Energy security: what can regions and energy agencies do?

The fact that our society needs a lot of energy is nothing new. The fact that the EU is highly dependent on energy from outside the Union, importing 53% of all the energy it consumes at a cost of more than €1 billion per day is not a surprise either. The real question is – are we doing enough to address this issue and to reverse this trend of even greater dependency?

In response to the political crisis in Ukraine and the overall importance of a stable, affordable and abundant supply of energy for the EU’s citizens and economy, the European Commission released an EU energy security strategy on 28 May 2014. In addition to short term measures (energy stress tests this winter), the strategy addresses medium and long-term security of supply challenges. Without going into an in-depth analysis of the impact and possible results of the proposed measures, the first impression is that (again!) renewable energy is only recognised as a possible solution to this well-known problem. To quote Einstein “We can’t solve problems by using the same kind of thinking we used when we created them”, however in the case of our common European energy policy it still seems to be the case.

What can regions and energy agencies do? For FEDARENE, local and regional governments supported by their energy agencies are the ones who bring European energy policy to life. FEDARENE believes that regional and local authorities, together with their energy agencies, will continue to play a prominent role in the European sustainable energy transition. It is our role and duty to continue to plan, develop and implement sustainable energy projects at all levels. Thus, we need to promote this stance and to advocate that energy transition is not just an empty word. It can and should be a reality; it is the only sustainable energy future for the Europe in which we believe.

Recent EU statistics and reports show that the share of renewable energy in EU has increased to 14.1% in 2012 of the final energy consumed (compared to 8.7% in 2005), thus increasing the EU’s local energy production and gradually reducing the dependency on energy imports. This is good news of course, but FEDARENE believes that this is not sufficient. If one compares this with energy statistics of some European regions, it become obvious that we can have higher expectations. In Upper Austria, for instance, region highly industrialised, renewable energy currently supplies more than 35% of the total primary energy demand. For 2030, Upper Austria has set the target of meeting 100% of its electricity and space heating demand through renewable energy sources. Of course, that has been achieved only because Upper Austria has prioritised energy efficiency and renewable energy since the mid-90s but it is never too late to start, is it?

As we understand that energy is a vital part of a modern EU economy and lifestyle, we have to understand that apart from being available, our energy needs have to be affordable too. Another EU statistic shows that while energy, as a share of a household consumption, is only around 6% in the EU, more than 10% of EU households cannot afford to heat their homes during cold months. This is obviously another powerful reason to implement energy efficiency measures and to use locally produced energy from renewable sources. For our more than 500 million citizens, Europe today is the most prosperous, socially aware, secure and free continent on earth. We believe that our European regions can and should play a role here since they are often the brightest examples of how to sustainably use energy at the global scale!
What is your opinion on the importance of EU Foreign Affairs in current energy-related issues?
To set the preconditions necessary for our citizens’ well-being, we need to ensure a sustainable growth for the European economy. To achieve this goal, we need stable resources and sufficient energy. In 2012 the EU managed to provide only 46.6% of its energy demand. A coordinated support is required to secure our energy supply. In my recent visit to Ukraine, I have witnessed fragility of economic relations due to a political crisis. However, the European Foreign Affairs’ role embraces a wide variety of activities including energy security through our economic diplomacy.

What is the meaning of energy security from your perspective? How important is it for European economy?
Various factors influence the security of energy supply: import dependency, geographical diversification of energy imports and diversification of energy sources. All of these factors influence the extent to which a country is vulnerable and to which our economy depends on the political situation of other countries. However, one of the biggest strengths is that the EU protects the interests of all Member States, and securing a stable energy supply is very high on the priority list of the EU Foreign Affairs.

What are both short and long term solutions?
Jean-Claude Juncker, as President of the EC, has set ten policy priorities. One of them is “A Resilient Energy Union with a Forward Looking Climate Change Policy”. Juncker states that we need to diversify our energy sources and reduce the high-energy dependency of several of our Member States. Besides diversifications, strong partnerships with fuel exporting countries should be established. It is a difficult task because not only diplomatic skills but also large investments in infrastructure are needed. It is important to have a vision of European energy supply system in the future. EU dependency on energy carriers imported from neighbouring areas should be reduced in the long run.

