2nd Regional Exchange of Modelling Experts involved in the Development of Integrated National Energy and Climate Plans (NECPs) in Southeast Europe

Building up Modelling Capacity for Integrated Energy and Climate Planning

Meeting minutes

Virtual exchange via MS Teams, 27-May-2020, 10:00-12:00 am CET

Participants

Representatives from Albania, Bosnia and Herzegovina, Kosovo*, Montenegro, North Macedonia - Government stakeholders, local and regional experts; consultants: REKK and Klimapolitika; the Energy Community Secretariat (ECS) and GIZ.

Introduction

Dubravka Bosnjak/ GIZ ORF-EE, Anja Rosenberg/ ECS, Philipp Wittrock/ GIZ CDCPIII and Veit Raisch/ GIZ Kosovo Energy Efficiency Project welcomed the participants and expressed their appreciation for the strong interest in this second technical exchange about modelling approaches, data availability and quality and best practices.

Session 1 - Prof. Mirza Kušljugić: "Multi-criteria based selection of RES technologies planning of „optimal" RES mix"

After the presentation a couple of questions were raised to Prof. Kušljugić.

Is there a difference in results received from the development of Framework Energy Strategy of BiH and the presented approach?

Prof. Kušljugić pointed out that the Framework Energy Strategy was prepared in 2017, used 2016 data and was based on a study of IFC (International Finance Corporation). The Strategy leveraged on a least cost approach and developed various indicative scenarios considering new coal TPPs, RES and large HPPs.

The scenarios that the project team and Prof. Kušljugić developed used a different methodology based on economic, technical, environmental and socio-political criteria as explained in his presentation. He emphasized the challenge of developing a 10 year NECP covering the period 2020-2030, as costs in 2-3 years' time are unknown.

He also emphasized that according to the RE Directive least cost for consumers and producers should be achieved. And while the cost of solar and wind have already dramatically decreased in recent years, the opportunities for job creation and the boost of local industry should be seen as additional benefits that could justify a diversion from the least cost options.

Peter Vajda informed participants that the Energy Community (EnC) Secretariat submitted the draft Policy Guidelines on small hydropower projects in the EnC on their website for public

consultation and seeks the opinion of stakeholders on the state of play in the EnC until 15 June (https://energycommunity.org/aboutus/institutions/ENVTF/PC.html). He also raised the question whether small hydro power plants would be economic taking the cost for environmental assessments into account?

Prof. Kušljugić responded that small hydro power plants have certain limitations in terms of project economics and that solar PV technology will certainly be cheaper in the future. His team will propose to exclude small hydro power from the feed-in tariff (FIT) and to focus on pumped storage hydropower instead as the latter would also allow the deployment of wind and solar technology. The so called waterwind-solar nexus with pump storage would be a framework for development of RES scenarios development.

Did the project team simulate regional market prices?

No, instead the study team consulted the SEERMAP study.

The SEERMAP study also discusses that an increased percentage of variable renewable energy can be integrated in the market without risking security of supply or increasing the demand for baseload coal power.

How to deal with the potential of vRES (wind, solar) and the constraint of (natural resources for) balancing on national level in Kosovo?*

Prof. Kušljugić shared his opinion that no country can integrate vRES at a high percentage if balancing is dealt with on national level. Instead the integration of energy markets would be necessary. He also referred to balancing studies of the World Bank, which are being prepared on a regional level.

In addition Prof. Kušljugić raised questions that might be taken up in a next regional or a bilateral exchange:

- Exchange of information: investment costs, load factor, equity and loan costs, WACC, LCOE for RES technologies (IRENA studies)
- Multi-objective scenarios development methodology (i.e. job creation, regional development, location, ownership)
- Decision making support. Optimization software (i.e. Times/Markal), Simulation software (i.e. EnergyPlan)
- Balancing anf frequency regulation constraints – national v.s. regional approach (software ?)
- Review of the regional studies (SEERMAP, IRENA REmap, EnC, EC, WB/IFC, Agora Energiewende)

Session 2 - Aleksandar Dedinec: "Emission factors for imported electricity"/ "Modelling of useful energy demand in transport" and Biljana Cherepnalkoska: "Fuel economy of hybrid vehicles"

After the presentations there was one question about how to deal with the lack of accuracy of data on fuel consumption for different transport branches?

Aleksandar Dedinec pointed out that it is the task of the modeler to find sufficient data, develop assumptions and to account for complexity. For North Macedonia modelers were able to assess passenger km for rail and passenger km for cars. In addition, they also iintroduced second hand cars in their model, which have higher fuel consumption compared to new vehicles.

Biljana Cherepnalkoska brought up another aspect, namely safety. After Kosovo* had increased the limit for vintage vehicles (from 11 to 8 years), statistics showed a 7% increase in accidents involving imported old vehicles. Hence, the safety side should also be an indicator in assessing the question of old vehicles in addition to greenhouse gas emissions.

In addition Aleksandar Dedinec raised questions to participants that might be taken up in a next regional or a bilateral exchange:

- What is the biggest problem for WB6 countries in the transport sector?
- How many cars do you have?
- How often are the cars used?
- Are urban buses only used in the cities or otherwise?

Session 3 - Verica Taseska –Gjorgievska: "Modelling of useful energy demand in households" and Zdravko Stefanovski: "Modeling of heat pumps and trigeneration technologies"

After the presentations participants raised questions

As the heat demand depends on the age of a building, how did you account for the age of buildings to calculate demand of specific heat?

Verica Taseska –Gjorgievska responded that the age of buildings was not included in the survey on energy consumption in households being conducted by the State Statistical Office in 2014 and being the base for the current model. MANU developed the model for the survey and requested details on the space of dwellings and the heated area of dwellings. Specific energy consumption per square meters can be calculated from these two indicators. In addition, a UNDP survey on the city of Skopje also provided data e.g. number of dwellings, renovation/ retrofitting activities in old buildings and the standard of new buildings (e.g. passive).

In Kosovo we have same study on the residential sector (GfA), but no sufficient information about service sector. Is service sector also covered by the study conducted in North Macedonia?*

We considered a disaggregation of the service sector (small, large), but took more of a general approach as compared to the residential. In terms of service, industry etc. there is the potential to develop the model further.

Closure

Dubravka Bosnjak closed the exchange and announced that presentations and minutes of meetings will be shared.