



**THINK TANK MEETING  
OSTERHOLZ/WORPSWEDE, 28 - 29 JUNE 2011**

**Discussion Paper - Sustainable Economics**

**SUSTAINABLE  
ENERGY  
PLANNING**  
NORTH SEA

## **Introduction to the topic**

The generally accepted definition of “sustainability” (Brundtland, 1987) states that sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Economic activities under the criteria of “sustainability” therefore face the challenge of minimizing any harm resulting from their processes and creating economic, social and environmental value.

Thus, sustainability refers to different social, economic and ecologic dimensions. Sustainability interfaces with economics through the social and ecological consequences of economic activity and in reverse, through the economic impact of social and ecological initiatives (e.g. reducing energy-poverty and economic value of nature for tourism). Sustainability economics involve ecological economics where social, cultural, health-related and monetary/financial aspects are integrated. Moving towards sustainability is also a social challenge that entails international and national law, urban/spatial planning and transport, local and individual lifestyles and ethnical consumerism.

Ways of living more sustainable can take many forms from reorganizing living conditions (e.g. eco-villages, eco-municipalities and sustainable cities), reappraising economic sectors (permaculture, green building, sustainable agriculture), or work practices (sustainable architecture), using science to develop new technologies (green technologies, renewable energy), to adjustments in individual lifestyles that preserve natural resources.

“Sustainable energy” is used to call solar energy, wind energy, biomass energy. In the Brundtland-definition of sustainability, the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs is very important. In that sense, renewable energy fits the definition because renewable energy technologies use those types of natural sources that do not harm future needs.

Nevertheless, the sustainability entails more than “renewable”: it entails the creation of economic, social and environmental value. E.g. the EU also implements sustainability criteria on biomass, because sometimes the production of energy crops is a threat for food crops or natural reserves (e.g. Amazone). So, as stated in the definition, sustainability economics involve ecological economics where social, cultural, health-related and monetary/financial aspects are integrated, which entail e.g. urban/spatial planning and transport, local and individual lifestyles and ethical consumerism, eco-municipalities and sustainable cities, green building, sustainable agriculture...

### **Sustainable economics and the North Sea-SEP project**

The North Sea-SEP project aims at a sustainable economic development on a regional and transnational level by carrying out different activities. Examples are:

- Concept of economic analyses: regional economic potentials depending on sustainable energy alternatives are analyzed and shall lead to the development of a general applicable model for the benefits of sustainable energy planning.
- Evaluative activities are carried out regarding the economic and social effects of the local energy initiatives within the scope of the transnational project activities.
- Networking activities are very important in this context.

In the North Sea SEP projects partners share experiences, results and effects of regional energy initiatives with the background of transferability. The topic of sustainable economics seems to be one of the central themes that connects global climate with global energy needs as well as with local needs. The following section of this discussion paper includes the questions of the project partners, which were the results of a joined discussion.

We are happy to have the chance to share the discussion with the invited members of the North Sea SEP Think Tank.

## **Program of the Think Tank meeting**

### **Tuesday 28. June**

Lunch

1. Welcome and introduction
2. Sustainable Economics by Mr. John Becker
3. The micro perspective: regional examples of sustainable economics presented by the partners of North Sea Sustainable Energy Planning
4. Discussion session of the Think Tank joined by the partners

Dinner

### **Wednesday 29. June**

1. The Macro perspective of sustainable economics and energy initiatives: thoughts for the discussion
2. Discussion session of the Think Tank joined by the partners
3. The EU-perspective. How to use transnational cooperation and networks in favor of Sustainable Economics

Lunch

## Questions to the Think Tank

### Part 1: General:

Activities of the North Sea-SEP Project are carried out on a local, regional and transnational level. One of the basic motivations is "regional renewable energy initiatives can improve the regional economy in a sustainable way". For example, the usage of local resources for the production of energy as a basis for sustainable regional development. We'd like to discuss this thesis with the Think Tank so the NS-SEP project can strengthen or adjust this thesis and come to recommendations for other regional authorities and companies in the North Sea Region.

### Questions as guideline for the discussion:

What is your idea or definition of sustainable economics?

Do you agree with the definition in the introduction?

Is sustainable economics the same as ecological economy?

Is sustainable economics about making the global economy sustainable without sacrificing the benefits of industrialism? If you agree, is it possible to achieve this goal with a bottom-up approach?

What are the typical advantages of a local approach in sustainable economics?

### Part 2: Evaluation:

#### Illustration 1:

In the planning process the local authorities have to select priorities for local energy projects. One of the results of North Sea-SEP is a concept for economic analysis, developed by Jade University. The concept is a valuation model for local energy initiatives which uses both quantitative factors such as cost-effectiveness and qualitative factors that can hardly be monetized such as energy autarky, energy security and acceptance. The relevance of those factors will be specific for each region and political context.

#### Questions:

What qualitative factors are of transnational meaning? From the global perspective of sustainable economics, what other criteria should be included in the concept of economic analysis?

By which criteria would you evaluate sustainability? Which would be the most important factor? Regarding the CO2 footprint for example, is it sustainable to use biomass from overseas?

What are the economic criteria to distinct “renewable energy” from “sustainable energy, in general and for specific technologies such as solar energy, wind energy, biomass and hydro-energy?

