

NEWS & UPDATES

Newsletter for the GRID DATA Repository
and BetterGrids Foundation, Inc.



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2023 Fundraising Campaign a Success!

Our goal is to raise funds each year to keep BetterGrids a self-funded non-profit. Any donations that were given in 2023 will go towards paying the hosting costs for the BetterGrids Website and Repository, and paying for the curation of models. Donors help by continuing to fund BetterGrids.

We are immensely grateful to have received \$10,000 from the Hoveida Family Foundation, \$5,000 from the Vojdani Trust, \$1,000 from DataCapable in 2023, and \$10,000 from the Vojdani Trust in 2024.

Thanks for considering the BetterGrids Foundation in your 2024 donation plan. If you would like to donate at any time, please email ali.vojdani@bettergrids.org, and he will assist with the process.

Thank you to the Hoveida Family Foundation – TWO years in a row!

The Hoveida Family Foundation continues to support the BetterGrids Foundation through a combined \$20,000 donation over the last two years. The generosity shown by the Foundation is truly admirable and greatly appreciated by the BetterGrids Foundation. Combining the funds with others donated this year will allow us to continue our goal of expanding and growing the BetterGrids Repository.



HOVEIDA FAMILY FOUNDATION

Thank you to Bahman Hoveida and his Family Foundation for the continued support and generosity!

Unique Models from 2023	Source
<p>Super-Resolution for Renewable Energy Resource Data with Climate Change Impacts (Sup3rCC)</p> <p><i>A collection of 4km hourly wind, solar, temperature, humidity, and pressure fields for the contiguous United States under climate change scenarios</i></p>	NREL
<p>NIST PV Generation Data 1 minute</p> <p><i>NIST Engineering Lab's Net-Zero Energy Residential Test Facility data captures diverse measurements from a high precision lab home that produces as much energy over the course of a year as it uses. It is an extraordinary facility that has sensors and instrumentation on nearly every facet, from energy consumption to comfort. There are nearly 400 channels of data across 11 subsystems recorded on a minute basis.</i></p>	NIST
<p>PR100: Puerto Rico Grid Resilience and Transition to 100% Renewable Energy</p> <p><i>PR100 from NREL is a comprehensive analysis of stakeholder-driven pathways for Puerto Rico to achieve its goal of 100% renewable energy by 2050. The data includes boundaries, habitats, hazards, infrastructure, and topography throughout Puerto Rico.</i></p>	NREL
<p>Distributed Generation Market Demand (dGen) model</p> <p><i>The Distributed Generation Market Demand (dGenTM) model simulates customer adoption of distributed energy resources for residential, commercial, and industrial entities in the United States or other countries through 2050.</i></p>	NREL
<p>2023 National Offshore Wind data set (NOW-23)</p> <p><i>The latest wind resource data set for offshore regions in the United States, which supersedes the Wind Integration National Dataset (WIND) Toolkit's offshore component, one of the primary resources for stakeholders conducting wind resource assessments in the continental United States.</i></p>	NOW
<p>NIST PV Generation Data 1 minute</p> <p><i>NIST Engineering Lab's Net-Zero Energy Residential Test Facility data captures diverse measurements from a high precision lab home that produces as much energy over the course of a year as it uses. It is an extraordinary facility that has sensors and instrumentation on nearly every facet, from energy consumption to comfort. There are nearly 400 channels of data across 11 subsystems recorded on a minute basis.</i></p>	NIST

New Spotlight Feature!

The BetterGrids Foundation would like to spotlight the innovations and support of the BetterGrids Foundation going forth in each newsletter. These areas could include Volunteer, User and Partner Spotlights. We look forward to sharing these unique contributions with the BetterGrids Community. Let us know if you are interested in being featured. Thank you for your interest and contributions to BetterGrids!

Volunteer Spotlight (Featuring 2 this month!)



