Technical Advisory Council (TAC) Meeting

12 March 2024

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Meeting information

- ➔ Meeting to begin at 4:00 pm Central European Time
- ➔ Join the meeting at the link in your calendar in LFX Individual Dashboard
- ➔ Any problems with connectivity, you can contact John Mertic from the Linux Foundation at +1 234-738-4571
- ➔ Previous TAC Meeting notes, deck, and recording, at https://wiki.lfenergy.org/display/HOME/Technical+Advisory+Council#TechnicalAdvisoryCouncil-MeetingMinutes

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Agenda

All Times in Central European Time Zone

- 4:00 pm - 4:20 pm - Opening and General Updates
  - TAC member updates and project review date reminders
  - General updates
  - Project Security Focus updates
- 4:20 pm - 4:40 pm -TAC Evolution Plan
- 4:40 pm - 5:00 pm -Open Renewable Energy System (ORES) Working Group presentation
- 5:00 pm - 5:20 pm - Digital Substation Automation Systems (DSAS) presentation
- 5:20 pm - 5:25 pm - Marketing/PR/Events updates
- 5:25 pm - 5:30 pm - Closing and Next Meeting

Opening and General Updates

4:00 pm - 4:20 pm

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TAC Voting Members

You can update your headshot/title at openprofile.dev.

Antonello Monti

Chair

Professor

RWTH Aachen University

Anne Tilloy

Project manager

RTE (Reseau de Transport dElectricite)

Art Pope

Member of Technical Staff

Google LLC

Boris DOLLEY

Director of OSPO and Sustainable IT Strategy

RTE (Reseau de Transport dElectricite)

Bryce Bartmann

Chief Digital Technology Advisor

Shell International Exploration & Production, Inc.

Jonas van den Bogaard

Open Source Office Lead

Alliander

Maarten Mulder

PO Field Device Platforms

Alliander

Travis Sikes

Senior Data Scientist

Recurve

Yixing Xu

Microsoft Corporation

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LF Energy Hosted Project Leads

Project	Project Lead(s)
PowSyBl	Anne Tilloy, RTE
OperatorFabric	Frederic DIDIER, RTE
OpenEEmeter	Travis Sikes, Recurve
GXF	Maarten Mulder, Alliander
SOGNO	Antonello Monti, RWTH Aachen University
CoMPAS	Aliou Diaite, RTE & Sander Jansen, Alliander (TAC Representative)
FledgePOWER	Akli Rahmoun, RTE
Hyphae	Asimenia Korompili, RWTH Aachen University
openLEADR	Stan Janssen, OpenADR
SEAPATH	Éloi Bail, Savoir-faire Linux
Grid Capacity Map	Harald Klomp, Vattenfall
Shapeshifter	Robben Riksen, Alliander
OpenSTEF	Frank Kreuwel, Alliander

Project	Project Lead(s)
EVerest	Marco Möller, PIONIX
OpenGEH	Nicolas Bernhardi, Energet
FlexMeasures	Nicolas Höning, Seita Energy Flexibility B.V.
Arras	David Chassin, SLAC
Dynawo	Marco Chiaramello, Benoît Jeanson, RTE
OpenFIDO	David Chassin, SLAC
Power Grid Model	Tony Xiang, Alliander
Real Time Data Ingestion Platform (RTDIP)	Bryce Bartmann, Shell
TROLIE	Christopher Atkins, MISO Energy
Battery Data Alliance	Gabe Hege, AMPLabs
GRIP (Grid Resilience and Intelligence Platform)	Alyona Teybar, MASc

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Project & Working Group Leads

Project	Project Lead(s)
Open Sustainable Technology	Tobias Augspurger, Protontypes
CitrineOS	Thana Paris, S44
covXtreme	Sachin Bhakar, Shell
Synthetic Energy Data	Gus Chadney, Centre for Net Zero
OpenSCD	Sander Jansen, Alliander

Working Group	Work Group Lead(s)
AI Working Group	Alexandre Pariost, The Linux Foundation
Archimate Working Group	Jonas van den Bogaard, Alliander

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Project Review Cycle

2024 Reviews				
Project	**Current Level**	**Initially Accepted**	**Last Review Date**	**Next Review Date**
SOGNO	**Early Adoption**	**October 27, 2020**	**March 21, 2023**	**April 2, 2024**
FledgePOWER	Incubation	February 11, 2021	March 21, 2023	April 23, 2024
Shapeshifter	Incubation	April 6, 2021	April 11, 2023	April 23, 2024
CoMPAS	Incubation	May 5, 2020	July 13, 2022	June 25, 2024
OperatorFabric	Early Adoption	April 30, 2019	July 25, 2023	July 16, 2024
Arras	Sandbox	July 12, 2022	July 25, 2023	July 16, 2024
TROLIE	Incubation	September 5, 2023		September 3, 2024
Battery Data Alliance	Incubation	September 5, 2023		September 3, 2024
GXF	Early Adoption	February 4, 2020	September 26, 2023	September 24, 2024

2024 Reviews				
Project	**Current Level**	**Initially Accepted**	**Last Review Date**	**Next Review Date**
Open Sustainable Technology	Sandbox	October 17, 2023		October 4, 2024
Grid Capacity Map	Incubation	April 27, 2021	October 17, 2023	October 4, 2024
OpenEEmeter	Incubation	June 4, 2019	October 17, 2023	October 4, 2024
OpenSTEF	Incubation	September 21, 2021	October 25, 2022	November 5, 2024
FlexMeasures	Incubation	November 2, 2021	November 28, 2023	November 19, 2024
PowSyBl	Early Adoption	April 30, 2019	November 28, 2023	November 9, 2024
CitrineOS	Sandbox	November 28, 2023		November 19, 2024
SEAPATH	Early Adoption	October 6, 2020	December 19, 2023	December 10, 2024
covXtreme	Sandbox	December 19, 2023		December 10, 2024
OpenLEADR	Incubation	September 15, 2020	December 6, 2022	TBD
OpenGEH	Sandbox	October 12, 2021	October 4, 2022	TBD

Project Review Cycle

Working Groups				
Group	**Current Level**	**Initially Accepted**	**Last Review Date**	**Next Review Date**
Archimate Working Group	Active	October 4, 2022	November 28, 2023	October 29, 2024
AI Working Group	Working Group	January 25, 2022		TBD

Past Reviews				
Project	**Current Level**	**Initially Accepted**	**Last Review Date**	**Next Review Date**
EVerest	Early Adoption	October 12, 2021	January 9, 2024	January 7, 2025
Synthetic Energy Data	Sandbox	January 9, 2024		January 7, 2025
RTDIP	Sandbox	October 25, 2022	January 9, 2024	January 28, 2025
OpenSCD	Sandbox	January 25, 2024		January 28, 2025
Dynawo	Sandbox	December 6, 2022	January 30, 2024	January 21, 2025
OpenFIDO	Sandbox	January 17, 2023	January 30, 2024	January 21, 2025
Hyphae	Incubation	December 8, 2020	February 20, 2024	February 11, 2025
Power Grid Model	Sandbox	February 7, 2023	February 20, 2024	February 11, 2025

TAC Sponsors for Projects

As part of the benefit for LF Energy projects, the TAC has a sponsor for each project.

"Appointment of an existing TAC member by the TAC that will act as a sponsor of the project and provide recommendations regarding governance best practices."

ACTION: Review assignments, let John or Yarille know if there are issues

Project	Current Level	TAC Sponsor
Archimate Working Group	Working Group	Maarten Mulder
Arras	Sandbox	Antonello Monti
Battery Data Alliance	Sandbox	
CitrineOS	Sandbox	
CoMPAS	Incubation	Bryce Bartmann
Dynawo	Incubation	Art Pope
EVerest	Early Adoption	Bryce Bartmann
FledgePOWER	Incubation	Jonas van den Bogaard
FlexMeasures	Incubation	Maarten Mulder
Grid Capacity Map	Incubation	Boris Dolley
GRIP (Grid Resilience and Intelligence Platform)	Sandbox	
GXF	Early Adoption	Jonas van den Bogaard
Hyphae	Incubation	Antonello Monti

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TAC Sponsors for Projects

Project	Current Level	TAC Sponsor
OpenEEmeter	Incubation	Travis Sikes
OpenFIDO	Sandbox	Avi Allison
OpenGEH	Sandbox	Avi Allison
OpenLEADR	Incubation	Anne Tilloy
OpenSCD	Sandbox	
OpenSTEF	Incubation	Jonas van den Bogaard
Open Sustainable Technology	Sandbox	
OperatorFabric	Early Adoption	Boris Dolley
PowSyBl	Early Adoption	Anne Tilloy
Power Grid Model	Sandbox	Jonas van den Bogaard
Real Time Data Ingestion Platform (RTDIP)	Sandbox	Art Pope
SEAPATH	Early Adoption	Boris Dolley
Shapeshifter	Incubation	Jonas van den Bogaard
SOGNO	Early Adoption	Antonello Monti
Synthetic Energy Data	Sandbox	
TROLIE	Sandbox	Boris Dolley

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General Updates

- Yarille will be reaching out to project/working group leads to update slide in HL overview deck. (https://github.com/lf-energy/tac/issues/91)
- We'd like to schedule guest speakers/topics that would be of interest to TAC members and TSC leads.
  - **ACTION: Let us know what would be of interest at https://github.com/lf-energy/tac/issues/31.**
- Plan to move all projects to using LFX PCC Meeting Management by end of Q1; current status at https://github.com/lf-energy/tac/issues/39
  - **ACTION: Projects lead to work with John on transitioning: https://github.com/lf-energy/tac/issues/110**
- Future of Slack; Zulip being trialed by EVerest (https://github.com/lf-energy/tac/issues/48)

