

Proposal for an IEA-ETSAP funded project submitted to the 18th June 2013 ExCo meeting

Deadline May 18th 2013

Title: ETechDS Data Normalization and Handling for Modeling Use (2nd phase) (The 1st phase of the proposal was submitted in May 2012)

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Submission Date: May 18th 2013

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Project Description (with a focus on the innovation): The work described in the present proposal is expected to be implemented after the completion of the 1st phase of the project on "ETechDS Data Normalization and Handling for Modeling Use".

The project aims to convert the data contained in the ETechDS technology briefs into a suitable form for modeling use. Technical and economic data and related ranges need to be collected in proper Excel spreadsheets and normalized to consistent units, currency, date, interest and discount rate, if applicable. In this process, possible missing data (e.g. performance, costs and data projections over time) may be extrapolated or interpolated based on available data, learning curves and expert estimates. For normalization of economic data, a levelised cost model type including capital investment, operation and maintenance, energy, emissions, waste management, decommissioning (if any) and final production costs can be applied to fuels and energy carriers production as well as to residential and transportation energy services, and goods from the industrial sector.

The project consists basically of two phases:

- in the first phase the method will be tested with applications to a few technology clusters per sector;
- in the second phase, the method will be applied to all technology briefs.

The budget needed for the two phases is estimated at €25,000 and €20,000, respectively.

The 1st phase of the project is being commissioned and is in the process of being implemented in the second half of 2013.

The 2nd phase of the project is the objective of the present proposal and it is expected to be implemented in the first half of 2014. A more precise assessment of the work time that will be needed to carry out the second phase of the project as well as the associated implication will be available as an outcome from the 1st phase of the project.

Deliverables: Excel spreadsheet database including a Visual-Basic levelised cost model for normalization of economic cost data of the ETechDS technology briefs (demand and supply sectors). Depending on the results of the 1st phase, the need of data not yet included in the briefs (e.g.: washing machines??) and the diversity of the energy technology cluster (e.g.: desalination??), some technology could turn out to be difficult to be included in the spreadsheet. The Excel spreadsheets will be directly linkable to TIMES models under VEDA-Front End (FE) SubRes and, possibly, under ANSWER-TIMES. A simple users' guide is part of the deliverables.

Relevance to the Annex XII topics: The project will contribute to improving and making available to ETSAP Members and the IEA coordinated analysis tools including TIMES models, TIAM and ETechDS.

Expected Benefits for ETSAP: This work is a key to make ETechDS data a useful and friendly tool for MARKAL-TIMES users and to build a flexible MARKAL-TIMES Technology Repository (Tech-Rep) for ETSAP Members use (non-Members might be requested to pay an access fee).

Time schedule: 1st half of 2014 (if economic resources are available)

Estimated Costs: Euro 20,000 (Euro Twenty thousand)