Meredith Kula has over 25 years of experience in business solutions, while specializing in utilities for the last 15 years. Her in-depth business, functional and technical experience, and knowledge of software engineering best practices and technologies are used at utilities worldwide. Meredith is a Senior Consultant at Qualus (formerly GridBright) where her expertise and wealth of experience make her an asset to the company.

For many years, Meredith has been the owner of the infrastructure for the repository and has been instrumental in the day-to-day operations of the repository. She also monitors all the repository activity for important changes and trends. She responds to user requests and needs on an as needed basis.



Nickolay Makarov has over 30 years of extensive experience in design, development, implementation and management of complex software solutions in energy, including innovations in demand response, distributed energy resources, renewables, and power grid optimization. He has a strong knowledge of various programming languages and software

systems. His scientific and software solutions are used in more than twenty countries. Nickolay is a Principal Software Architect at Qualus (formerly GridBright), where his innovative AI and Machine Learning solutions continue to benefit the R&D team.

Nickolay was the lead developer of the code for the BetterGrids Repository. His expertise in software development and his investment of time into its support and maintenance have been an asset to its continued growth.

Thank you, Meredith and Nickolay, for your talents, efforts, and dedication for the betterment of the Repository!

2023 Performance Goals: End-of-Year Update

BetterGrids Foundation 2023 Performance Improvement Goals (PIGs)											
Area	Metrics								2023		
		Baseline (2016)	2017	2018	2019	2020	2021	2022	Threshold	Goal	As of Dec. 31, 2023
Repository	Number of registered accounts	0	120	299	386	496	659	812	850	900	1042
	Number of items in the repository	0	291	413	454	469	499	593	600	700	648
	Number of downloads per year	0	3900	143565	1464	1606	2352	2829	2900	3000	2191
Marketing	Number of committee members (i.e., "Community Volunteers")	0	55	>56	60+	66	67	71	71	72	72
Self-Funding	Annual revenue from value-added services (\$)	0	0	0	0	5000	5000	0	0	0	0
	Annual revenue from fundraising (\$)	0	10000	10000	10000	5000	5000	15000	10000	15000	\$16,000
	Annual expenses (\$)	0	4268.35	585	298	2933	8538	16525	30000	25000	\$10,500
Strategic	% Strategic PIGs completed	NA	81	60	90	95	90	97	80	90	96.5
	Not measured yet	Baseline							Below Threshold	Above Threshold	Goal Met

We are committed to growth of the Repository and intend to increase our community engagements in 2024 to ensure increased awareness of this valuable community resource.

Interested in a Part-Time Contract Position with BetterGrids?

BetterGrids is looking for a WebMaster Contractor ([Seeking BetterGrids WebMaster Contractor | BetterGrids.org](#)) and a Community Engagement Contractor ([Seeking BetterGrids Community Engagement Contractor | BetterGrids.org](#)). Do you know of anyone interested in either of these remote, part-time positions? Please look at <https://BetterGrids.Org> for more information. Applicants can apply directly to ali.vojdani@bettergrids.org. Thanks for your help in finding the perfect person to support our BetterGrids Foundation's initiatives.

2023 Goals are a Success!

We have had great success in working towards the completion of our goals. Here's our update:

#	Performance on 2023 Strategic Goals
1	Continue the BetterGrids Webinar Series and deliver four (4) educational webinars Status: 3 Completed
2	Conduct a formal Fundraising Campaign (\$16,000!) Status: Received \$10,000 from the Hoveida Family Foundation, \$5,000 Vojdani Trust, and \$1,000 from DataCapable – THANK YOU!
3	Perform 6 new Outreach Events Status: 7 complete!
4	Increase the number of BetterGrids Partners to 8 Status: Seven Partners, including DataCapable, GridBright, the Hoveida Family Foundation, Opus One/GE, the Vojdani Trust, Qualus, and Rimation.

BetterGrids Usage Statistics

We continue to grow as can be seen on the chart below.