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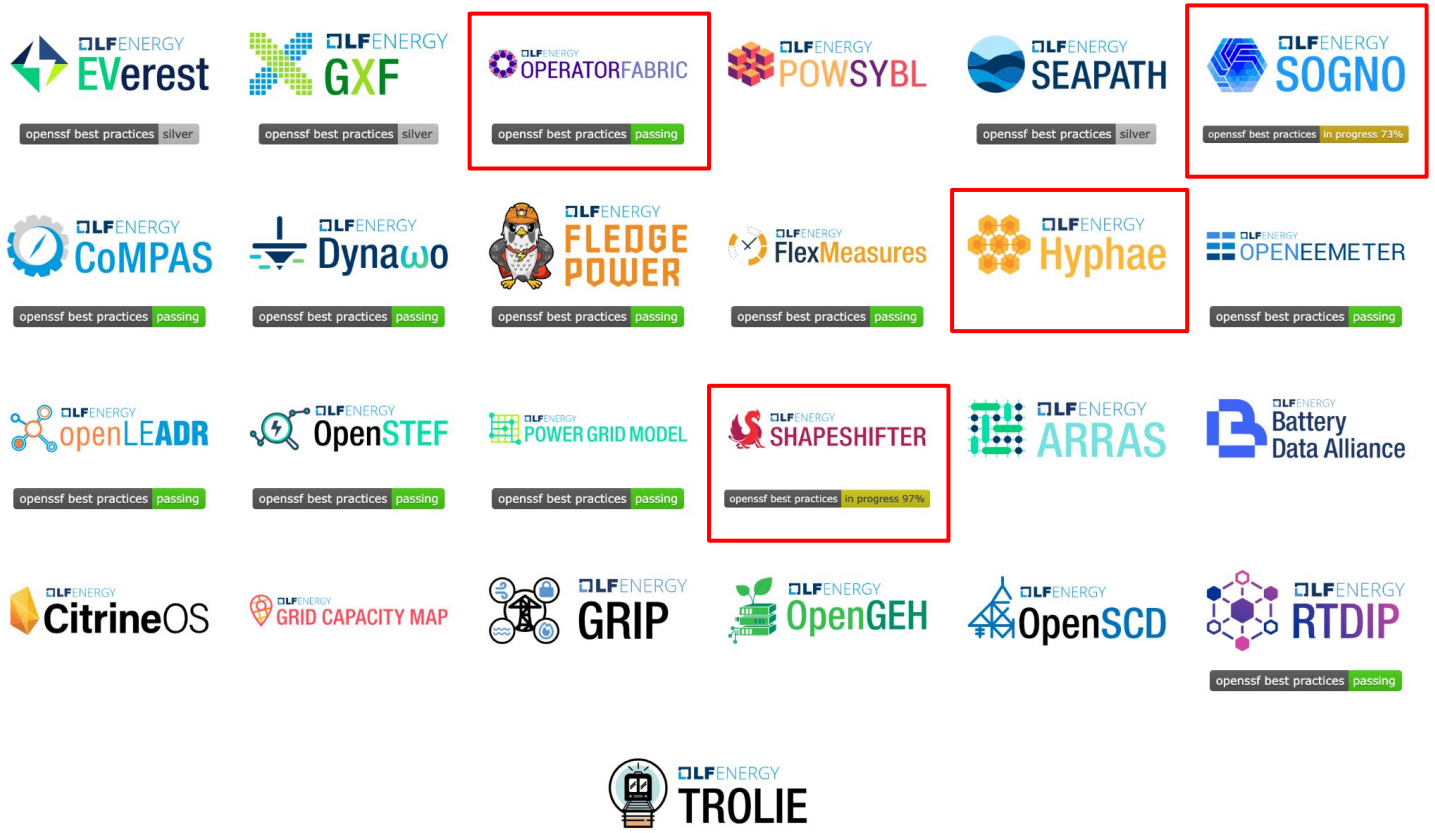
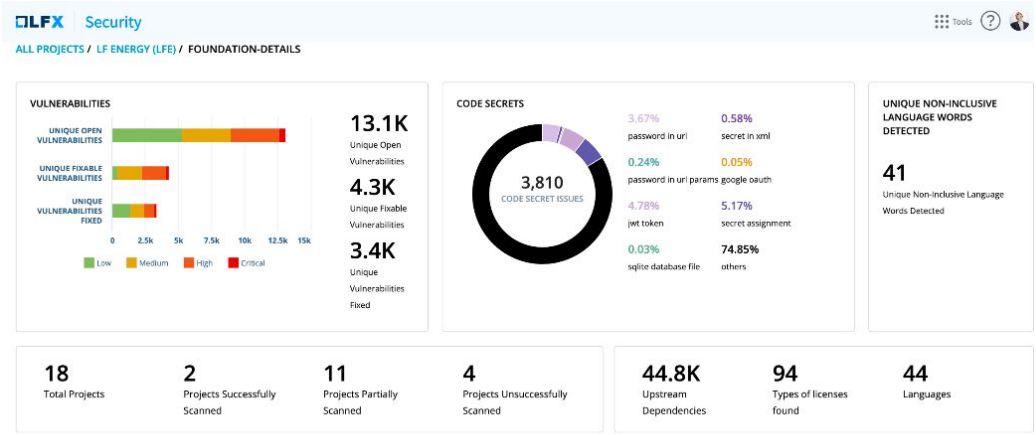
Project Security Focus updates

- Ensure all projects up to date with OpenSSF Best Practices Badge per their maturity level
- Clean up LFX Security to ensure it's accurate
- Review license scans and remedy open issues
- Security Audits for all ‘Early Adoption’ stage projects
- Security strategy developed by TAC (response standards, CVE response)

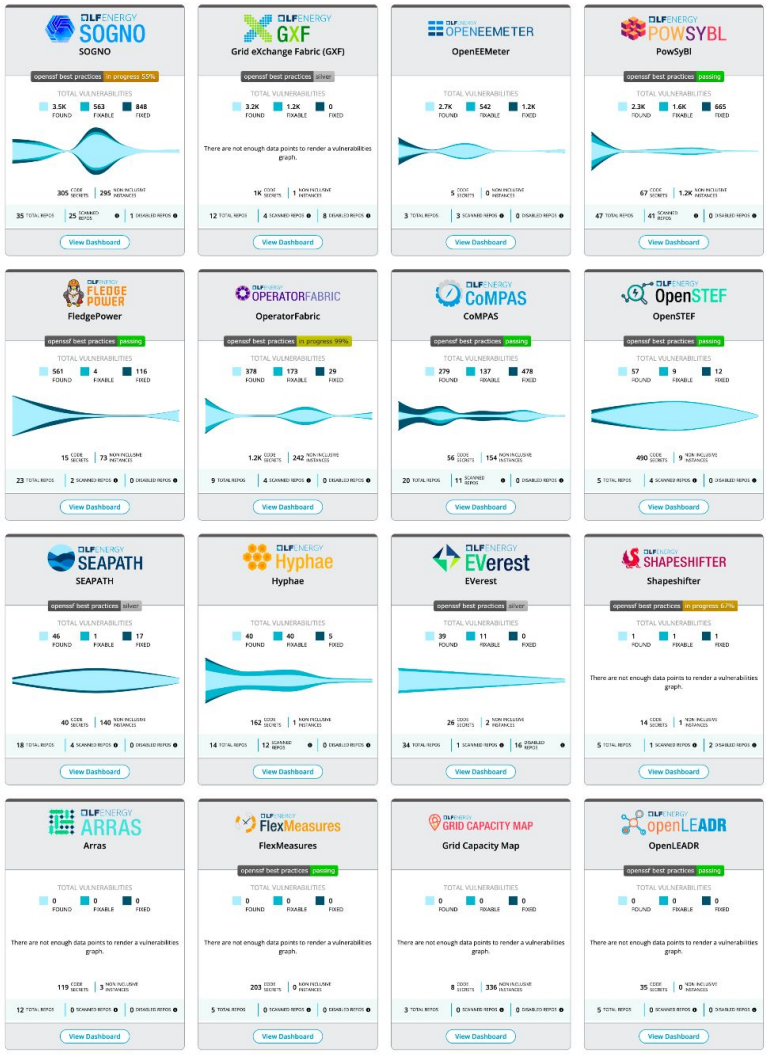


Current OpenSSF Best Practices Badge status (4 projects out of compliance)

ACTION: Projects in red boxes need review (source https://tac.lfenergy.org/projects_with_bestpractices)

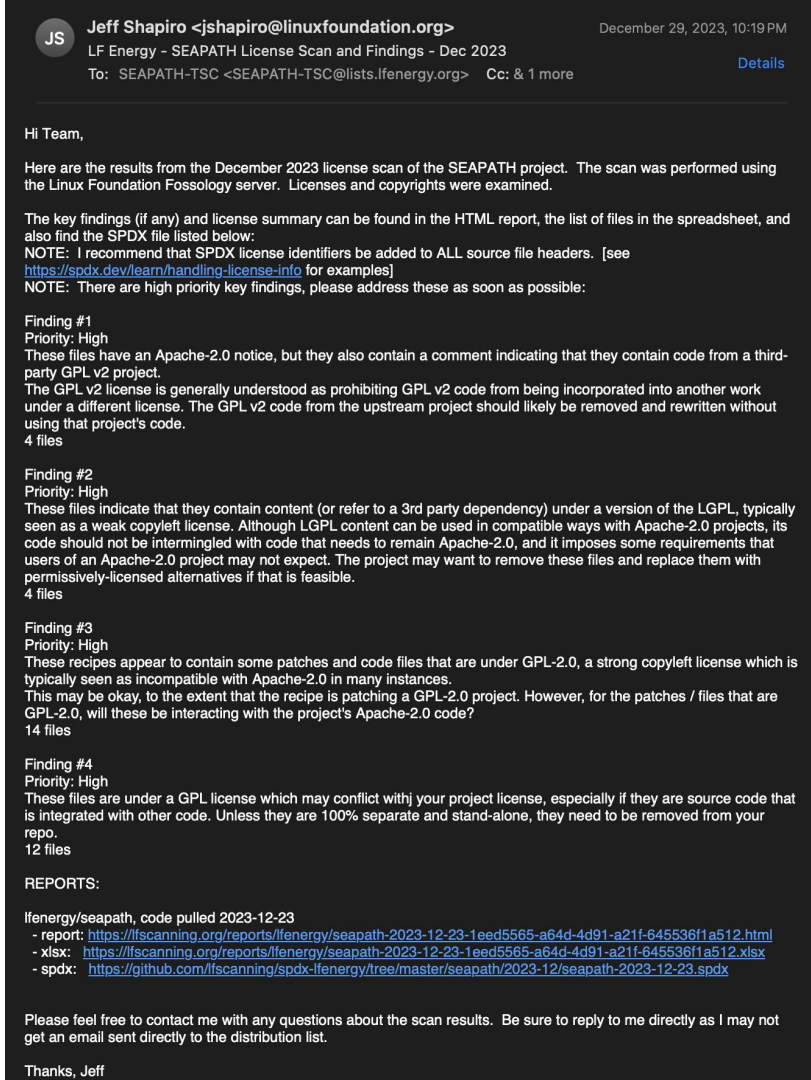


ACTION: John to review and debug issues.



All current projects accepted before 12/1 had license scans done at the end of December

ACTION: Review latest license scans sent from Jeff Shapiro and address open issues



JS **Jeff Shapiro <jshapiro@linuxfoundation.org>** December 29, 2023, 10:19 PM

LF Energy - SEAPATH License Scan and Findings - Dec 2023

To: SEAPATH-TSC <SEAPATH-TSC@lists.lfenergy.org> Cc: & 1 more Details

Hi Team,

Here are the results from the December 2023 license scan of the SEAPATH project. The scan was performed using the Linux Foundation Fossology server. Licenses and copyrights were examined.

