

DER-VET Task Force

ESIC Working Group 1: Grid Services and Analysis

Miles Evans | EPRI
Halley Nathwani | EPRI
Giovanni Damato | EPRI

April 2, 2020



Antitrust Guidelines

Antitrust laws apply to EPRI, its members, funders, advisors, licensees, contractors, and vendors. Violations can lead to civil and criminal liability.

DO NOT DISCUSS...

- Pricing, production capacity, or cost information which is not publicly available;
- Sales territories, market shares, future product offerings;
- Confidential market strategies or business plans;
- Other competitively sensitive information;
- Advise or try to influence others on their business decisions (except to the extent that they are already public);
- Complaints or disparaging remarks concerning customers/suppliers/competitors.

DO NOT AGREE...

- To discriminate against or refuse to deal with a supplier (boycott);
- To only do business on certain terms and conditions;
- To set (or fix) prices;
- To divide markets or technologies;
- To allocate customers/suppliers/territories;
- To suppress a technology;
- To the use, promotion or endorsement of particular vendors, contractors, consultants or products.

Webcast and Recording Notification

- The webcast is being recorded along with all Q&A. Your participation provides consent to that recording.
- As a result, please make sure your phone is on mute throughout the webcast unless speaking. Do not place your phone on hold.

DER-VET Task Force

ESIC Working Group 1: Grid Services and Analysis

Miles Evans | EPRI
Halley Nathwani | EPRI
Giovanni Damato | EPRI

April 2, 2020



Agenda

- DER-VET Beta Release
 - Access
 - Installation
 - Feedback
 - Support
 - Documentation
 - Reference Cases
- StorageVET 2.1 (updated with DER-VET development) plan

DER-VET Beta

Accessing DER-VET Beta

- www.der-vet.com
- Fill out beta tester's survey (embedded in website)



Distributed Energy Resources Value Estimation Tool (DER-VET™)



You Are Here: Home

DER-VET

A publicly available, open-source, optimization-based energy valuation and planning tool for distributed energy resources (DER) and larger, centralized energy resources. DER-VET was developed by expanding on the framework developed in EPRI's Storage Value Estimation Tool (StorageVET).

Made possible through funding support from the California Energy Commission.

DER-VET Resources

- [DER-VET User Guide](#)
- [DER-VET User Feedback Form](#)

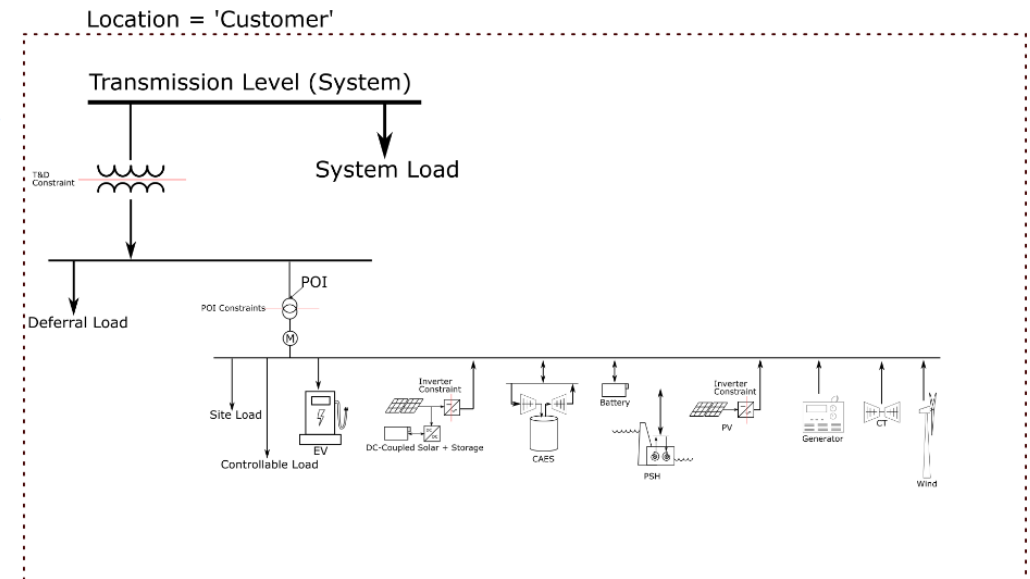
Download DER-VET

- [DER-VET Standalone Environment](#)