Metric	Q4/17	Q2/18	Q4/18	Q2/19	Q4/19	Q2/20	Q4/20	Q4/21	Q2/22	Q4/22	Q2/23	Q4/23
Model Contributors	6	9	16	19	24	25	26	28	29	30	30	30
Registered Accounts	120	207	299	317	378	410	496	648	748	801	936	1042
Model Collections	13	13	13	13	14	14	14	14	15	15	17	17
Distinct Models	291	314	413	441	448	454	469	504	567	591	603	648
Model Files	817	881	1015	1269	1289	1308	1395	1439	1567	1606	1622	1664
Models Total Sizes (Mb)	615	2988	4741	4787	6130	6670	10701	10703	11603	11858	12830	12830

Industry Outreach – Webinars

We hosted 3 webinars featuring several industry experts. We plan to continue to offer webinars throughout the coming year and will continue to publicize on BetterGrids.org, PowerGlobe, LinkedIn, and other relevant channels. We hope you have found the information both informative and useful.

Eye of the Storm: Outage Data in a Superstorm

Summary: When the power goes out, a utility's outage map is the go-to public-facing resource for storm response efforts. But unfortunately, many utility systems lack the real-time information customers need to keep themselves and community stakeholders in the loop on power restoration efforts. With extreme weather events increasing in severity and frequency worldwide, utilities are more at risk of experiencing outage events today than at any other point in history. Given limited staff and budgets, this often presents a challenge for utilities diligently working to maintain or restore service. Kissimmee Utility Authority (KUA) is a utility frequently in the “Eye of the Storm” (so to speak) and understands the challenge of leveraging real-time data for outage management. This motivated KUA to upgrade its outage map ahead of the 2022 Atlantic Hurricane Season. Strategic forethought positioned KUA to know how valuable an upgraded outage map would be for their team when Hurricane Ian impacted Florida in September of that year. In this WEBINAR, team members from Kissimmee Utility Authority and DataCapable will discuss how they were able to deploy an upgraded outage map ahead of Hurricane Ian swiftly and how that outage map, powered by the DataCapable Platform, helped them respond to the third-costliest weather disaster on record in the United States.

Locked in Gridlock

Summary: Deploying the level of renewable generation required to meet our national and global sustainability objectives is daunting. To successfully add new sustainable generation capacity, project developers must navigate the highly complex grid interconnection process, which includes initiating interconnection requests, conducting studies, negotiating agreements, & overcoming the possibility of project withdrawal at any point. The elephant in the room is this process is widely recognized as a bottleneck to renewable deployment. Leveraging the Berkeley Lab's rich analysis of the current Interconnection situation in “[Queued Up v2](#)”, EE Informer's extensive coverage of transmission bottlenecks, and GridBright's experience with over 100 developer clients, these three panelists who see this elephant from different perspectives will share their insights into the challenges and potential solutions for grid interconnection [un-lock!](#)

GET(S) more! Accelerating the Energy Transition

Summary: An atomic—perhaps even quantum—truth of the energy transition is we need **MORE**. More clean energy, more transmission, more electric ... just more. But more should not be confused with new. Grid Enhancing Technologies (GETS) have the potential to get more out of currently operating transmission infrastructure by one study enabling up to a 2x expansion in renewable integration. FERC 881 is going to accelerate GETS adoption. This WEBINAR will convene a panel of industry leaders in the GETS space focusing on the technology of Dynamic Line Ratings, spanning research, technology innovators, and utilities. Panelists will provide an overview of the technology and its potential, introduce innovative approaches to implementation, and discuss how a major utility is planning for DLR and 881 compliance.

Thank you to our amazing panelists for sharing their incredible knowledge throughout this webinar series in 2023. We appreciate your support!

Thank you to all of you!

We appreciate your continued support and connection with the BetterGrids Foundation. If you'd like to provide a charitable donation to the BetterGrids Foundation, please contact us at Ali.Vojdani@BetterGrids.org. If you have any ideas for Webinars, Forums or continued engagement, please reach out to us at BetterGridsEngagement@BetterGrids.org.

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