The key findings (if any) and license summary can be found in the HTML report, the list of files in the spreadsheet, and also find the SPDX file listed below:
NOTE: I recommend that SPDX license identifiers be added to ALL source file headers. [see https://spdx.dev/learn/handling-license-info for examples]
NOTE: There are high priority key findings, please address these as soon as possible:

Finding #1
Priority: High
These files have an Apache-2.0 notice, but they also contain a comment indicating that they contain code from a third-party GPL v2 project.
The GPL v2 license is generally understood as prohibiting GPL v2 code from being incorporated into another work under a different license. The GPL v2 code from the upstream project should likely be removed and rewritten without using that project's code.
4 files

Finding #2
Priority: High
These files indicate that they contain content (or refer to a 3rd party dependency) under a version of the LGPL, typically seen as a weak copyleft license. Although LGPL content can be used in compatible ways with Apache-2.0 projects, its code should not be intermingled with code that needs to remain Apache-2.0, and it imposes some requirements that users of an Apache-2.0 project may not expect. The project may want to remove these files and replace them with permissively-licensed alternatives if that is feasible.
4 files

Finding #3
Priority: High
These recipes appear to contain some patches and code files that are under GPL-2.0, a strong copyleft license which is typically seen as incompatible with Apache-2.0 in many instances.
This may be okay, to the extent that the recipe is patching a GPL-2.0 project. However, for the patches / files that are GPL-2.0, will these be interacting with the project's Apache-2.0 code?
14 files

Finding #4
Priority: High
These files are under a GPL license which may conflict withj your project license, especially if they are source code that is integrated with other code. Unless they are 100% separate and stand-alone, they need to be removed from your repo.
12 files

REPORTS:

lfenergy/seapath, code pulled 2023-12-23
- report: https://lfscanning.org/reports/lfenergy/seapath-2023-12-23-1eed5565-a64d-4d91-a21f-645536f1a512.html
- xlsx: https://lfscanning.org/reports/lfenergy/seapath-2023-12-23-1eed5565-a64d-4d91-a21f-645536f1a512.xlsx
- spdx: https://github.com/lfscanning/spdx-lfenergy/tree/master/seapath/2023-12/seapath-2023-12-23.spdx

Please feel free to contact me with any questions about the scan results. Be sure to reply to me directly as I may not get an email sent directly to the distribution list.

Thanks, Jeff

Security Audits through Open Source Technology Improvement Fund.

Priority Focus for ‘Early Adoption’ projects

In progress:

- SEAPATH - in progress
- EVerest - kickoff in Q1 2024
- PowSyBL - kickoff late Feb 2024
- OperatorFabric - introed to OSTIF team

TODO:

- GXF
- SOGNO

Next focus is on Incubation projects.

ACTION: Remaining ‘Early Adoption’ projects get lined up for scans; identify any ‘Incubation’ projects next.

The Open Source Technology Improvement Fund is a corporate non-profit dedicated to **securing open source apps** that we all depend on. Securing software isn’t easy, and we know what it takes to succeed. By facilitating security audits and reviews, OSTIF makes it easy for projects to significantly improve security.

Security Strategy

TAC take the lead on developing a common set of security expectations and infrastructure for all hosted projects.

Besides the aforementioned topics, the TAC should provide guidance on:

- Base security policy for projects
- Standards for security response and responsible disclosure (CVE)
- Anything else industry specific to consider

ACTION: TAC to discuss forming a group to focus on building out security strategy

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TAC Evolution Plan

4:20 pm - 4:40 pm

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Successes

- We have brought in nearly 30 projects in into LF Energy, 10 alone in 2023
- Strong project pipeline, with booking out 3 months to have a project present to the TAC.
- Annual Reviews were implemented in 2022, which has given greater insight into project challenges and potential collaboration opportunities.
- We've seen 2 projects move from Incubation to Early Adoption in 2023 (EVerest and SEAPATH)
- Of 15 projects at Incubation stage or later, only 4 non-compliant with OpenSSF Best Practices badge level based on the lifecycle stage
    - Passing for Incubation, Silver for Early Adoption.

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Pain Points

- Running out of TAC Bandwidth for new projects
  - Approaching 30 Projects/Working Groups quickly
  - TAC has meeting space for 52 long agenda items (new project proposal, annual review, special presentations
    - This means the TAC has only 22 agenda spots annually left for new projects and special presentations.
    - At current pace of growth, we will be maxed on our agenda with annual reviews by mid 2025
- Breadth of projects
  - Our TAC members tend to be more specialists in certain areas (Distribution, Smart Meter, EV, etc)
  - This makes it hard for a TAC member not familiar with an area to objectively judge alignment.
- Project silos and lack of a holistic ecosystem with interoperability
  - Only 6 projects at Early Adoption and none at Graduated.
  - No mechanism for formal collaboration and alignment.
- No current strategic vision for projects
  - TAC will say “yes” most often and isn’t sure how to say “no” to a project
  - No analysis of gap areas or cross project issues.
  - Starting to see project competition/overlap, and there isn’t a strategy on how to address.

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The good news is that we aren't the first foundation with this problem.

- 180 projects as of February 2024 (https://www.cncf.io/project-metrics/)
  - 24 new projects in 2023 alone (22 at Sandbox level)
  - 7 projects have move up a maturity level
- Developed out TAGs in various cloud-native topical areas and aligned projects to them
  - Examples include storage, observability, network
  - TAGs are also used for cross-project efforts such as Security and Contributor Experience.

Proposed Changes

Establish SIGs around project clusters

Goals

- Scale TAC operations to a larger number of projects
- Enable deeper collaborations between projects in related spaces
- More easily identify gaps where a new collaboration is needed and/or an existing project should be brought into LF Energy.
- Reduce need of TAC members to be experts in every single aspect of energy
- Improve engagement for technical communities outside their own project.
- Remove TAC Sponsors from individual projects, instead having support at the SIGs

Actions

- Do analysis of current projects and determine 3-4 SIGs to kickoff
- Align TAC member(s) with SIGs
- Identify SIG leader(s) (ideally not TAC member(s))
- Start SIG meetings and hold working session at LF Energy Summit

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Streamline onboarding new sandbox projects, and have TAC approve in a group.

Goals

- Streamline project onboarding, shortening the time for a new project to begin formation.
- Tackle any legal roadblocks before a project comes to the TAC.
- Open up meeting bandwidth for the TAC for strategic discussions and topic.
- Scale staff time investment and focus to be able add value to projects “moving the needle” or of strategic importance.

Actions

- LF Energy Staff to revise project onboarding process.
- Collect sandbox proposals at set cadence for group approval with the TAC
- Revisit lifecycle to consider making sandbox projects not official “LF Energy Projects”, primarily to set correct expectations and incentivize growth to Incubation stage.

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Annual Reviews held at the SIG level

Goals

- Open up meeting bandwidth for the TAC for strategic discussions and topic.
- Feedback from SMEs more closely aligned will give projects better peer guidance.

Actions

- Redo annual review schedule to align with SIG meeting schedule
- Develop process for a SIG to make recommendation to the TAC to consider lifecycle stage change for a project

This leaves the TAC meetings to focus on

- Overall project health and relevance
- Project lifecycle and value proposition for moving from one stage to another
- Projects moving from one lifecycle stage to the next
- Cross project strategic programs (security, infrastructure, architecture, documentation, AI, developer success, etc)
- Future initiatives

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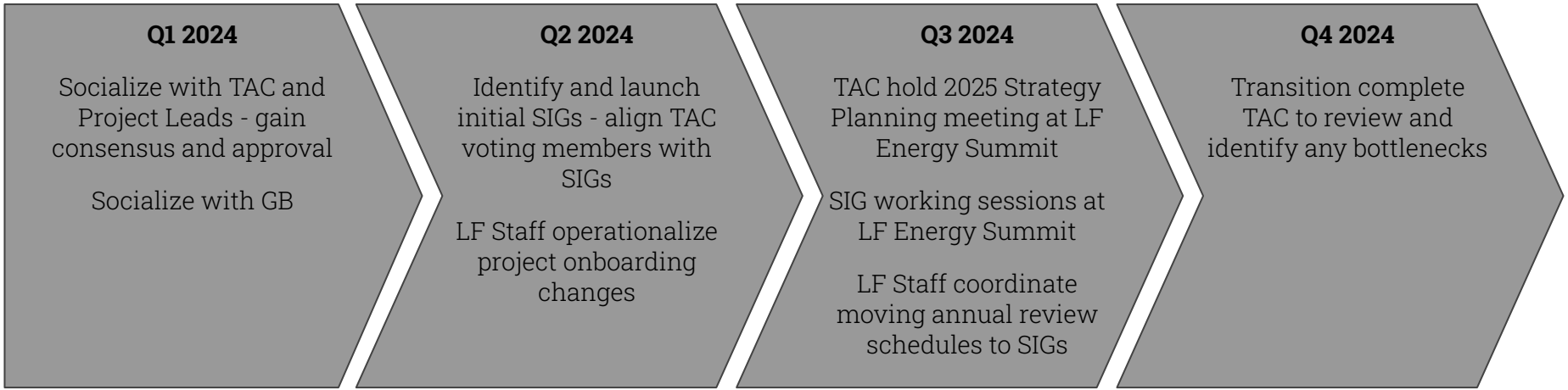
Timeline



Complete transition by Q4

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Open Renewable Energy System (ORES) Working Group

4:40 pm - 5:00 pm

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Empowering the Masses with Open Renewable Energy Systems (ORES)

Energy systems are evolving quickly to cope with the challenges of climate change. Explore the benefits of open renewable energy systems and their core architecture components, gaps and opportunites.

Chris Xie
Head of Open Source Strategy, Futurewei
Chair of Marketing Advisory Committee, LF Energy

Overview of Energy Systems

Centralized Energy Systems

- Use mostly non-renewable resources, 16% renewable
- Far from consumption sites
- High transmission costs and losses
- Reliability & Vulnerability to Disasters
- Pollution & Resource Depletion

Decentralized Energy Systems

- Use renewable resources
- Modular and flexible
- Closer to consumption sites
- Reduced transmission costs and losses

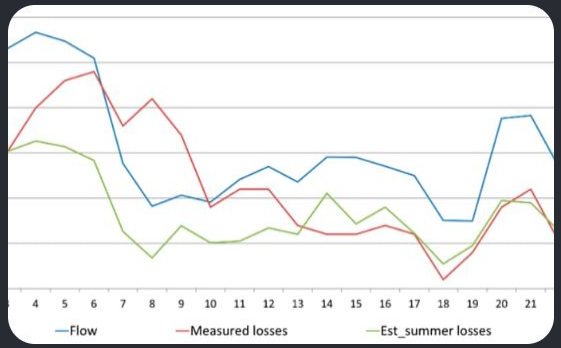
Open Source Distributed Renewable Energy Systems

- Decentralized & modular
- Built and maintained by the community
- Fast iteration, innovation, and accessible

Challenges of Centralized Energy Systems

Pollution

- Rely on non-renewable resources like coal, oil, and gas
- Highly polluting
- Contribute to climate change
- Cause environmental degradation
- Produce toxic waste that is difficult to dispose of



Transmission Costs and Losses

- Located far from where energy is consumed
- Result in high transmission costs and losses
- Require complex and vulnerable grid infrastructure
- Prone to outages and cyber attacks

Lack of Resilience and Flexibility

- Vulnerable to natural disasters, terrorist attacks, and other emergencies
- Less flexible than decentralized systems
- Decentralized systems can adapt to different contexts and needs

Introduction to Open Renewable Energy Systems (ORES)

1 Renewable Resources

- Clean, abundant, and free
- No toxic waste or fuel costs
- Solar, wind, and geothermal resources

