organisations that remain beyond what was initially envisaged.

Jan Erik Hanssen as himself – Beyond the SET-Plan

Dr. Jan Erik Hanssen began his own presentation by observing that in spite of the priority given to energy at the moment, Europe has in fact greatly decreased its investment in energy research. “It is against this backdrop decrease in emissions is to be achieved,” he explained.

Referring to the SET-plan, Dr. Hanssen observed that investments are fairly large when it comes to technologies where the challenges for implementation are relatively small and the time horizon is short (i.e. so called ‘1st wave’-technologies), and they get smaller and smaller the greater these challenges are. “As such, the goals set for 2020 are probably possible. 2050 is very difficult to see how it is supposed to happen,” he said.

“It is quite daring from the offshore wind industry to say that ‘all we need to do is to redo at sea what we already achieved on land’. We who know the oil industry know very well that it simply is not true that it would be the same thing,” Dr. Hanssen said, referring to Justin Wilkes’ speech earlier. “However, he was perfectly right in saying that the grid infrastructure will be decisive.” He highlighted that offshore wind is a very new technology and predicted “many game changers in the next few years”, which he said were likely to revolutionise the industry.

According to Dr. Hanssen, the oceans represent the greatest potential for renewable energy. Looking at the combined possibilities from wave and tidal energy he indicated that “it has an enormous potential and in addition, it is concentrated to areas with a very big need for energy”. When a member of the audience added that these are also found primarily in democracies Dr. Hanssen agreed jokingly: “That is true; there is very little tidal energy in the Middle East.”

“If we were to value the marine energy sector today, we would find very many technologies that are on the verge of being put to use. However, there is only one that is actually at use, which is tidal dams. Offshore wind on small to intermediate depth is in an early market stage. The rest, such as wave power, are mainly in the demonstration stage,” he said. “Wave power has been attempted many times before but it has never worked. This is because you have to know your technology. You have to know how it is to be built and you have to know how it is to survive a storm,” Dr. Hanssen said. He held out Pelamis, a UK project in cooperation with Statoil and Hydro, as a good example of wave power, which has been successful because they have prioritised durability over output.

When asked about hybrid offshore platforms, Dr. Hanssen explained that these “are platforms where you can use more than one source of energy such as wind and wave power. This was what Ms. Lena Ek mentioned in her speech and it was a concept initially developed by the European Commission.” A member of the audience expressed concern that such a facility would be faced with other environmental challenges such as interference with the marine environment. Dr. Hanssen agreed with this, but added that it all depends on your approach.

“It is important to raise your eyes a little higher,” he said. “We have a great advantage in our latest project in cooperation with Statoil and Hydro where we have managed to copy the argument from the fishermen. The plan is to build wind turbines off the coast, just where you find the tuna fish. When local fishermen complained, our response was to say that ‘yes, it is a shame that they need to be built right here but we do not have the technology to build them further out on deep water’. Then opinion turned; they want development in the region, and now they do want the windmills, but they want the research for them to be built far out.”



Participants

Morten Loktu, Senior Vice President, R&D, StatoilHydro

Alfred Nordgård, Regional Technology Manager for Europe, Shell E&P

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Report

Mikael Ekman, text and photography

Inès Aparicio, lay out





What is OG21?

In 2001, OG21 - Oil and Gas in the 21st century - was created by the Norwegian Ministry of Petroleum to meet the demands for efficient and sustainable petroleum activities. This government initiative has brought together oil companies, universities, research institutes, the supplier industry and the authorities creating a national technology strategy for petroleum.

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