(use the form below)

- [License](#)

Requirements for running DER-VET Community Edition:



The screenshot shows the 'DER-VET Beta Tester Sign Up' form. It includes the EPRI logo and the text 'ELECTRIC POWER RESEARCH INSTITUTE'. The form has two main sections: '1. Email Address (We will send you the feedback form here)' and '2. Name'. There are input fields for both, and a 'powered by SurveyMonkey' logo at the bottom.

Accessing DER-VET Beta

- Please click 'Done' at the end of the survey!
- This helps us with tracking.

* 1. Email Address (We will send you the feedback form here)

mevans@epri.com

* 2. Name

Miles Evans

* 3. Organization

EPRI

Next

powered by SurveyMonkey

EPRI | ELECTRIC POWER RESEARCH INSTITUTE

DER-VET Beta Tester Sign Up

Download DER-VET

Please click 'Done' below after downloading DER-VET for your survey to be recorded!

Download DER-VET at the link [here](#)

Prev Done

powered by SurveyMonkey

Accessing DER-VET Beta

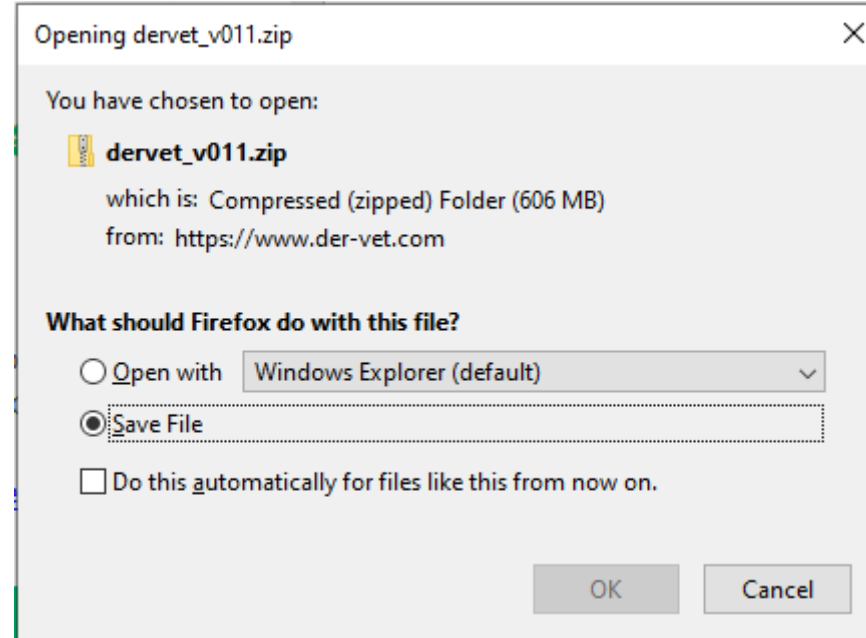
- Click the [here](#) button and save the file when prompted.
- That's it!
- DER-VET Beta lives in the downloaded file.

DER-VET Beta Tester Sign Up

Download DER-VET

Please click 'Done' below after downloading DER-VET for your survey to be recorded!

Download DER-VET at the link [here](#)