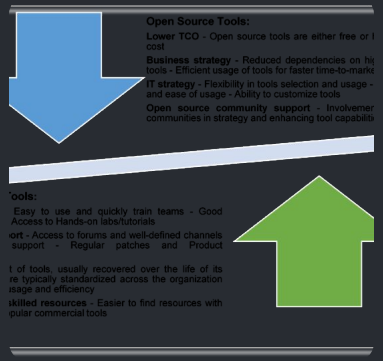
2 Modularity and Flexibility

- Built to fit different contexts and needs
- Combined with other technologies
- Energy storage and demand response

3 Locality and Self-Sufficiency

- Built closer to energy consumption
- Reduces transmission costs and losses
- Communities more self-sufficient and resilient

Benefits of Open Renewable Energy Systems

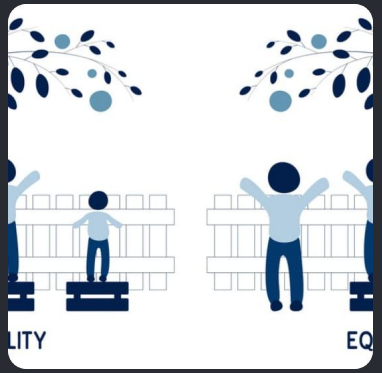


Lower Costs

- Built and maintained by a community
- Reduces costs and risks

Increased Innovation

- Freely modified and improved by a community
- Results in increased innovation



Greater Access and Equity

- Adapted to different needs
- More accessible for marginalized people and regions

Core Architecture Components

Renewable Energy Sources

- Solar
- Wind
- Geothermal

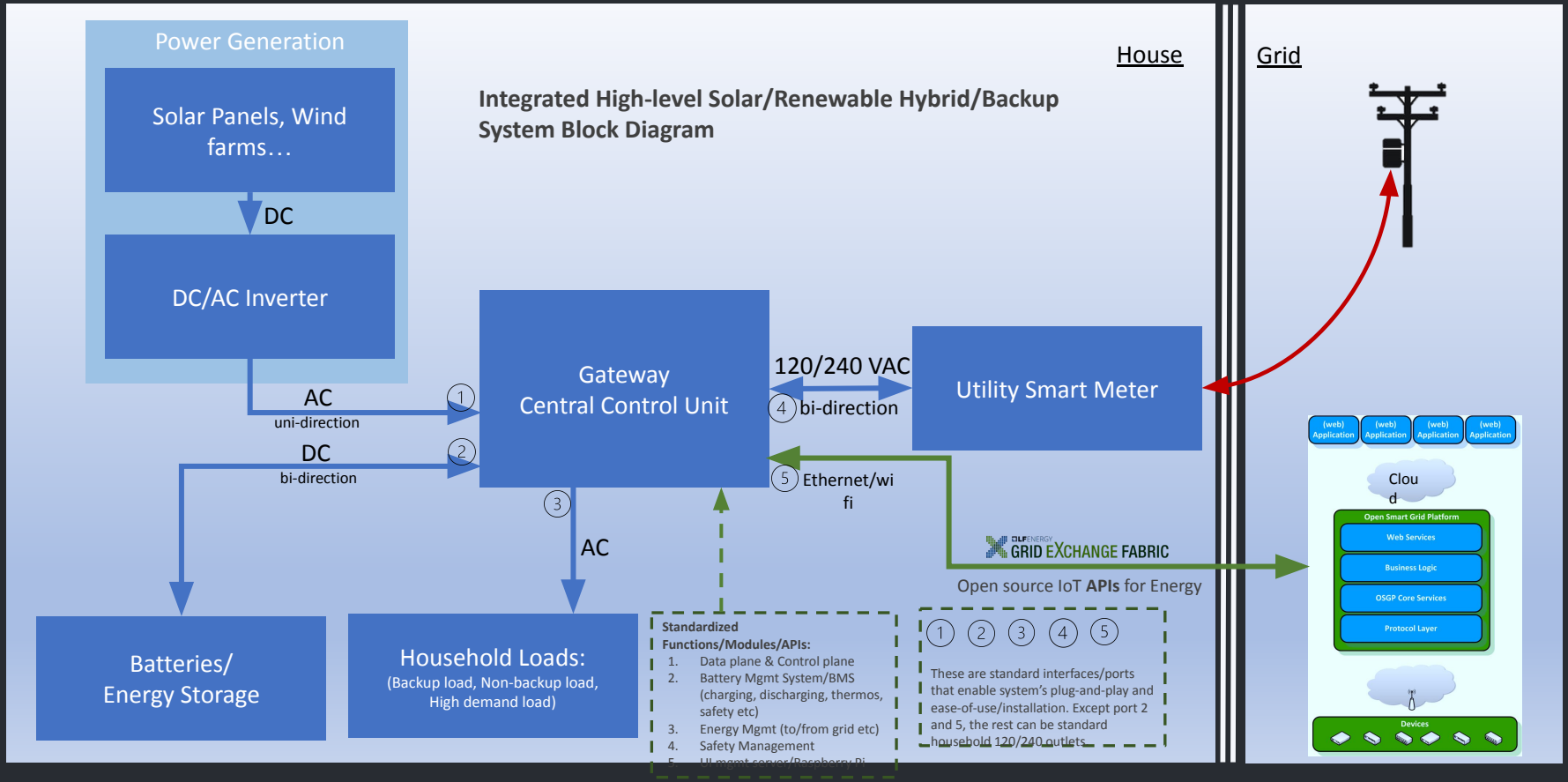
Energy Storage and Management

- Batteries
- Hydrogen
- Thermal storage

Monitoring and Control

- Sensors
- IoT devices
- Software apps

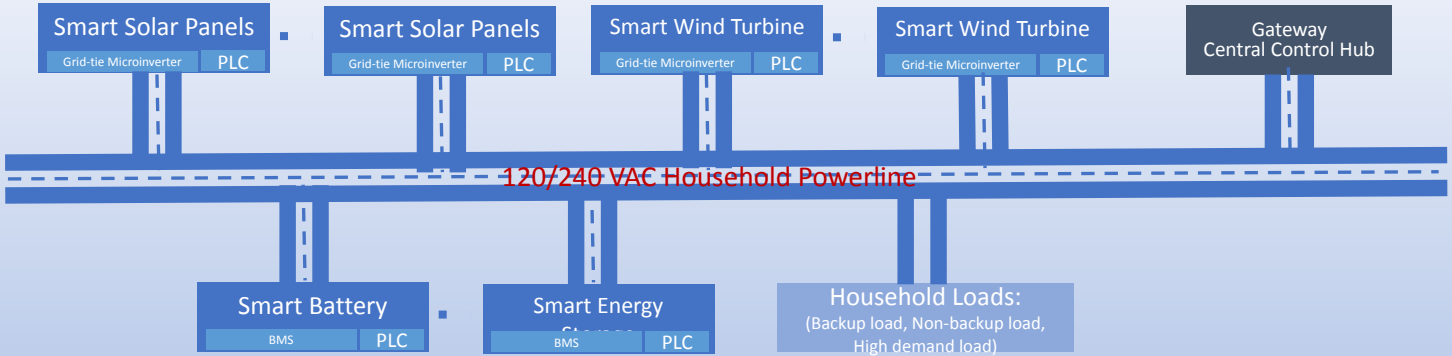
Integrated ORES Block



Disaggregated ORES Architecture and APIs

Disaggregated Smart Household Renewable Hybrid/Backup System Block Diagram

House



System Functional Specifications:

1. PLC: Power Line Communication: allows sending control signals over powerlines, open source hardware/software protocols
2. Standard household power lines
3. Virtual/Control lines/signals running through the power lines
4. Each module can work independently, e.g. the system can have one battery, one hub, or one solar panel, one hub, or simply any one module can be plugged in to work its functions.
5. Linearly scalable: new modules can be added on with plug-and-play, energy storage/battery devices, smart batteries can be added over time, and can be configured to charge during night when rate is low, and discharge during day time when rate is high, etc.

Central Hub Functional Specifications:

1. Grid friendly
2. As an node/agent on a decentralized grid network, cooperate with other Hubs on the Grid or local network, to enable info exchange, energy trading etc
3. System management(mgmt): Monitor and Control
4. Device mgmt
5. Cloud mgmt/interface
6. Mgmt server

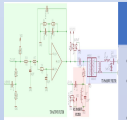
Key Benefits:

- Simplicity, enables plug and play over existing household power lines
- No need to modify electric panel or install power inlet
- Horizontally scalable
- Reduce significant cost of system installation, 50% off

Components on the market

Portable Power Station

- Isolated
- Can't connect to Grid
- Commercial Reference link



Power Line Communication

- Open Source
- As a reference design
- Link

Wind Turbine

- More efficient than solar panel
- US$5k
- Link

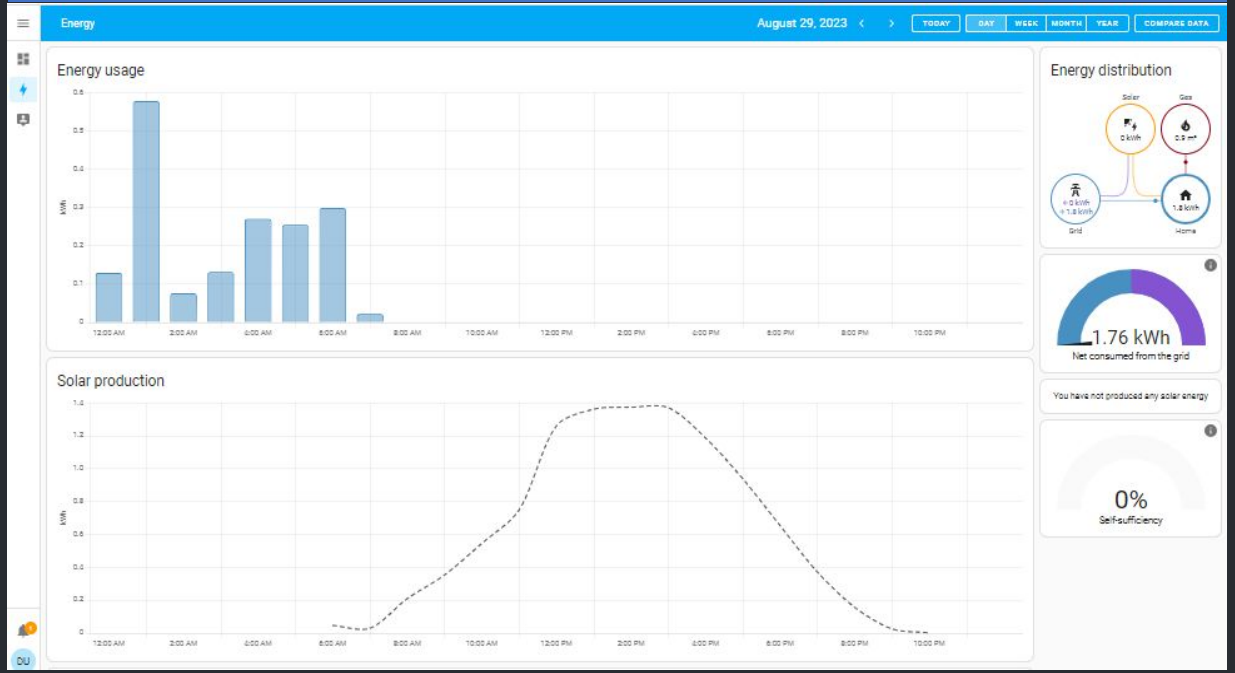
Central Control

- Integrated
- Needs common protocols

ORES: Integrate and Innovate

Integrate when there are available solutions, Innovate when there is a gap.

