Overview of Project and RES

IEA-ETSAP
1st Semi-annual Workshop - Annex X

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Helena Bozic, EIHP
Gary A. Goldstein, IRG
Besim Islami, Albania NEA
Denise van Regemorter, KUL

Presentation Outline

- SEE-REDP Purpose and Participation
- Overview of the Tools and RES
- Preliminary Work Plan Components and Timing
**Motivation**

- Demand Analysis is the first step in energy policy and in energy investment planning.
- The recent Generation Investment Study (GIS, PWC) for the power sector developed electricity demand projections that drive the capacity expansion plan.
- The implementation of the GIS study revealed in the opinion of many stakeholders that an on-going regional effort to refine energy demand projections would greatly improve the discussions over needed investments in the region, consistent with ECSEE principles of the regional efficiencies of a single regional market.

**Goals**

- Foster improved energy demand planning capability in the region, in support of the Athens Process to establish ECSEE.
- Establish and institutional vehicle to discuss and update information using a consistent framework and tools, for purposes of policy planning and investment decision-making.
- Examine future investment opportunities in energy efficiency, renewables and co-generation, and changes in patterns of home heating, including district heating and increased used of natural gas.
Organization

Steering Committee

Project Coordinator

Technical Working Group

PHLG

Donors, IFIs etc

USAID

IRG Ltd., EIHP

Guiding Principles

- Establishment of a network regional energy experts and policy advisors
- Draw on previous undertakings and share other SEE country experiences and information
- Adopt a common philosophy and “toolbox” for organizing the energy demand planning process
- Compliment other initiatives in the region
### SEE-REDP Participating Institutions

<table>
<thead>
<tr>
<th>Participants</th>
<th>Steering Committee</th>
<th>TWG</th>
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<tr>
<td>Albania</td>
<td>National Energy Agency</td>
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<td>Bosnia</td>
<td>Ministry of Foreign Trade and Economic Relations</td>
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### Organization of the Toolkit

- **Calibration Templates**
- **Demand Projection Template**
- **Supply Curves Technologies Repository**
- **Model Data**
- **Options & Policies**
- **Details Results**
- **Future RES**
- **UED Projection**
- **RES2000**

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- **MARKAL** (GAMS/CPLEX)
- **VEDA-BE**

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- **Scenarios for Sensitivity Analysis**
**RES Overview**

- Demand-side detail necessary to effectively carry-out energy demand planning
- Very simplified representation of the supply and upstream sectors, including no explicit depiction of the power sector, with expanded representation for:
  - district heating options
  - natural gas supply
  - renewables

**RES Components – Demand Sectors**

- Agriculture, 1 sector with fuel-based device breakout
- Commercial, 8 sub-sectors with 2 building sizes for heating/hot water/cooling
- Industry, 7 sub-sector with 3 service needs of low/high-temperature heat and mechanical drives
- Residential, 10 sub-sectors with 3 building types and 2 distribution system for heating/hot water/cooling
- Transportation, 1 generalized demand for electricity used for public transportation
RES Components – Residential

- LPG, electricity
- Biomass, coal
- Gas, oil

Simplified Electric Sub-sector

- SPACE HEATING
- WATER HEATING
- COOLING
- LIGHTNING
- FRIEDGES
- CLOTH WASHING
- CLOTH DRYING
- DISH WASHING
- TV, DVD
- COMPUTERS

*Urban central houses and apartments
+Urban/rural local houses and apartments

[Note: other fuels may feed certain demands in various countries]
RES Components – Simplified
Renewables, CHP & Heat Sub-sector

Proposed Work Plan – Phase I

- Establish the REDP SC and TWG, along with a project regional coordinator
- Hold Data and Calibration workshop
- Obtain the basic energy balance data and develop the necessary breakout thereof corresponding to the SEE-REDP RES
- Augment the SEE-REDP workbooks for each country situation
- Calibrate the base (1st) year
- Report on progress to date
- Completion December 2005 (but running late)
Proposed Work Plan – Phase II

- SC define the policies to be examined
- Development of the Reference Scenario – Distribute in Dec in Prep for WKSP
  - Develop the demand drivers and relationship to the sector demand for energy services
  - Obtain price projections for the various energy carriers
  - Establish the "library" of future technologies, adapt for each country
  - Represent any existing policies and known projects
- Hold Reference Scenario and Modeling workshop (Feb 2006)
- Exercise the Reference Scenario and refine the model assumptions/behavior as necessary
  - 2x mini-workshops (north/south) – perhaps to exercise Reference
- Report on progress to date, including publication of data
- Completion June 2006

Proposed Work Plan – Phase III

- Select up to 3 alternate scenarios to be examined by each country
- Hold Assessment workshop
- Represent each scenario to the model
- Conduct assessment, refining model assumptions as necessary
- Interim progress report Sept 2006
- Major project report with each country’s assessment
- Completion December 2006
Proposed Work Plan – Phase IV

- Identify Scope of Phase IV
  - Integrate the country models
  - Depict the power and transportation sectors to realize full integrated energy system planning models
  - Introduce price/income elasticities to endogenize useful energy demands

- Integrate (and depict trade patterns), expand RES and/or introduce elasticities

- Conduct assessment, refining model assumptions as necessary

- Hold Integration and Analysis workshop

- Transfer integrated SEE-REDP model to a local host institutions and other interested participating institutions, if developed

- Project report on the integrated assessment

Completion Sept 2007