It means that we have to meet our energy demand locally with the RES we have at our disposal. We should not only increase energy security but also reduce our carbon footprint, shifting to a zero-carbon society. The European Council in October 2014 confirmed the EU target for 2030 for 40% greenhouse gas emission reductions, fully in line with the ambitious 2050 objective: 80% to 95% compared to 1990 levels. This will not only help to mitigate global warming but also secure millions of new high-tech jobs that will boost growth, investments and help restore Europe’s competitiveness. Moreover, a big proportion of the additional €300 bn investments that the Commission plans in the next three years will be earmarked for energy efficiency and renewable energy sources.

I also believe that coordinated support is crucial in achieving ambitious goals in any field. Therefore, local-level actions are equally important as large-scale European strategic infrastructure projects. There are many successful examples of so-called bottom-up approach in project development. Small-scale renewable energy projects can create jobs for young educated people and boost local economy.

The EU commitment in environmental protection has an impact on European economy.
World leaders have agreed to fight global warming and to have a new global agreement on GHG reduction by the UN Climate Summit in Paris in 2015. The EU is currently leader in these negotiations, trying to persuade other countries to commit to this target. However, there is a challenge at the EU level in mitigating the targets because of the higher costs of the final products. The EPP group of the European Parliament tends to find this the optimal solution to ensure that the EU will remain a leader in environmental protection while our products will remain competitive on a global market.

At the same time, actions at the local level are crucial to inform citizens on the benefits of such an approach. Therefore, I would also like to point out the role of energy agencies and in general of local and regional stakeholders who promote energy efficient solutions at the local level. They play a valuable role by raising public awareness and by implementing concrete projects that have positive effects on both our environment and our economy.
BIOGAS: ONE OF THE MOST IMPORTANT LOCAL R.E.S.

Biogas is generated through the process of anaerobic digestion or the fermentation of biodegradable materials such as biomass, manure, sewage, municipal waste, rubbish dumps, sewage tanks, green waste and energy crops. Farmers, industries, and local authorities can produce it locally to supply a village with heat and power.

They can also purify the biogas to become biomethane, which is similar to natural gas. This constitutes an opportunity for Europe to replace its use of natural gas in trucks and public buses with the use of biomethane which is less polluting, no particle of CO2 emissions, less noise from motors, sufficient power to give the same technical response as diesel motors, cost-attractive, and no possible fuel robbery.

For long distances, for example between two towns, Bio-NGVs (Natural Gas Vehicles) are being developed along with LNG (Liquefied Natural Gas) stations.

For NGVs and LNG, the economic value is here and European constructors of trucks and cars are developing a new product offer. Technologies have been developed for biogas production and biomethane purification. It is now possible to develop the demand side with natural gas whilst waiting for biomethane production. There is a real potential at the EU level for biogas and biomethane production and use. Each country is developing its policy model with free taxes, feed in tariffs, green certificates, and subsidies. Some countries already have a strategy to develop biomethane: Sweden, Germany, France, UK, the Netherlands, and Italy. The potential is here, but the model and projects have to be further developed, in particular at the local level with farmers, industries, citizens and local authorities.

In some countries the prospective for 2020 is around 10% of biomethane in natural gas grids, whilst in some countries the predicted share is of 50% in 2050.

UPPER AUSTRIA: ENERGY SECURITY THROUGH SUSTAINABLE ENERGY

Energy efficiency and renewable energy sources are mostly seen as a means to combat climate change and generate green growth. However, the scope of their benefits reaches much further. They can also play a crucial role in lessening energy dependence and, thus, increasing energy security.

Upper Austria’s energy policy has recognised this and has been implementing an ambitious sustainable energy policy in past decades. Recent political developments confirmed the validity of the strategy to decrease the dependence from geopolitically unstable regions. Today, renewable energy accounts for 39% of the final energy demand in Upper Austria, about half of this is from biomass. More than 70% of the electricity and over 50% of the heat demand are generated from renewable energy. By 2030, all the electricity and heat demand will be covered from renewable energy.