Open Source Home Energy Management: Home Assistant



Open/DIY Solutions

Commercial Solutions Examples

Solar-ready, do-it-yourself (DIY) offgrid battery, from 4.3 kWh to 27.6 kWh, comes with a pre-wired, single-phase AC inverter, starting at **$6999**, not including solar panels

Gaps

Cost

Available components

Policy & regulations

ORES: Technical Working Group at LF Energy

Open source / DIY kits with ease of installation

Affordability: Panels, Batteries, etc

Seamless Integration with Grid

Disaggregation, Interoperability, Scalability, Efficiency

Empowering Safe and Legal code-compliant installations

- Addressing these technology challenges requires collaboration between researchers, manufacturers, utilities, governments/regulators, and communities.
- Open source initiatives and innovative partnerships can play a significant role in technology innovation and low-cost renewable energy solutions.

ORES: Policy & Regulation Working Group to Address Gaps & Requirements

Equipment

Hardware and software Standardization and Interoperability

One-stop shopping for Streamlined Permitting

Grid Upgrade to adapt to massive DER

Regulations

Improved Net Metering Policies to encourage DERs

Policy and regulations to promote Local Energy Marketplaces

Tax, Liability, Insurance

From Residential to Services:

Empowering Energy Services

Community Solar Farms

The Brooklyn Microgrid is a community-led initiative using blockchain to enable local, peer-to-peer solar energy trading for resilience and sustainability.

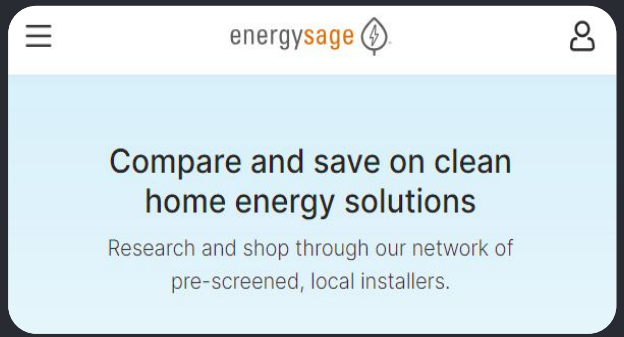
https://www.brooklyn.energy/

https://www.communitysolarplatform.com/

Off-Grid Microgrids

Renewable energy systems that are designed and operated for communities not connected to the centralized grid.

https://www.gogla.org/



Smart Home Energy Management Systems

Renewable energy systems that allow households to monitor, optimize, and control their energy consumption.

https://www.energysage.com/

Build standard specifications from residential to VPP & Energy Marketplaces to enable multiple “Energy Appstores” for the masses

The Future of Renewable Energy

- **Democratization:** create reliable and affordable renewable solutions
- **Infrastructure:** upgrade Grid for massively decentralized systems.
- **Innovation:** open source innovation and fast iteration
- **Policy & Regulation:** update for a future of decentralized energy
- **Resiliency & Security:** Self-sufficiency and self-sustainability

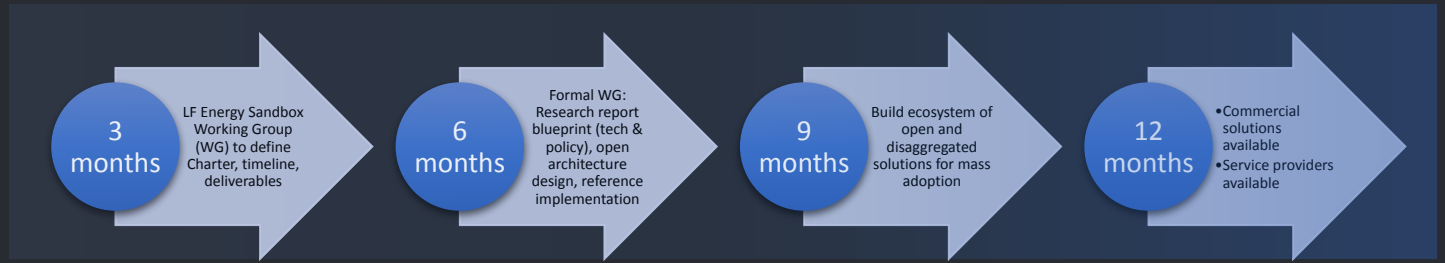
Together, we can create open source solutions that are innovative, sustainable, and accessible. By embracing decentralized energy, we can create a more equitable and resilient energy future for all.

Our Vision: Generating power will be as easy as plug it in!

Scan to connect!

Summary Action Items and Next Steps: Join the Conversation, Seeking Synergetic Partnerships for a Brighter Energy Future, For All

Technology	Policy, Regulations, Standards	Incumbents	BD and Marketing	Personas:
• Define roadmap for technical architecture, standard modules, functions, interfaces, tech requirements • Identify partner ecosystem of vendors and suppliers to build reference implementations, proof of concepts	• Recruit standard setting experts and organizations, regulators and policy makers • Identify the gaps and pathways to promote the distributed energy solutions	• Recruit Utilities to get buy-in • Focus on benefits: ✔ increase efficiency, ✔ new business models and opportunities, ✔ reduced risk and liabilities, ✔ elevate Utilities from dumb pipes to smart service providers.	• Advocate the project vision in various open source conferences and organizations • Recruit members	• Academia/researchers • Manufacturers • Utilities • Governments/regulators • Open source communities



Get Involved!

Join ORES mailing list:
https://lists.lfenergy.org/g/ORES

ORES Charter

Visit ORES Wiki:
https://lfenergy.org/ORES

Digital Substation Automation Systems (DSAS) presentation

5:00 pm - 5:20 pm

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Marketing/PR/Events Updates

5:20 pm - 5:25 pm

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Marketing and PR Updates

- OpenEEMeter webinar scheduled for TODAY
  - Announcement of OpenEEMeter 4.0 issued three weeks ago
  - Help promote by resharing these posts - LinkedIn / Twitter
- Open Sustainability Policy Summit - 2-3 May, Washington, DC
  - Public CFP has closed, but if you have a speaking topic in mind, reach out to Dan
- Open EV Charging Summit (TBA) - 15-16 May, Texas Instruments Campus, Dallas, TX
  - If your org/project has a relevant topic to present, please reach out to Dan
- LF Energy Summit 2024 - 5-6 Sept, Marriott Grand Place Brussels
  - Sponsorship prospectus now available - please consider sponsoring and reach out to Alex with questions or to discuss options
  - CFP to open in early April
- Upcoming CFP deadlines - if your org/project would like help with proposals, please let Dan know
  - Open Source Summit Europe - September 16-18, 2024, Vienna - Submissions due April 30
  - National Clean Energy Week - September 23-27, 2024, Washington, DC - Rolling submission deadline
  - Enlit Europe - October 22-24, 2024, Milan - Rolling submission deadline
  - Climate Tech Show - November 27-28, 2024, London - Rolling submission deadline
- Use this form to submit any comms/marketing support requests

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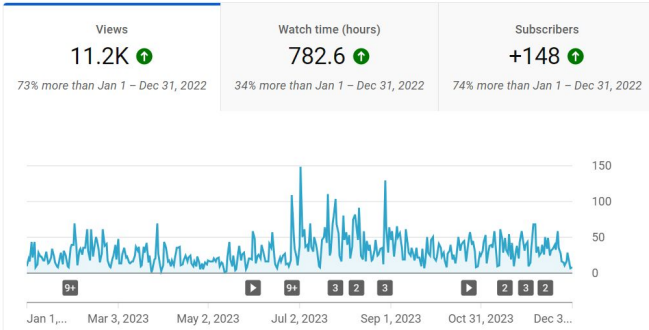
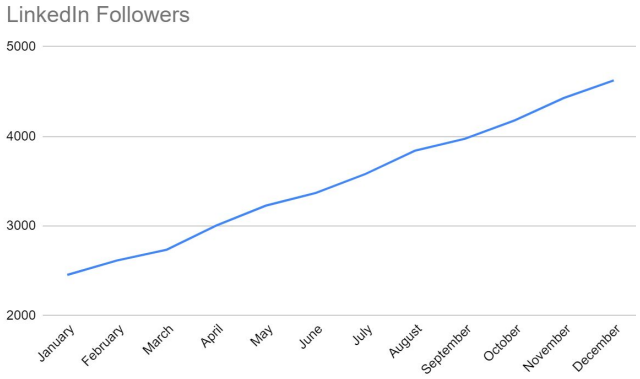
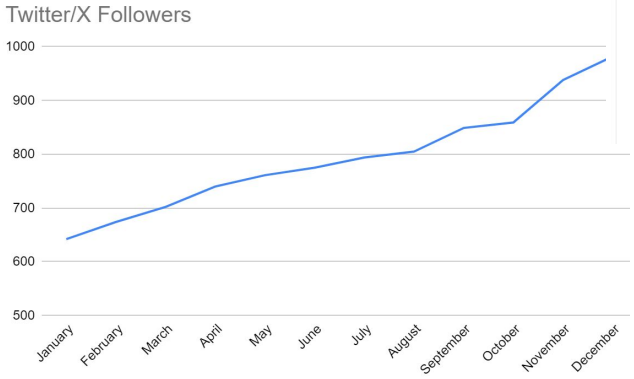
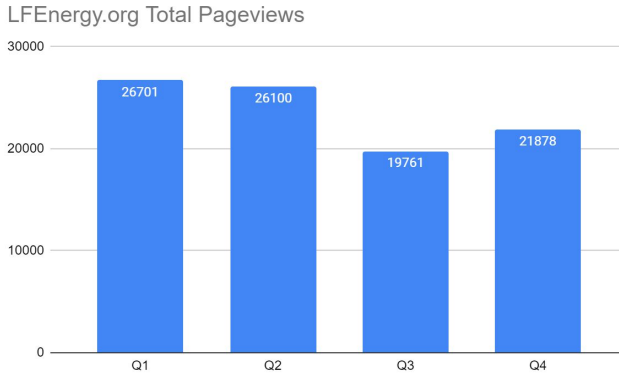
2023 Marketing Summary Stats

