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Date agenda

20/10/2016

Meeting of

Mainstreaming Climate Adaptation Energy

Date / time

10th November

Location

General Secretariat of the Benelux Union

ENERGY SYSTEMS IN THE BENELUX AND SURROUNDING AREAS

RESILIENCE TO CLIMATE CHANGE

1. Context

Changes and risks

Climate change and energy policies are closely related. The discussion concerning better energy efficiency, the changeover to renewable energy and the reduction of carbon emissions attracts attention from experts and policy makers alike.

Climate change will also have an important effect on our energy system. The increasing extreme weather conditions, such as heavy precipitation, heavy snowfall, heat waves, periods of draught and sea level rise will, separately or combined, have great influence in this context. Recent publications of the International Energy Agency and the European Environmental Agency raise these challenges.

Future changes in the climate will cause considerable shifts in **energy demand**, for instance increased energy demand during the summer months and decreased demand in the winter. It is assumed that the summer increase will mainly involve electricity, whereas the winter decrease also involves gas and heating fuel. The EEA estimates a total decrease by 2050 of 9%.

On the **supply side** climate change will entail opportunities as well as risks. The longer periods of draught can create shortage of cooling water and cause the necessary shutdown of power plants. The EEA estimates a possible production loss by 2040 of 6 to 19%. The availability of cooling water will become a critical item in the establishment of power plants and gives rise to the demand for reservoirs. Decreased dependency on cooling water is recommended as well as the promotion of energy sources that do not depend on it.

Furthermore, water shortage may also lead to reduced hydropower.

On the other hand it is expected that climate change will advance the potential of wind and solar energy. In addition, possibilities for energy production from biomass augment given the larger production in a hotter climate.

The increase of extreme weather conditions makes the entire energy system even more volatile than it is today. It puts heavier pressure on the **energy transport** system, which has to become increasingly flexible and interconnective.

The volatility of the energy production demands more voluminous and more flexible **energy storage** systems.

At the same time this system of energy transport and storage is faced with increasing risks from extreme weather conditions. As a consequence of greater interconnectivity, local events result in larger repercussions, with possible cascading effects for other industries such as transport, communication, health care, etc.

Improving resilience

The extreme weather conditions and the vulnerability of the energy systems differ with **geographical circumstances** and strategies for improving resilience to climate change must adapt as necessary.

The vulnerability of the energy system also translates into **considerable costs**, both as a result of damage to infrastructure and economic and social damage. At the same time, the measures must be **cost-efficient** and affordability guaranteed. Financial capacity is of great importance in this context.

Many measures concerning energy policy create **co-benefits** and contribute to energy efficiency, the changeover to renewable energy and the resilience to extreme weather conditions. This offers opportunities for efficiency improvement and synergies of the policy strategies.

2. Approach

The "Climate Adaptation in the Benelux" Conference held in November 2014 taught us (amongst other things) that the adaptations to climate change affect several policy sectors, including water policy, energy policy, transport, risk management, public health and so on. The integration of **climate adaptation** into various policy areas (also called '**mainstreaming**') ensures more effective and sustainable policymaking.

The Benelux Working Group for Climate Adaptation decided to prioritise the following four themes: public health, risk management, transport and **energy**.

Experts from public authorities, operational organisations, private partners and knowledge centres from the Benelux Energy Expertise Network (BEN!EX)¹ will discuss these questions together in a **Workshop** organised by the General Secretariat. This will result in a joint exploration.

The **workshop** will take place on

10 November 2016

at:

General Secretariat of the Benelux Union
Rue de la Régence 39
1000 Brussels

Please confirm your participation no later than 3 NOVEMBER by e-mail to Mr Philip Tobac:
p.tobac@benelux.int

3. The Workshop

3.1 Questions for the Workshop:

This Workshop, organised by the General Secretariat, aims at providing a more accurate image of the risks and opportunities of climate change and extreme weather conditions for the energy systems in the Benelux and the neighbouring countries. At the same time it will explore the resilience of the energy system and discuss measures for improvement.

1. **Will the changes in energy demand, supply and transport/storage as a result of climate change and extreme weather conditions indeed take the described course?**
2. **Are the Benelux energy systems sufficiently prepared for extreme weather conditions as a result of climate change? What are the vulnerabilities and how can resilience be improved? What is currently being done and by whom? What is the role of the governments and of the private partners?**
3. **Given the cross-border interdependence, how can Benelux cooperation support the improvement of resilience and optimal functioning of the energy systems? Can/must we look at the Benelux and neighbouring countries and regions as one single country?**

3.2 Target audience

Experts from public authorities, operational organisations, private partners and knowledge centres from the Benelux Energy Expertise Network (BEN!EX)² will discuss these questions together in a **Workshop** organised by the General Secretariat. This will result in a joint exploration.

The geographical coverage is both the Benelux and the surrounding areas in France and Germany.

12h45 Lunch

14h00 **3. Panel discussion**

In this section the following will be discussed:

- Additions to/comments on the prior introductions
- Possible conclusions regarding policy measures
- Options for cooperation

Participants:

Representatives of

the competent authorities from Belgium, the Netherlands, Luxemburg

Ea. Mrs. Daniëlle Devogelaere Federaal Planbureau (B),

Mrs. Ir. Marijke Vonk Planbureau voor de Leefomgeving (NL)

the energy sector

Ea. Mr. Marc Van den Bosch, FEBEG

Mr. Teun van Biert, TenneT

and the speakers intervening in the morning

15h15 **4. Conclusions**

15h30 Drink