EXPERIENCES FROM AUSTRIA ON THE DEVELOPMENT OF NEEAPS

Austrian Energy Agency / National Monitoring Body

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LEGAL FRAMEWORK

- Directive on energy end-use efficiency and energy services (2006)
  - Indicative target: reduce the final energy demand by 9% by 2016:
    - to be reached by way of energy services and other energy efficiency improvement measures
  - Scope of the Directive
    - Providers of energy efficiency improvements
    - Energy distributors, distribution system operators
    - Retail energy sales companies
  - Preparation of 3 NEEAPs compulsory:
    - Target setting (interim & final) and overview of strategy to achieve target (measures)
    - Review of effects of measures set & target evaluation
  – National energy efficiency targets up to 2020 for final and primary energy
  – Scope of the Directive:
    • Energy-efficiency in the end-use
    • Energy-efficiency in the energy supply
    • Horizontal requirements
ENERGY EFFICIENCY MONITORING IN AUSTRIA

- Austrian Energy Agency (AEA) assigned by the Federal Ministry of Economy to act as the monitoring body for the implementation of the Energy Services Directive:
- Tasks:
  - Monitor the implementation of the Directive by involving all relevant stakeholders in the monitoring process
  - Develop bottom-up methods and top-down indicators to measure energy savings
  - Develop a monitoring system: online-database to collect and process data on energy-efficiency measures
  - Report on the energy savings achieved / Draft the National Energy Efficiency Action Plans (NEEAP)
  - Disseminate information
STAKEHOLDER INVOLVEMENT AND DEVELOPMENT OF BOTTOM-UP METHODS
Purpose:

- **Inform** about the Directive in general and its implementation on national level in particular
- **Involve** all parties (public sector representatives, energy suppliers) affected by the Directive and **ensure a common proceeding** regarding the implementation of the Directive
- **Involve** all parties in the **development of bottom-up methods** (formula, default values) through workshops and small group discussions
- **Ensure the acceptance** of the bottom-up methods and the online database
PARTICIPATION PROCESS

- Group discussion
- Workshops
- AEA Experts
- Method Proposal

Stakeholder:
- Central government
- Regional governments
- Energy companies
BOTTOM-UP-METHODS
LIST OF MEASURES

• Building shells (new buildings, refurbishment, building elements)
  – Residential buildings
  – Non-residential buildings
• Cooling and air-conditioning
• Efficient cars
• Energy audits (private households, companies)
• Smart Meters in private households
• Heating systems
  – Solar panels
  – Replacement of gas- and oil boilers with condensing boilers in refurbished/non-refurbished buildings
  – Heat pumps
• Circulating pumps
• Household appliances (refrigerator, freezer etc.)
DEVELOPMENT OF A MONITORING SYSTEM
ONLINE DATABASE (1/3)

• Accessible via www.monitoringstelle.at
• For all measures for which bottom-up methods exist
• Open to all public institutions and energy suppliers the Directive applies for
• Creation of individual user accounts
• Data entry:
  – Individually and directly by the user
  – User responsible for the data entered
  – Data saved in the database and kept confidential
• Data evaluation:
  – Verification of the data entered by the AEA (plausibility check)
  – Evaluation according to user, type of measure, region
  – Time series of yearly energy savings (Early Actions, savings valid in 2010/2016)
ONLINE DATABASE (2/3)
DATA GATHERING INTERFACE

Measures and programmes

Blocks of measures and programmes

- Savings overview
- Lighting
- Directly measured
- Energy audits
- Energy advice
- District heating
- Buildings
- Cooling and climatisation
- Transport
- Smart Meters
- Space heating and hot water supply
- Heat distribution
- Appliances

User: Heidelinde.edinsem@energyagency.at

Installation of solar collectors (d)

<table>
<thead>
<tr>
<th>Description *</th>
<th>Solarpasser Wien</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of implantation *</td>
<td>2007</td>
</tr>
<tr>
<td>Measure implemented alone</td>
<td>✓</td>
</tr>
<tr>
<td>Measure implemented in region *</td>
<td>Wien</td>
</tr>
<tr>
<td>Newly installed standard solar collectors (m²)</td>
<td>1200</td>
</tr>
<tr>
<td>Standard solar collectors without bottom up measures (free riders)</td>
<td>0</td>
</tr>
<tr>
<td>Mean of yearly energy savings per m² installed solar collector area (kWh / m²)</td>
<td>530</td>
</tr>
<tr>
<td>Rebound effects</td>
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<tr>
<td>Spill over effects</td>
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<tr>
<td>Uncertainty factor</td>
<td>1</td>
</tr>
<tr>
<td>Calculated savings</td>
<td>645,600,0</td>
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</tbody>
</table>

SAVE | CANCEL | DELETE
Experiences from the database-based monitoring approach:
- Easy and cost-efficient data collection of energy-efficiency measures
- Standardized calculation of energy savings
- Savings achieved are calculated and reported immediately

- Process for setting up this monitoring system took about 3 years (stakeholder process, development of methods and database)
- Set up of the database took about 2 years in total
CONCLUSIONS

Role of NEEAP

Coordinate and communicate with important stakeholders

Data collection
Inform stakeholders what is needed from them

Other existing strategic documents

Preparation

• Clearly define **function of the NEEAP**
• **Coordinate well** with other authorities and relevant stakeholders
• **Inform** other stakeholders in advance what is needed
• **Keep communicating** between the NEEAPs with important stakeholders
• **Link** it with all other existing strategies and action plans in your country
CONCLUSIONS

• **Preparation of the NEEAP**
  – Important to have a clear understanding of the task and to establish direct communication between those whose input is crucial for the preparation of the NEEAP.
  – Difference between success and failure is often almost synonymous with how preparation has been carried out.
  – Energy efficiency complex field: no single person or even government body is likely to master the entire field → the input of many people is essential for success → vital to establish the structures necessary for smooth cooperation.

• **Data collection**
  – Missing or inaccurate data is a major obstacle for producing the NEEAP.
  – Reliable data cannot be extracted instantly upon request → constant effort needed to maintain a base of reliable data.

• **Role of the NEEAP**
  – NEEAP puts a focus on the importance of energy efficiency polices.
  – NEEAP has a “pull effect” on the collection of data and other information.
CONTACT

Andrea Jamek
Scientific Officer

ÖSTERREICHISCHE ENERGIEAGENTUR
AUSTRIAN ENERGY AGENCY

Mariahilfer Strasse 136 | 1150 Vienna | Austria
andrea.jamek@energyagency.at | www.energyagency.at