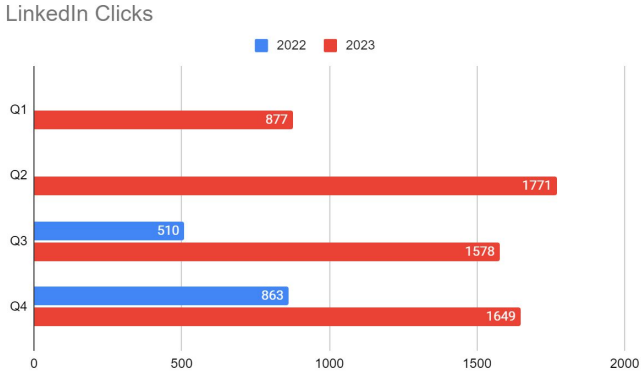
Note: See appendix for detailed reports

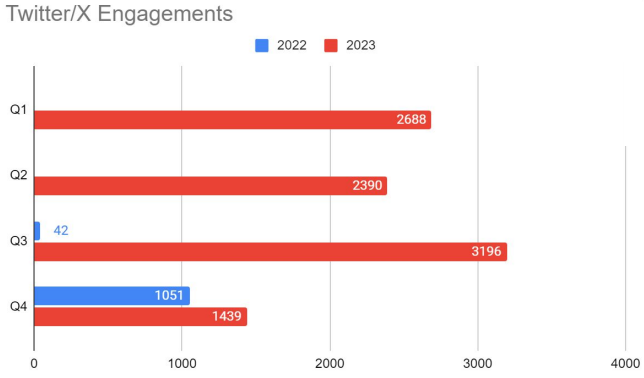






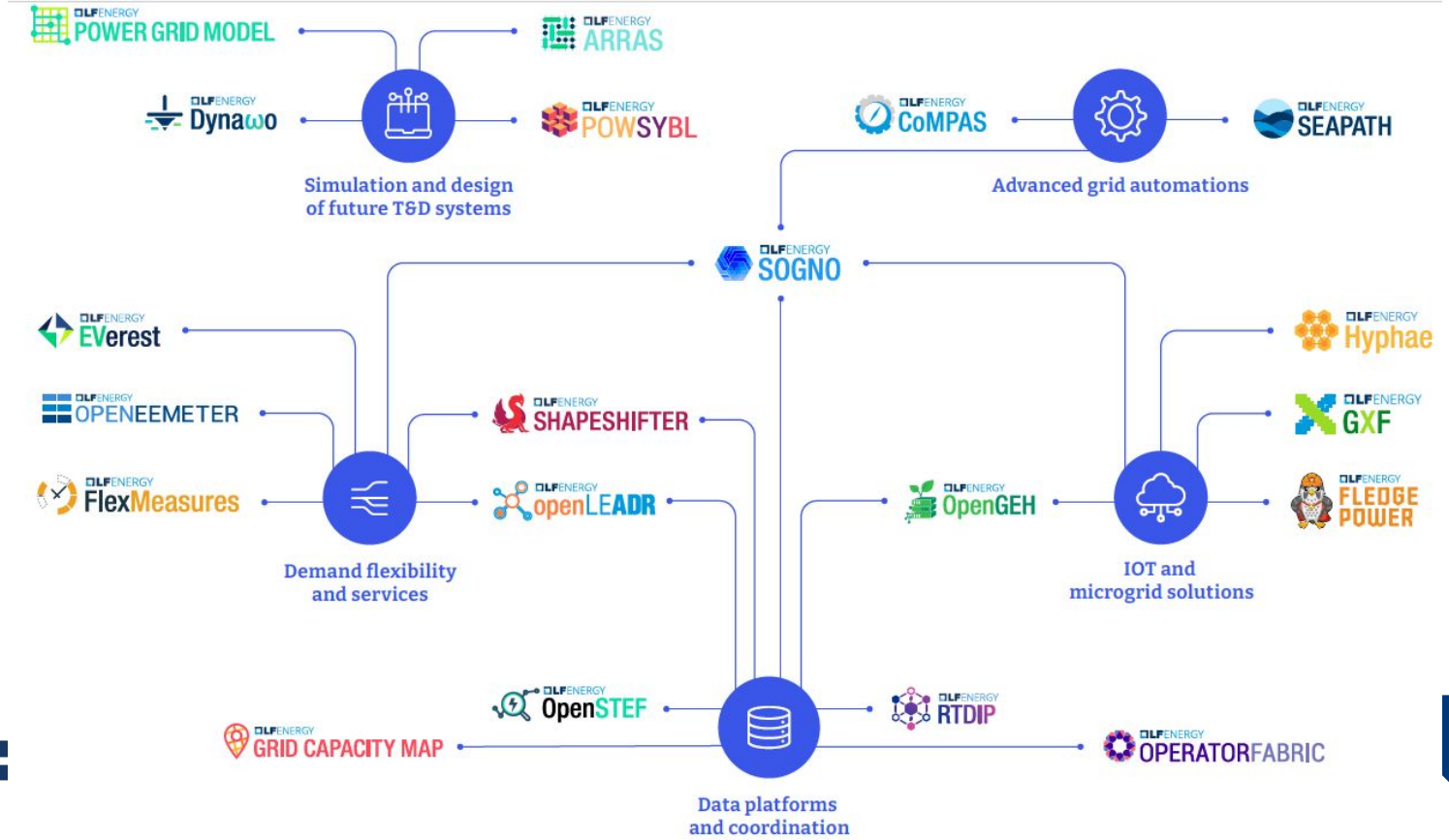






Media Coverage: 104 placements (18 in 2022)

Project Clustering Graphic



Closing and Next Meeting

5:25 pm - 5:30 pm

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Next TAC Meeting

The next meeting of the LF Energy TAC is scheduled for 2 April 2024 at 8:00 am US Pacific Time/11:00 am US Eastern Time/4:00 pm Central European Time. Agenda will include:

- NODE Collective Proposal Presentation
- Sylva Project Proposal Presentation
- SOGNO Annual Review
- General Updates
- Marketing/PR/Events update

To add agenda items, go to https://github.com/lf-energy/tac/issues/new/choose.
You can review the TAC Agenda at https://github.com/orgs/lf-energy/projects/2/views/1

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APPENDIX

Marketing and PR Updates

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Marketing and PR Updates

- Developing Seeed ReCharger case study and webinar with EVerest project (jointly with LF Zephyr project which is also used in the product) - content approved, currently in design process
- Also working with RTE and FledgePower on a case study - release date TBD
- Blog post about SAM use cases published recently
  - Planning a webinar around the project in the coming months
- TROLIE webinar took place 21 Feb - over 150 participants
- OpenSTEF webinar took place 1 March
- New content in development:
  - 2023 LF Energy Annual Report
  - Open Source Impact on Vertical Industries White Paper
  - Interoperability Research Report with Natural Resources Canada & LF Research

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Events

- FOSDEM 2024 - 3-4 Feb, Brussels
  - Videos available of all talks
  - Energy Devroom was filled to or past capacity the entire day - thank you to the Devroom organizers!
- Open Sustainability Policy Summit - 2-3 May, Washington, DC
  - This event will be hosted by Johns Hopkins University at their DC facility
  - LF Energy will be responsible for curating the content
  - Public CFP has closed, but if you have a speaking topic in mind, reach out to Dan
- Open EV Charging Summit (TBA)
  - Texas Instruments Campus, Dallas, TX
  - May 15-16, 2024
- LF Energy Summit 2024 (pending contracts with venue)
  - Marriott Grand Place Brussels
  - September 5-6, 2024
  - All contracts have been signed
  - Sponsorship prospectus now available
  - CFP to open in early March
- DISTRIBUTECH - 26-29 Feb, Orlando
  - 6 LF Energy members will be exhibiting
  - James Sullivan from our member solutions team will be onsite for discussions with potential new members
- Event tracker - please review and add any additional opportunities

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Open Source Summit Europe

- 16-18 September, Vienna
- Unfortunately SustainabilityCon is being removed starting with this event, which makes it more difficult for our projects to submit speaking proposals
- Topic ideas:
  - Benefits of Open Source in Vertical Industries - Jonas from Alliander has volunteered to represent Energy, and we would look to add speakers from telecommunications, financial services, automotive, or other vertically-focused LF project communities (Open Source Leadership Summit track)
  - How Open Source is Transforming Energy Systems - 3-4 LF Energy member representatives sharing real stories of how launching OPSOs and adopting our projects have impacted energy systems (OSPOCon track)
  - Unveiling the CDSC spec - representatives from the CDSC working group discuss the specification which should be released by this time (Standards & Specifications Forum track)
  - Project-specific topics will need to focus on technical development to fit tracks like Open AI & Data Forum, SupplyChainSecurityCon, Embedded Linux Conference, CloudOpen, etc.

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Upcoming Event CFPs

- MOVE London - June 19-20, 2024 - Rolling submission deadline (for this one, we should email cormac.martin@terrapinn.com with speaking proposals)
- Open Source Summit Europe - September 16-18, 2024, Vienna - Submissions due April 30
- National Clean Energy Week - September 23-27, 2024, Washington, DC - Rolling submission deadline
- Enlit Europe - October 22-24, 2024, Milan - Rolling submission deadline
- Climate Tech Show - November 27-28, 2024, London - Rolling submission deadline

Recent Media Coverage

- EnergyCentral - Alliander's Delvi Project Leverages LF Energy Power Grid Model to Direct Overhaul of Low Voltage Grid
- EnergyCentral - Sustaining Progress - January 2024 Digest for the Energy & Sustainability Network
- TFIR - LF Energy, U.S. Joint Office of Energy and Transportation Join Hands To Improve Interoperability Of EV Charging
- ARC Advisory Group - U.S. Joint Office of Energy and Transportation Partners with Linux Foundation Energy to Improve EV Charging Nationally
- Engineering.com - Linux Foundation tapped to develop open source EV charging tech
- AutoBlog - U.S. Joint Office of Energy and Transportation Partners With Linux Foundation Energy to Improve Reliability and Interoperability of EV Charging Nationally
- Electronics Specifier - US gov't adopts open source EV charging framework
- Auto Connected Car News - Free Webinar 1/29 from LF Energy & Dept. Energy & Transportation for Open Souring EV Charging Structure
- IT Brief UK - US Office adopts LF Energy EVerest for nationwide EV charging
- TFIR - More Standardization Is Needed To Tackle Energy Sector Challenges | Maarten Mulder – Alliander
- Power Systems Design - US Gov Office Adopts Open Source EV Charging Framework from Linux Foundation Energy
- Digital Journal - EV decarbonization partnership launches in US
- EV World - U.S. Joint Office of Energy and Transportation Partners With Linux Foundation Energy to Improve Reliability and Interoperability of EV Charging Nationally
- EV Charging & Infrastructure - US government partners with Linux Foundation Energy on EV charging
- The Buildout - Biden Administration Partners With Open Source Community on EV Charging Standards
- SD Times - SD Times Open-Source Project of the Week: ClimateTriage
- Slashdot - Linux Foundation Energy' Partners With US Government on Interoperability of America's EV Charging
- gtucker.io (blog) - FOSDEM Energy 2024
- TFIR - EnAccess works to democratize energy access with open source solutions | Vivien Barnier