Done

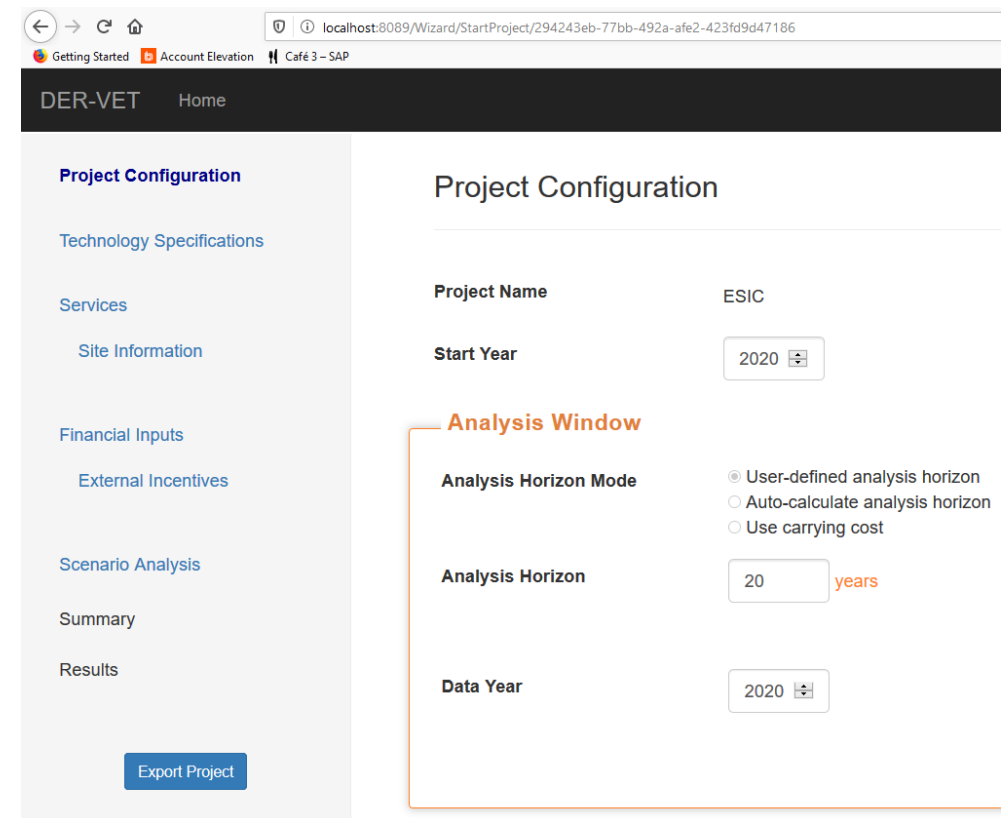
powered by SurveyMonkey

Installing DER-VET Beta

- 2 Options
 - Command Line (Just like StorageVET 2.0)
 - Graphic User Interface (More involved installation, more validation)

