



**Proposal for an IEA TCP ETSAP funded project submitted to the ExCo meeting December 17, 2020**

**Title:** Advancing the TIMES-Starter Platform to Promote Its Use for NDCs – Enhancement of the TIMES-Starter

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# Project Description

## Introduction

- The ETSAP ExCo has previously recognized the merits of the TIMES-Starter as a better approach to enabling new TIMES users to more rapidly assemble a high quality TIMES model.
- To date the TIMES-Starter platform has been successfully employed in numerous countries and an increasing number of universities to build and apply TIMES models, for NDC assessment, state/city planning, and more
- Since first being announced on the ETSAP website in December 2018 there have been more than 280 downloads
- The World Bank, PMR, and various Ministries come to appreciate the important role TIMES plays to enable the sophisticated energy system modeling needed to properly assess the complexities of transforming energy systems, creating a potential window of opportunity to move more countries to TIMES

# Project Description

## Main activities to be undertaken

1. Migrate TIMES-Starter to the VEDA2.0 platform;
2. Update the TIMES-Starter BY and NT templates to the new USEPA-ORD US9rT database (corresponding to USDOE AEO2018);
3. Make several incremental improvements to the platform (identified by supporting new users of TIMES-Starter);
4. Prepare the TIMES-Staters for release on GitHub as open source, and
5. Update the Guidelines and PowerPoint presentations for the above.

# Project Description

## Objectives

- The goal of these undertakings is to grow and strengthen the TIMES user community by supporting the TIMES-Starter.
- An alternative to competing options such as LEAP, OSeMOSYS, EFFECT, PLEXOS, MESSAGE and others for countries looking for the best practice NDC assessment and planning platform.
  - PLEXOS has price issues
  - MESSAGE has IAEA backing, and
  - EFFECT is rather specialized and only used by the World Bank (as of now)
  - LEAP/OSeMOSYS have ease of use advantages (though the latter is rather simplistic in many aspects).
- Many (developing) countries that start with LEAP/OSeMOSYS may look for a more advanced tool to help them design their NDC roadmaps as they increasingly come to realize the importance of better modeling of variable renewables, advanced storage, the electrification of the transport sector, etc. which will be shaping the landscape of future energy systems.

# Project Description

## Deliverables

- TIMES-Starter full operational under VEDA2.0;
- An updated and improved TIMES-Starter incorporating the technology characterizations embodied in the most recent release of USEPA US9rT (activities 2&3);
- The TIMES-Starter model folder released as “open-source”, and
- Updated TIMES-Starter documentation.

## Time schedule

- The project will look to be completed prior to the next semi-annual ETSAP meeting slated for Summer 2021.

## Budget

Task / Deliverable	Person Days	Cost
a. Transition TIMES-Starter to VEDA2.0	2	€ 1,800
b. Update TIMES-Starter for the new US9rT Data & user identified improvements	20	€18,000
c. Release TIMES-Starter as “open-source”	2	€ 1,800
d. Update Documentation	6	€ 3,600
<b>Total</b>	<b>30</b>	<b>€27,000</b>

# Project Description

## Relevance to the Annex topics

This project looks to advance the *Annex XIV Objective (b) **Capacity building. Best practice examples, manuals, online forum and hands-on training opportunities will be offered with the aim of maintaining/improving international/national capabilities for conducting energy systems analyses and the effective use of ETSAP tools,*** by further improving the scope and usability of the TIMES-Starter platform as a more effective approach to bringing new TIMES users up-to-speed. It also addresses the *Annex XIV Objective (a) by **improving the new user experience with an eye towards promoting the wider dissemination and uses of the ETSAP Tools,*** which is critical to the future health of the TIMES user base and the possible expansion of ETSAP participation.

The ExCo in Stuttgart, November 2018, again acknowledged the desire for ETSAP to promote TIMES for use by countries for their NDC, and encouraged a working group to meet again to prepare suggestions on how ETSAP can feed into the NDC's. Unfortunately this endeavor lost momentum. The TIMES-Starter has proven to be the most effective and efficient way of realizing such a goal.

## Expected Benefits for ETSAP (including to ETSAP partners)

Continual improvement of the TIMES-Starter platform is the best way to foster the more rapid development of higher quality TIMES models as part of the goal to promote the more widespread use of the ETSAP Tools, in particular for use to support NDC pathway design. While simpler alternatives to TIMES are available for LDCs to prepare their NDCs, the sophistication of TIMES offers important advantages.