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**Facilitating energy storage to allow high penetration of intermittent renewable energy**

## **D5.5 - GERMANY**

**Minutes of meetings with main decision makers and stakeholders**



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**CENER**

NATIONAL RENEWABLE  
ENERGY CENTRE



**NTUA**  
National Technical  
University of Athens



The work for this report has been coordinated by HSU.

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## EXECUTIVE SUMMARY

This report summarizes the outcomes of the individual meetings with decision makers and stakeholders and their associations held in Germany along the last six months of the project in order to promote the actions list agreed during the Workshop developed in September 2013 and to achieve some commitments from the decision-makers regarding the support of energy storage in Germany in the corresponding regulations.



# 1. Individual Meetings with Decision Makers and Stakeholders

## 1.1. stoRE Exchange with Becker Büttner Held

In 2./8. April 2014 a bilateral exchange with Beck Büttner Held was organized. The bilateral exchange was based on an early draft version of the Action List Germany and led to clarifications within the draft versions text and the addition of literature.

## 1.2. stoRE Exchange with Stiftung Umweltenergierecht

On the 2./15. April 2014 a bilateral exchange with Stiftung Umweltenergierecht (Würzburg), was organized. The bilateral exchange was based on a draft version of the Action List Germany including differing opinions especially with regard to support mechanisms for energy storage. As a result several adjustments were made to draft version. Final discussions were carried out at the presentation of the BMWi funded “Roadmap Speicher”-Project in Berlin on the 16. June 2014. The exchange with Stiftung Umweltenergierecht and also with its partners at RWTH Aachen and Fraunhofer IWES continued and led to a coordination of the recommendations. The Roadmap Speicher project adapted some recommendations from stoRE and vice versa. The final report of Roadmap Speicher was presented on June 16 in Berlin and the final report will be out soon. The report will be submitted directly to Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. The recommendations are thus directly addressed to the ministry.

## 1.3. stoRE Exchange with FGW

After completion of the action list, there was a bilateral exchange will Johannes Brombach from FGW (Fördergemeinschaft Wind). FGW is responsible for the technical guidelines for the connection of renewable energy units to medium and high voltage grids as well as the guidelines for the certification process according to the renewable energy law. Johannes Brombach agreed with the actions proposed regarding the short term legal actions. There will be another meeting on June 22<sup>nd</sup> to discuss the possibilities of including the stoRE-recommendations in the new technical guidelines. Furthermore the possibility will be discussed to include a further certification option in the certification guidelines. It should be possible to certify a wind farm together with a storage unit as wind farm with higher flexibilities. The inclusion of this point will be discussed also June 22<sup>nd</sup>.

1. Meeting with Johannes Brombach at HSU (1. April): Discussion of the action list. Highlighting of a broad agreement with the short term legal actions and the actions concerning ancillary services.
2. Meeting with Johannes Brombach at FGW (Berlin, 2. June): Discussion of the inclusion of several actions in the new FGW-guidelines



## 1.4. stoRE Exchange with Bundesnetzagentur and BMU

There have been several fruitful discussions with Bundesnetzagentur, who see our action list in a positive way. They agreed in particular with the need of studies on alternative flexibility options and with an inadequate grid extension to neighboring countries. Furthermore they stated that in the new network development plan, transmission capacity extension will be taken into account. Additionally there will be a new funding instrument for new ways to provide system flexibility focusing mainly on demand side management.

Location and date of discussions:

BMU Strategie Workshop Systemdienstleistungen (28.11.2014 at BMU, Berlin):

- Discussion with several staff members of BMU in charge of energy system development and ancillary services, resulting in some changes in the action list to be better in line with the goals of the ministry

Further contact with K. Hölzl from BMU about the recommendations concerning the ancillary services of energy storage systems in general and with him and a colleague about the combination of ESS and wind turbines in specific.

E-mail contact and several telephone calls with employees of Bundesnetzagentur in the period of January to May 2014, resulting in some changes in the actions regarding grid reinforcement and transmission grid extension to neighboring countries. In the end they agreed with our recommendations regarding the above mentioned topics.

## 1.5. HSU participation in the Renewable Energy Act monitoring report 2014

The project partners Leipziger Institute for Energy GmgH (IE Leipzig), Helmut Schmidt University Hamburg (HSU) and BioConsult SH GmgH & Co.KG in Husum were contracted by the German federal ministry for the environment, nature conservation and nuclear safety to prepare and to conduct the scientific supervision of the compilation of an experience report 2014 under directive § 65 renewable energy law (EEG) for the area of wind energy.

The aim of the project is to show the development of wind energy against the background of the renewable energy law. Furthermore different individual fields of actions for the further development and deployment of wind energy, on- as well as offshore, will be identified. On the basis of the above the actual strategy of the German government regarding the development of wind energy can be evaluated. Like this recommendations within and besides the EEG can be elaborated. Especially the topics cost effectiveness, technological development and future potentials have to be investigated.

For HSU the areas of engagement are in the field of ancillary services, curtailment of wind turbines and the regulation of the development of wind energy. Especially the possibility of using energy storage instead of down regulating wind turbines and how to include this in the renewable energy novel is of high interest. In the field of ancillary services (AS) the directives §§ 6, 64 and 66 Abs. 1 Nr. 8 EEG together with ancillary service directive wind (SDLWindV) are investigated and evaluated. For that purpose it has been investigated how many new or modernized wind turbines



are not able to contribute to ancillary services and how this could be optimized using ES. Measures for the regulation of the future development of wind energy are elaborated together with IE Leipzig to allow a better and more purposeful regulation of wind energy development.

- Publication of the final report together with the new renewable energy law summer to fall 2014.

## 2. Achievements in Germany

Based on the events presented in Section 1, the achievements in Germany can be summarized as follows:

- Inclusion of recommendations in the renewable energy monitoring act. The renewable energy monitoring act will be used by the government to adapt the regulations in the renewable energy law. Especially the recommendations for energy storage systems storing energy directly from renewables are included.
- Bundesnetzagentur and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety stated that there will be new project calls including problems mentioned and discussed within the stoRE project. Especially the connection of renewable energies with ESS, the transmission capacities to neighboring countries and alternatives to system flexibility will be in the focus of the calls.
- The experience and recommendations of the stoRE project will be taken into account in the consultation process for the new versions of the technical guidelines for the connection of renewable energy units to medium and high voltage grids as well as the guidelines for the certification process according to the renewable energy law
- The recommendations listed in the German action list are partly in line with the recommendations given in the roadmap Speicher report made by the research institutes RWTH Aachen, Fraunhofer IWES and Stiftung Umweltenergierecht for the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