What are the typical social criteria to distinct “renewable energy” from “sustainable energy”, in general and for specific technologies such as solar energy, wind energy, biomass and hydro-energy?

What are the environmental criteria to distinct “renewable energy” from “sustainable energy, in general and for specific technologies such as solar energy, wind energy, biomass and hydro-energy?

### **Illustration 2:**

In several studies, the partners in North Sea-SEP find sustainable energy solutions can save costs and can make local economies grow and thus can stimulate local economics. But evidence is still thin and in practice there are a lot of constraints and barriers combined with sepsis about higher investment costs.

### **Questions:**

What existing economic mechanisms are most effective for sustainable energy planning? Based on local resources, is it for example sustainable to use solar energy in Aberdeen?

How would you as entrepreneurs approach the subject of regional energy planning and sustainable economics? What priorities would you chose?

### **Illustration 3:**

It’s difficult to obtain statistics and data about regional energy demands, use of renewables, potentials etc. Also, there is little convincing information available about economic benefits which can be used in the discussion with stakeholders and to politicians. This is a dilemma for local initiatives because communicating positive effects of local energy initiatives can be a trigger for politicians to raise their climate ambitions.

### **Questions:**

With the scientific guidance of the project in mind, by what chance do you think academic knowledge on sustainable economics will work in practice on local energy planning?

How is it possible to improve statistics?

Which figures and statistics are essential for a good sustainable energy planning?

Is it possible to rate the results of sustainable economics and how can this be done? Should there be different ratings for different municipalities, regions or countries?

### Part 3: The Present

#### Illustration 1:

The current growth of renewables is still based on old economic mechanisms such as growth, scarcity, subsidies and a high feed-in tariff for wind and solar energy has stimulated the growth. But old globalized economic mechanisms of price and scarcity also stimulate negative effects such as the transport of biomass over large distances. Connecting renewable energy to the local resources the partners in NS-SEP start thinking there is a need to move from today's globalized renewable approach, based on old economics to decentralized, local beneficial renewable energy projects.

#### Questions:

Do you agree we need new economic mechanisms in order to create real sustainable (in the meaning of durable) economics? If so, what mechanisms do we need? What will be the contribution of the local level? Will it affect the use of local resources?

Which national laws/regulations hinder or support sustainable energy planning (e.g. EEG, Germany)?

#### Illustration 2:

Currently, governments subsidize environmentally harmful activities such as driving, logging, and mining, tilting the economy in the direction of resource waste and pollution.

#### Questions:

Might it be an economical option to enhance the sustainability by taxing harmful activities? Would this force consumers and companies to a rethinking or another cause of action? Would this generate or free up additional funds to support wind power, recycling, and other technologies and practices essential to building a sustainable industrial economy?

How can economic sustainability be implemented as a key decision factor in regional energy planning? Which economic sectors would be forerunner?

#### Illustration 3:

Tynaarlo found that the lifecycle costs of an energy-neutral housing development of 550 houses turns out to be €10.000.000 lower (2013-2030) than the non-energy-neutral development. Those benefits are spread over investors, end-consumers and administrators.

**Questions:**

How can those benefits be capitalized effectively on the local level? Do you have other examples of surveys that show benefits like this? What quality aspects are important?

**Illustration 4:**

Sweden for example does have different conditions for the potential to use different kind of renewable energy. The potentials differ from one region to another e.g. biomass from wood in the south of Sweden.

**Questions:**

In order to analyze economic potentials in North Sea region: Is it appropriate to focus on different energy sources or is it more fruitful to focus on energy systems?

Are different answers to be expected due to the scope of using e.g. transports, heat and electricity?

**Part 4: The Future**

Will energy demand and resources match in the future in all regions?

What will the future of sustainable energy supply look like, especially on local and regional level?

Can sustainable energy planning give business economic opportunities or will market business lead to sustainable energy planning?

Will customers accept rising prices for green energy or are state regulations required to force them to use them?

Which quality aspects could stimulate sustainable economics in the future?

**Part 5: Mapping Networks**

**Integration of North Sea- SEP with networks in the EU**

**Illustration:**

The regions, companies and universities in NS-SEP participate in local networks. Through the NS\_SEP project those networks are connected in a transnational network. The cooperation has already led to new initiatives and new relations.

How can this mechanism of networking be enhanced on the European level? How do partners choose what is important or create priorities, as the project is very diverse – what communication methods would you deploy?

Awareness rising is one of the key factors to lead to the overall goal of a sustainable future. But how can it be done to make the public feel the need for sustainable planning in general? How can we improve the access to and dissemination of information about economic benefits of renewable energy solutions on a local or regional level? For example, installing big wind turbines might impair local landscape and produce a lot of noise. Building test centres for wind turbines on land may require cutting off local forests. On the other hand, dissemination of knowledge and public education on sustainable energy are tangible benefits. But these tangible costs and benefits are generally hard to be quantified. Might it be arbitrate to compare them with financial costs and benefits?

How can the issue of the different evaluation of sustainable solutions in public and on the regional level be solved?

How does North Sea-SEP increase its presence in EU networks? Which networks are of use? Is there a model of knowledge transfer which guaranties a lasting effect?

Which partners should be preferred on a local, regional, national and transnational level for a cooperative approach in sustainable economics?