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APPENDIX

Marketing and PR - 2023 Detailed Results

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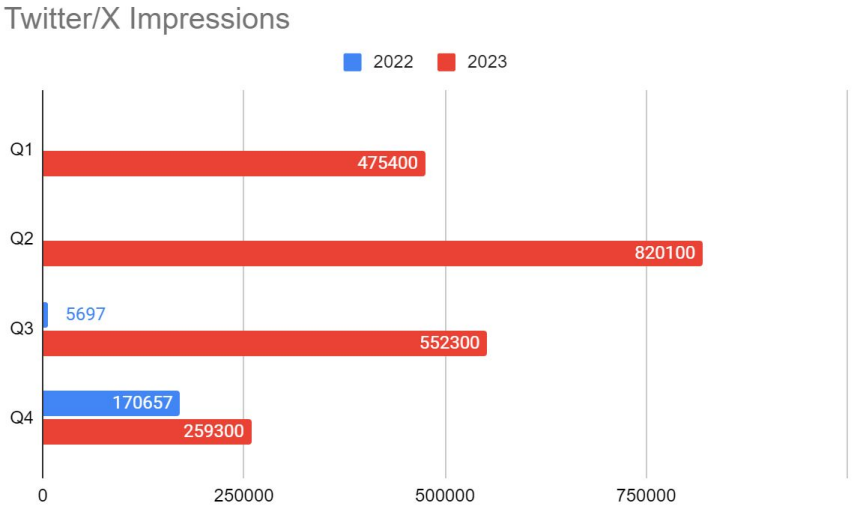
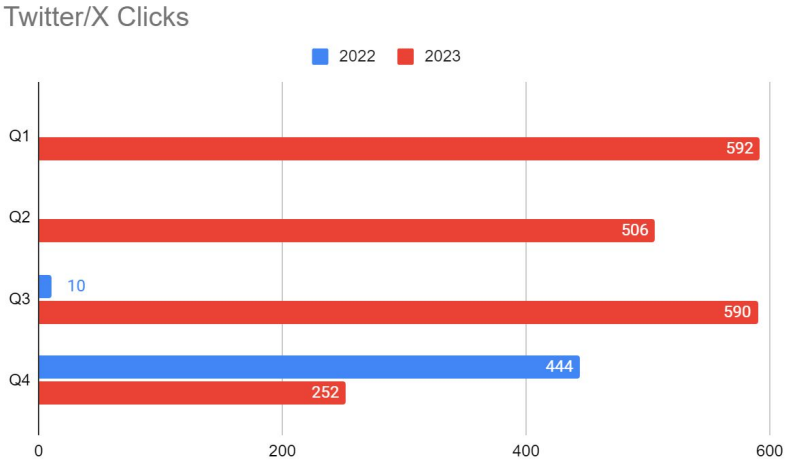
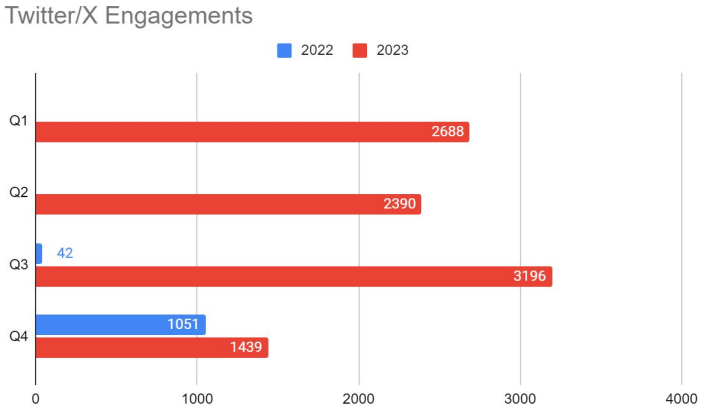
Twitter/X Reporting







Take Twitter/X reporting with a grain of salt, as the company includes a disclaimer on its Analytics tool that data is not accurate

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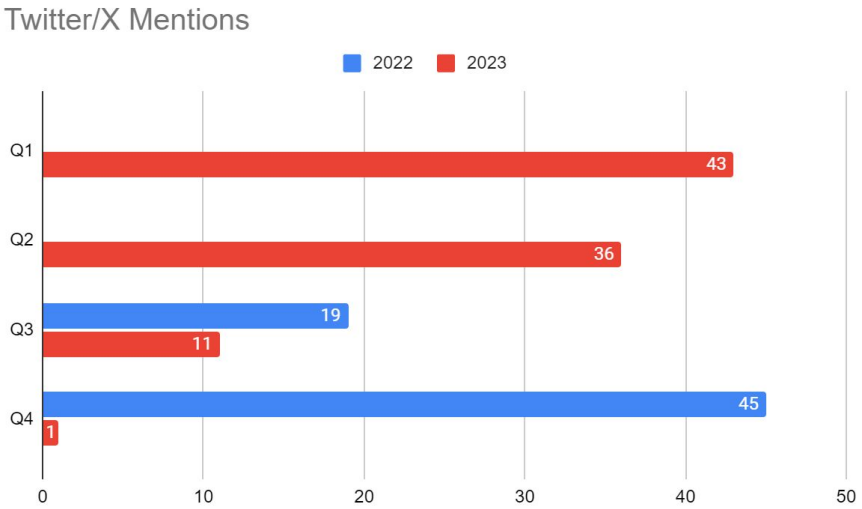
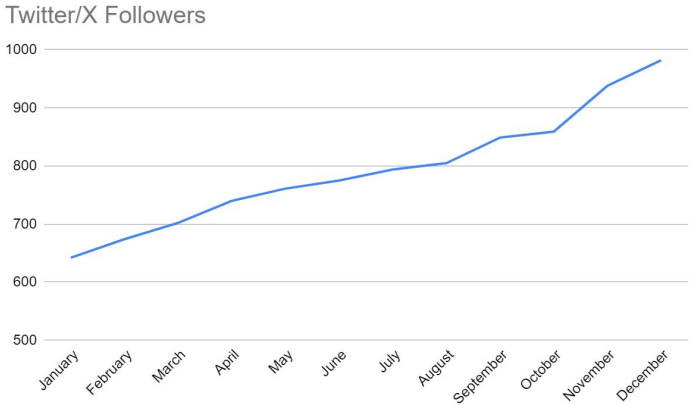
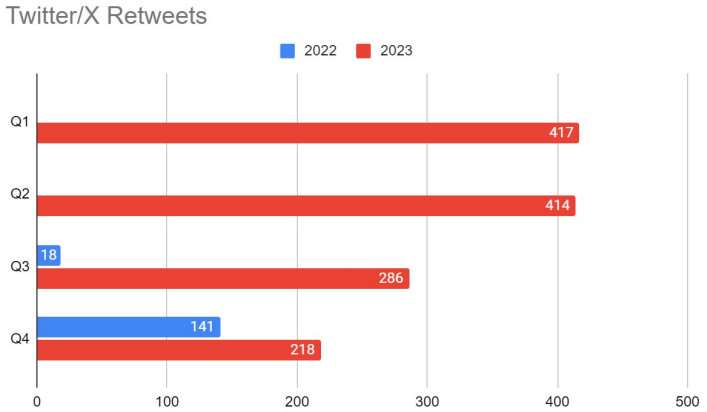
Twitter/X Reporting







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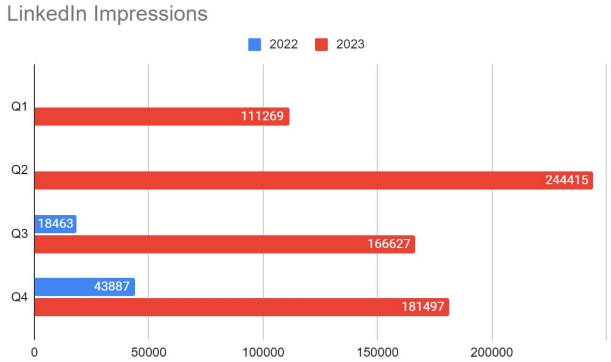
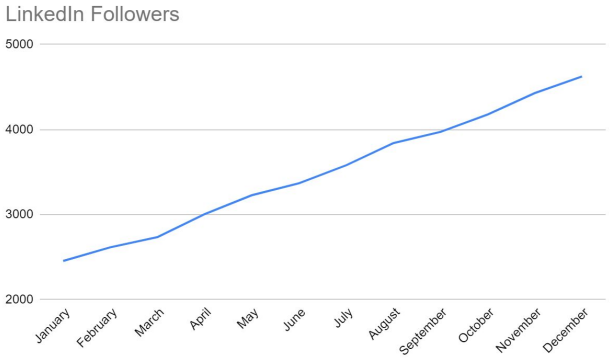
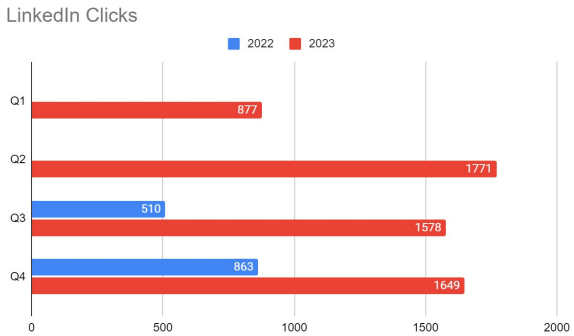
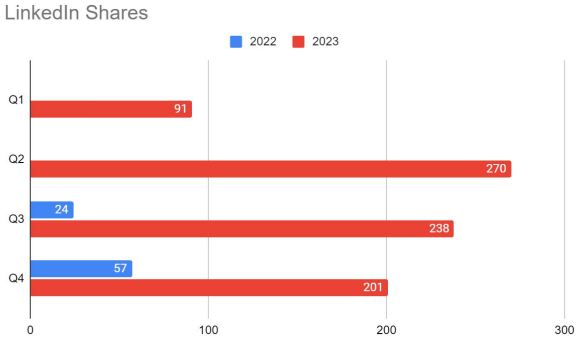
LinkedIn Reporting









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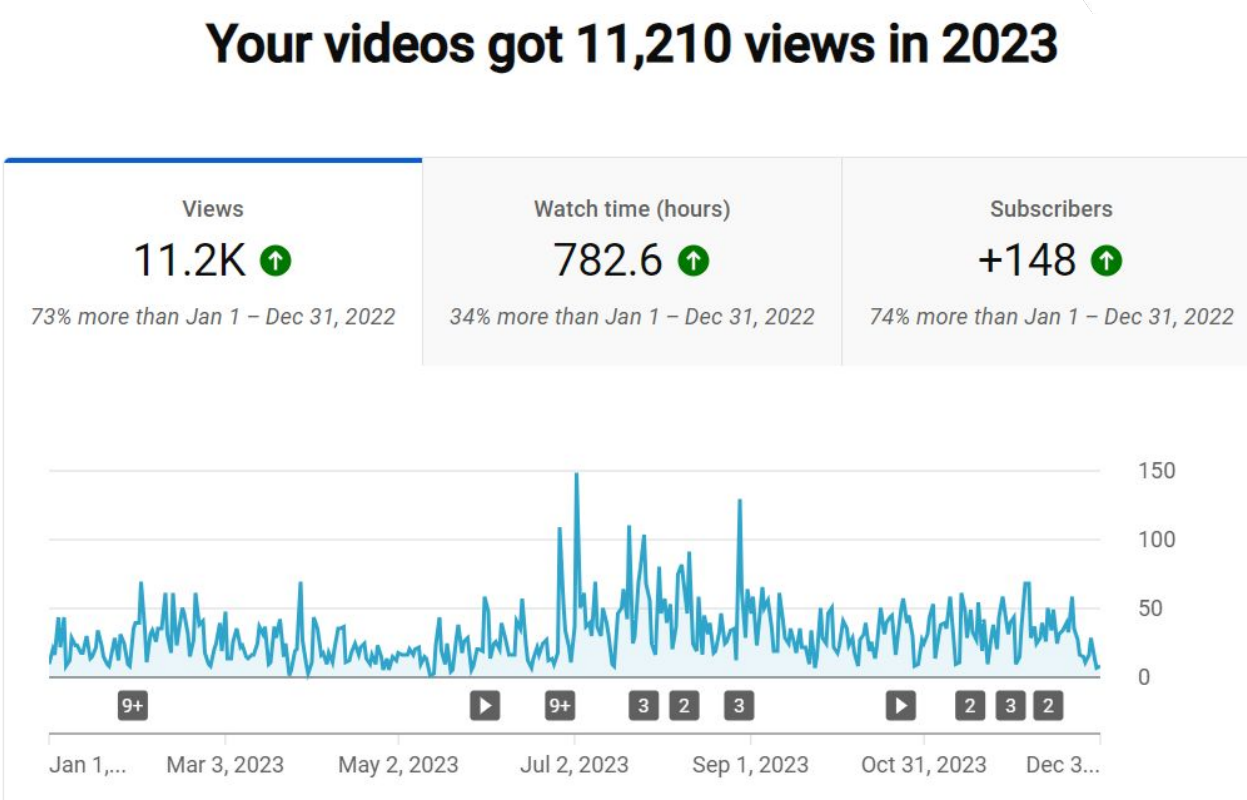
YouTube Reporting