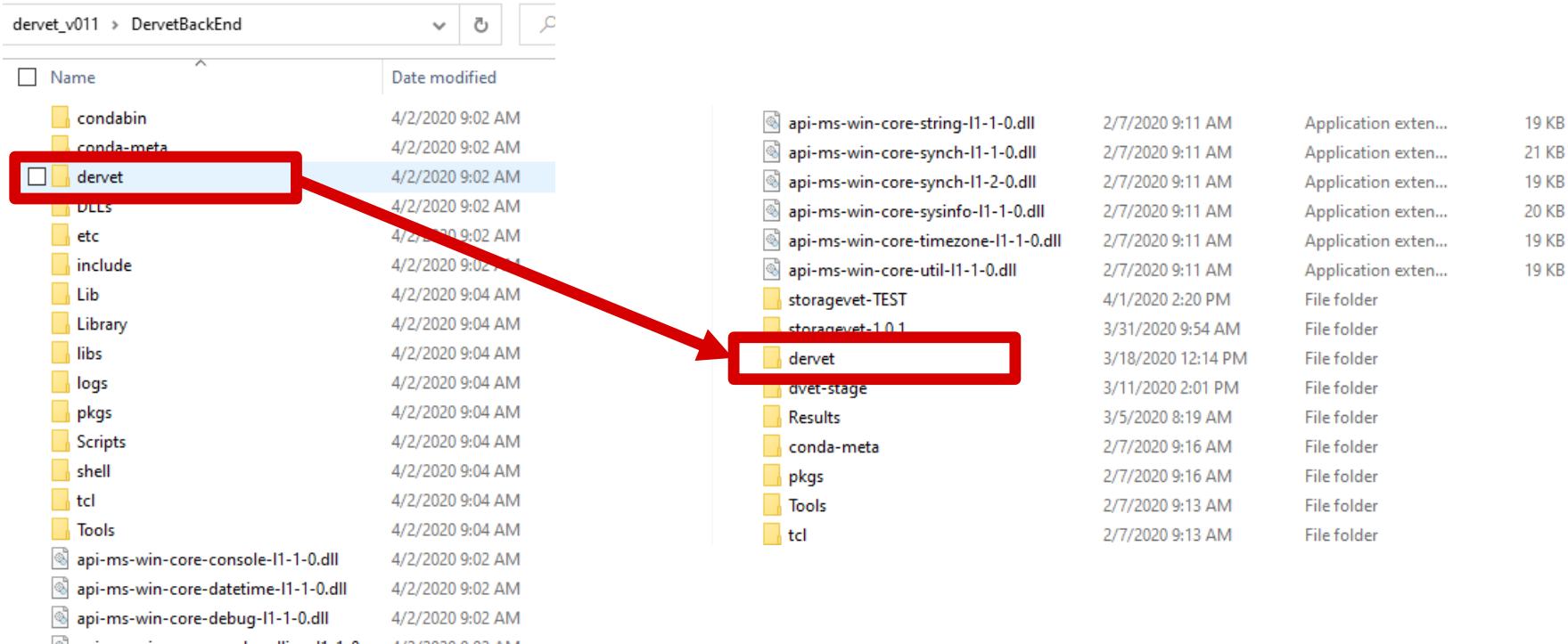
```
Command Prompt
02/21/2020 04:27 PM 12,540 Model_Parameters_Template_305.cs
v
02/21/2020 05:47 PM 23,425 Model_Parameters_Template_305.xml
l
03/18/2020 12:10 PM 13,979 Model_Parameters_Template_DER.cs
v
03/18/2020 12:10 PM 25,322 Model_Parameters_Template_DER.xml
l
03/18/2020 12:14 PM 13,762 Oakmont_mp.csv
03/18/2020 12:16 PM 26,666 Oakmont_mp.xml
03/18/2020 12:10 PM 21,662 ParamsDER.py
02/25/2020 09:26 AM 29,897 ReOpt_Comparison.xml
03/18/2020 12:10 PM 9,154 ResultDER.py
03/18/2020 12:27 PM <DIR> Results
03/18/2020 12:10 PM 4,871 run_DERVET.py
03/18/2020 12:10 PM 5,636 ScenarioSizing.py
03/18/2020 12:10 PM 7,491 SchemaDER.xml
03/18/2020 12:10 PM <DIR> storagevet
03/18/2020 12:10 PM <DIR> TechnologiesDER
03/18/2020 12:10 PM <DIR> ValueStreamsDER
03/18/2020 12:10 PM 409 __init__.py
03/18/2020 12:14 PM <DIR> __pycache__
22 File(s) 300,488 bytes
8 Dir(s) 321,843,470,336 bytes free

C:\Users\pmev001\storagevet2v101\dervet>"C:\Users\pmev001\storagevet2v101\python.exe" "C:\Users\pmev001\storagevet2v101\dervet\run_DERVET.py" "C:\Users\pmev001\storagevet2v101\dervet\Model_Parameters_Template_DER.csv"
```



Command Line Installation

- If you have successfully installed StorageVET 2.0, you've already installed DER-VET Beta (for command line use)
- Just move the dervet_v011/DervetBackEnd/dervet folder to your storagevet directory and it's ready to run!



GUI Installation

- Requires patience and precise instruction-following at the moment
 - Looking for ideas on how to package this
- Host a local website you can access from your browser (full instructions in User Guide)
- Intuitive, interactive graphic interface with lots of instantaneous validation

DER-VET Beta Feedback

- “As a beta tester, you agree to provide feedback as a condition of obtaining the preproduction software”
- We will send feedback form (<https://www.surveymonkey.com/r/XV6XKZB>) to your email



DER-VET Beta Version 0.1.1
Electric Power Research Institute (EPRI)
3420 Hillview Ave.
Palo Alto, CA 94304

Copyright © 2020 Electric Power Research Institute, Inc. All rights reserved.