In order to achieve that, the region is implementing a comprehensive energy action plan, consisting of regulatory and financial measures as well as information, awareness and training. Due to this action plan, renewable energy production has increased by 25% (from 68 PJ to 87 PJ) since 2005. This renewable energy generation in the region saves €1.4 bn on fossil fuel and nuclear energy imports. This amount does not weaken the trade balance and benefits the regional economy. Additionally, it makes an important contribution to increased energy security.

As shown in the graph, Upper Austria’s fossil fuel energy imports decreased by 11% in the same time period. There has also been a significant increase in energy efficiency. Energy consumption per gross domestic product (nominal) fell in Upper Austria by 18% in the last 8 years - corresponding to about 1% per year when inflation is taken into account.

For the 600,000 housing units in Upper Austria, a 33% reduction of CO2 emissions was achieved in the last 8 years through the implementation of strict building standards and a transition to renewable heating.

Measures directly funded by the region of Upper Austria also significantly contribute to energy savings. Last year alone, the implementation of such measures led to savings of 85,000 MWh/y, equivalent to around €3.5 mn/y of energy sources that do not need to be imported. Over the period in which these measures will remain effective, the savings will amount to as much as 200 million euro.

Despite all improvements and successes, Upper Austria still spends 2.5% on energy imports - which is 2.5 bn too much. If we do not drastically reduce our dependence on imports by increasing energy efficiency and the use of renewable energy sources, Europe’s energy supply will remain uncertain. We will also be exposing ourselves to future possible price shocks on fossil fuel energy markets and geopolitical crises. However, reaching our goals requires clear political signals and concrete actions for energy efficiency and renewable energy sources.

WORLD SUSTAINABLE ENERGY DAYS

The World Sustainable Energy Days are one of the largest annual conferences in this field in Europe, offering a unique combination of events on sustainable energy.

Come join us in Wels/Upper Austria from February 25-27 2015 for the World Sustainable Energy Days and see how we can achieve this feat together.

www.wsed.at - office@esv.or.at
Local energy sources constitute a smart alternative to imported oil. The availability of types of energy sources (solar, wind, hydro, biofuels, geothermal) depends on the regional and local context. In Castilla y León region in Spain, biofuel resources are being optimized thanks to an integrated regional policy strategy where energy, environmental, agricultural, transport sectors work together.

The potential of biomass resources is estimated, in primary energy terms, at 676 ktoe/year for electric energy, 479 ktoe/year for thermal energy and 446 ktoe/year for transport. Castilla y León has fixed its target share of biofuels in the energy mix for 2020, which will increase its energy independence and thus security.

Although southern EU countries do not have the same situation as central EU countries in terms of insecurity of natural gas supply, big efforts are being made to decrease the dependence on imported energy sources.

In the Castilla y León region in Spain, 55 MWe of biofuel energy has been installed, avoiding 91,000 tons of CO2 emissions. This smart transition was facilitated by the Interreg project BO-EN AREA (www.bioenarea.eu) which helped foster the 2009 Regional Biomass Plan. Several other European regions became “bioenergy regions” through this project.

COOPENERGY helps local and regional authorities, sometimes from different political backgrounds, work together to devise action plans which are coherent between the two levels of governance, with the common goal of reaching the EU 3x20 targets. For this, collaboration agreements are signed. Indeed, sustainable energy action plans at regional and local levels are often developed separately, causing duplication, wasted resources and missed opportunities to save time and money.

The consortium partners have produced two useful tools for local and regional governments:

- A collection of 60 of the best examples of collaboration to inspire local authorities to collaborate more effectively with one another on sustainable energy planning;
- A Multi-level Governance Guide, based on experiences from nine European regions, aimed at providing information needed to set up collaborative sustainable energy planning processes and tools between regional and local levels.

Find these tools on: www.coopenergy.eu

**COMMON EU SUSTAINABLE BUILDING ASSESSMENT**

CESBA stands for Common European Sustainable Building Assessment. It is an initiative towards promoting a harmonization of sustainable building certification systems throughout Europe. The CESBA initiative started in 2011 when actors from different EU projects found that the high number of building assessment systems in Europe were leading to proliferation, confusion among the actors and to a very fragmented sustainable construction market. The idea is to enable better benchmarking of buildings throughout Europe.

The vision of CESBA is: A Europe where a high quality living in a sustainable built environment is the common standard practice.

CESBA policy paper on: http://wiki.cesba.eu