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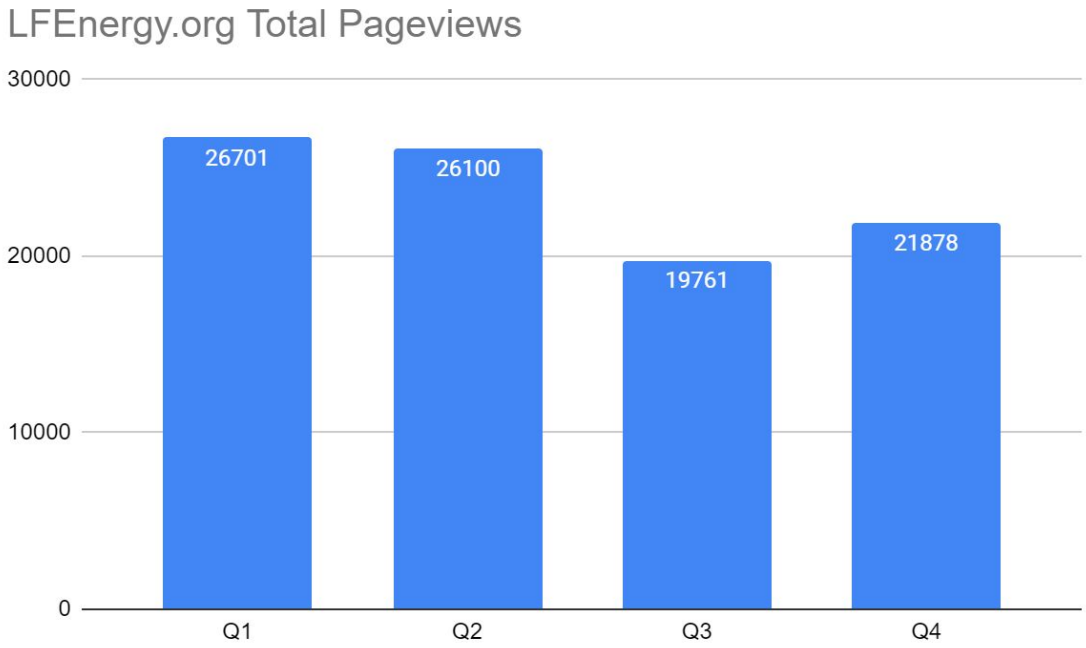
Website Visits - LFEnergy.org



Note: Google Analytics moved from UA to GA4 on July 1, resulting in fewer visits tracked due to new "cookieless" methodology

Media Coverage

Total Articles in 2023: 104 (18 in 2022)

An interactive media coverage report can be viewed at https://app2.cision.com/#/report/presentation/b44d1683-ec23-4b5d-ba11-5697d05cc782 (note this includes reprints so total will appear higher than that in our media coverage spreadsheet below).

A list of tracked media coverage can be found at https://docs.google.com/spreadsheets/d/1ZPutI-ILWkzc0uEqSvmGNoXXSCKPRFv3CaQ2p7pI4KY/edit?usp=sharing or on the website at https://www.lfenergy.org/news/media-coverage/.

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Media Coverage Highlights

In memory of Dr Shuli Goodman, Executive Director of LF Energy

eeNews POWER

Business news | January 9, 2023

By Nick Flaherty

pv magazine

Open source data can unlock the power of microgrids

A report from the Linux Foundation examines how open source shared data can increase access, improve standardization, and improve efficiencies.

JUNE 1, 2023 RYAN KENNEDY

GRIDS & INTEGRATION | MARKETS | MARKETS & POLICY | MICROGRID | TECHNOLOGY

ITBrief

cybersecurity # power / energy # climate change

LF Energy unveils new open source projects for energy transition

Wed, 6th Dec 2023

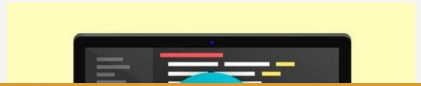
SMART ENERGY INTERNATIONAL

Data & Analytics

Linux Foundation introduces significant software releases

Jonathan Spencer Jones • Sep 26, 2023

Share



Software updates have been introduced to six releases in recent months, Linux Foundation Energy has announced, alongside other developments.

pen source solutions, states
ve been issued by the sl

Digital Transformation

Energy Sector Pushes Digitalization Plans and Open Source Software Adoption

Digital CxO

POWERED BY Techstrong | Group

» 20 TechTarget Japan

業界横断で取り組む脱炭素化【前編】

ShellやMicrosoftが賛同する「オープンソース」を使った脱炭素化とは？

OSSで世界の脱炭素化を進める非営利団体**LF Energy**にエネルギー関連企業**Shell**が協力することを決めた。**LF Energy**とはどのような組織で、**Shell**と共に何をするのか。

POWER ELECTRONICS NEWS

News Focus | Technical Articles Editorial | eBooks | Videos & Podcasts

Technical Articles

Developments in Power Grid Operations with Linux Foundation's CoMPAS

August 28, 2023 Saumitra Jagdale

CoMPAS, as a platform, is designed to address various needs in the power grid industry.

POWER-GRID INTERNATIONAL

T&D | Smart Cities

Executive Insight

Subscribe

There is no better time than now for energy utilities and vendors to hire software developers

Expanding the pool of developer talent working in the energy sector is essential to speeding development of innovative technologies needed to complete the energy transition.

Research Reports

- Microgrids
  - 20 downloads (note announcement of this report linked to an ungated version hosted by LF Research so likely many downloads were not tracked)
  - 8 feature articles
- Energy Transformation
  - 102 downloads tracked to date
  - 6 feature articles
- Cybersecurity in Energy
  - 255 downloads
  - 2 feature articles
- Open Source Sustainability Ecosystem
  - 133 downloads
  - 8 feature articles

Note: all this content has been ungated and future pieces will not be gated to remove barriers to engagement

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LF Energy Summit

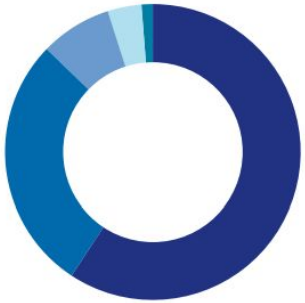
Registration & Demographics

This year's event attracted an incredible mix of attendees from across the community.

- Attendees came from a range of industry sectors including **Information Technology**, **Non Profit**, and of course **Energy**. **More than 59% were from the Energy industry**.
- Attendees with a range of job functions including Executive Leader, Technical Teams Manager, and Architect. **17% of attendees were in Application Developer positions**
- Attendees from **151** organizations
- Attendees from **34** countries
- **20%** from France
- **21%** of attendees identified as women or non-binary individuals

LF ENERGY

LF Energy Summit



Industry

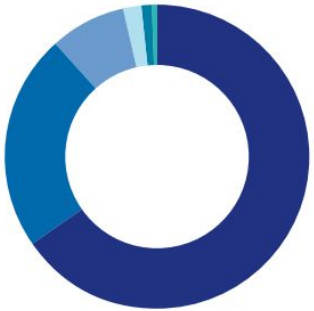
- Energy **59%**
- Information Technology **28%**
- Non Profit Organization **8%**
- Professional Services **4%**
- Telecommunications **1%**

Job Level

- Individual Contributor **21%**
- Other **21%**
- Manager **18%**
- Academic **14%**
- CXO / ED **12%**
- Director **12%**
- VP / SVP / GM **2%**

Job Function

- Other **20.5%**
- Application Developer (Front-end/Back-end/Mobile/Full Stack) **17%**
- Executive Leader **13.5%**
- Manager – Technical Teams **10%**
- Architect **8%**
- Student **7%**
- Manager – Other **6.5%**
- Product/Biz Dev **6%**
- Professor / Academic **4%**
- Media / Analyst **3%**
- Marketing **2.5%**
- Systems/Embedded Developer **2%**



Geographic Regions

- Europe **65.5%**
- North America **23%**
- Asia **8%**
- Africa **2%**
- Australia & Oceania **1%**
- South America **.5%**

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LF Energy Summit

LF Energy Foundation Twitter:

Twitter activity on the LF Energy Foundation account increased significantly during the lead-up to LF Energy Summit, with a **36% increase in the volume of tweets**, **82% increase** in overall impressions, and **22% increase in interactions with the LF Energy Foundation profile** over the two month period prior to the event:

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LF Energy Summit

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Governing Board CONFIDENTIAL

LF Energy Foundation LinkedIn

LinkedIn activity on the LF Energy Foundation account increased significantly during the lead-up to LF Energy Summit, with a **63% increase in the volume of posts, 123% increase in overall impressions**, and **199% increase in interactions with the LF Energy Foundation profile** over the two month period prior to the event:

LF Energy Summit

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Email Campaign

We developed a robust email campaign, beginning with the event announcement and encouragement to submit CFP speaking submissions, followed by a series of emails targeting registration. In total, 8 emails were successfully sent to between 1,695 to 4,066 recipients within the LF Energy Foundation database, with an average open rate of 22.1%. Emails sent included:

- CFP Announcement (Jan 25)
- Agenda Announcement (Mar 9)
- Newsletter (Mar 15)
- Registration Deadline Reminder (Mar 31)
- Registration Reminder (Apr 13)
- Registration Reminder (May 4)
- Newsletter (May 17)
- Final Registration Reminder (May 25)

Media & Analyst Coverage Synopsis

LF Energy Summit's return to in-person brought a handful of press analysts onsite to Paris, with more attending virtually, including:

Data Center Frontier, David Chernicoff

Linux New Media, Richard Ibbotson

Freeform Dynamics, Bryan Betts

Freelance, Chris Chinchilla

Climate Tech Review, Chern Wei Lee

GitHub The ReadME Project, Klint Finley

TFIR.io, Swapnil Bhartiya

Oil IT Journal, Neil McNaughton

Renewable Energy Focus, Doug Arent


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