As a user of this EPRI preproduction software, you accept and acknowledge that:

- This software is a beta version which may have problems that could potentially harm your system
- EPRI will evaluate all tester suggestions and recommendations, but does not guarantee they will be incorporated into the final production product
- As a beta tester, you agree to provide feedback as a condition of obtaining the preproduction software

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution
- Neither the name of EPRI nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission

DER-VET Beta Feedback

- No more file uploads of the type we need allowed by SurveyMonkey
- Instead, there is a 'do you require follow up' option in the feedback form.
 - Follow up can happen during office hours (see next slide) or ESIC Task Force meetings

DER-VET Beta Support

- Office Hours
 - Three 2-hr Webex meetings to ask questions and try to resolve issues
 - Miles, Halley, and Andrew will be available for support
 - Thursday April 9 11:00 - 13:00 Pacific Time
 - Thursday April 16 11:00 - 13:00 Pacific Time and
 - Thursday April 23 11:00 - 13:00 Pacific Time
- Regularly-scheduled ESIC StorageVET Task Force meetings for high-level discussion (not individual troubleshooting)

DER-VET Beta Documentation

- Primarily User Guide available for download on der-vet.com
- Will be making installation and usage instructional videos
- Goal: Wiki website with in-GUI clickable links

DER-VET Resources

- [DER-VET User Guide](#)
- [DER-VET User Feedback Form](#)

DER-VET Beta Reference Cases

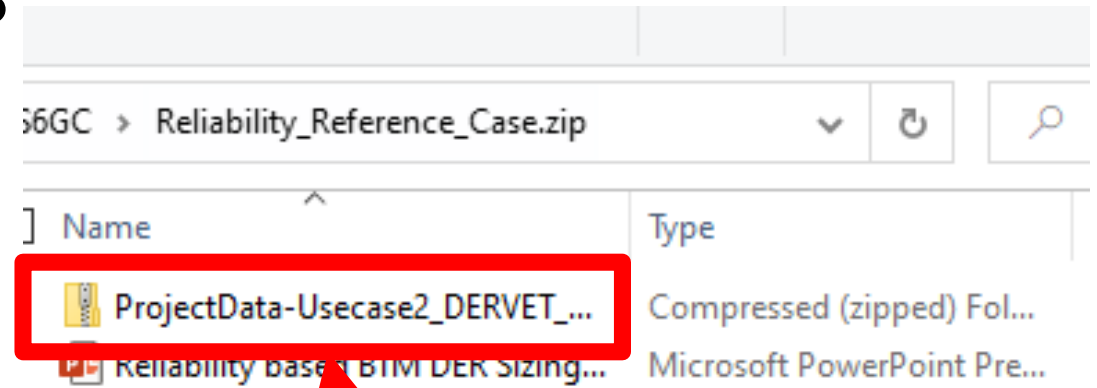
- Available for download on der-vet.com
- Based on validation cases
- List will grow as we continue to build new cases

Reference Cases

- [Bill Reduction Reference Case](#)
- [Reliability Reference Case](#)

DER-VET Beta Reference Cases

- Download zipped folder
- Inside are
 - A DER-VET case you can import directly to the GUI
 - A powerpoint describing the case



DER-VET Beta Test

Start a New Analysis

Import Existing Project

Getting started

To start an analysis, click the **Start a New Analysis** button above. You will then be prompted to specify the type of analysis to run and to enter all relevant input data. Once you've entered all the needed data, the DER-VET analysis will begin. This can take several minutes to complete.

Import an existing project

You can load a previously exported project by clicking the **Import Existing Project** button above. You will then be prompted to select the ZIP file that contains the project data and accompanying time series data.

StorageVET 2.1 Release

Storage VET 2.1 Release

- Will announce date when we can get confirmation
- In the next month or so

Next Meeting

Regularly-Scheduled Meetings

- **Next Meeting – Thursday May 7, 11:00 am Pacific Time**
 - **DER-VET Beta**

Together...Shaping the Future of Electricity