

# LF Energy

A Linux Foundation Project to accelerate the Energy Transition





The Linux Foundation's goal is to create the greatest shared technology investment in history by enabling open collaboration across companies, developers and users.

We are the nonprofit organization of choice to build ecosystems that accelerate open source technology development and commercial adoption on a global scale.



<b>Security</b>	       
<b>Networking</b>	       
<b>Cloud</b>	      
<b>Automotive</b>	  
<b>Blockchain</b>	     
<b>Edge/IoT</b>	       
<b>Web</b>	        
<b>AI</b>	        
<b>Film</b>	      
<b>CI/CD</b>	        
<b>Energy</b>	       
<b>Hardware</b>	    
<b>Standards</b>	      

LF beyond Linux

# Mission/Vision

The Linux Foundation's mission is to support the world's most important shared technology collaborations.

LF Energy's mission is to create a technology ecosystem to support rapid decarbonization that benefits the environment, enables economic prosperity, and leads to social well-being for future generations.

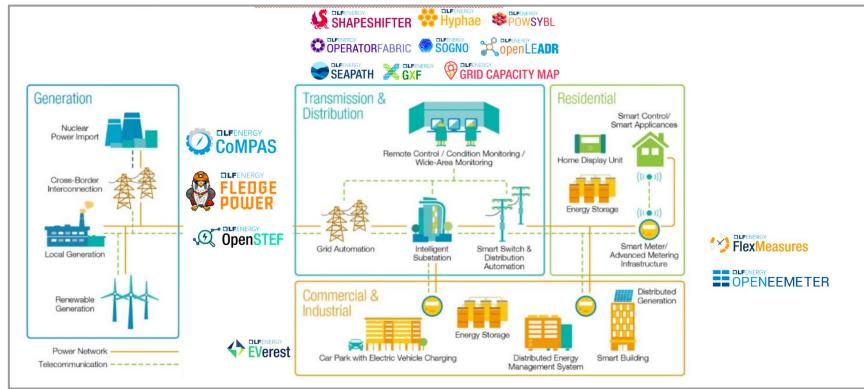
Reference: [Climate Tech Review overview of LF Energy for the Climate Tech 100](#)

*Linux Foundation Energy is a vendor-neutral, non-profit organization that brings together energy producers, utilities, end users, academia, government and the technology industry to collaboratively develop technology solutions – including software solutions, standards, and specifications – for the energy sector to speed decarbonization and the energy transition generally.*

# Why LF Energy?

Energy Ecosystem is now a software challenge & speed of innovation is key!

- + The energy transition requires collaborative, open, and neutral solutions to achieve decarbonization.
- + Open collaboration accelerates innovation to scale, modernize, and digitally transform the energy sector through software orchestration.
- + LF Energy builds communities to develop open technologies, frameworks, reference architectures, and research to alleviate pain points and identify the most urgent priorities to digitally transform the energy sector. This includes cybersecurity, interoperability, control, automation, virtualization, flexibility, and digital orchestration for balancing of supply and demand, which cannot be solved by legacy, proprietary solutions.

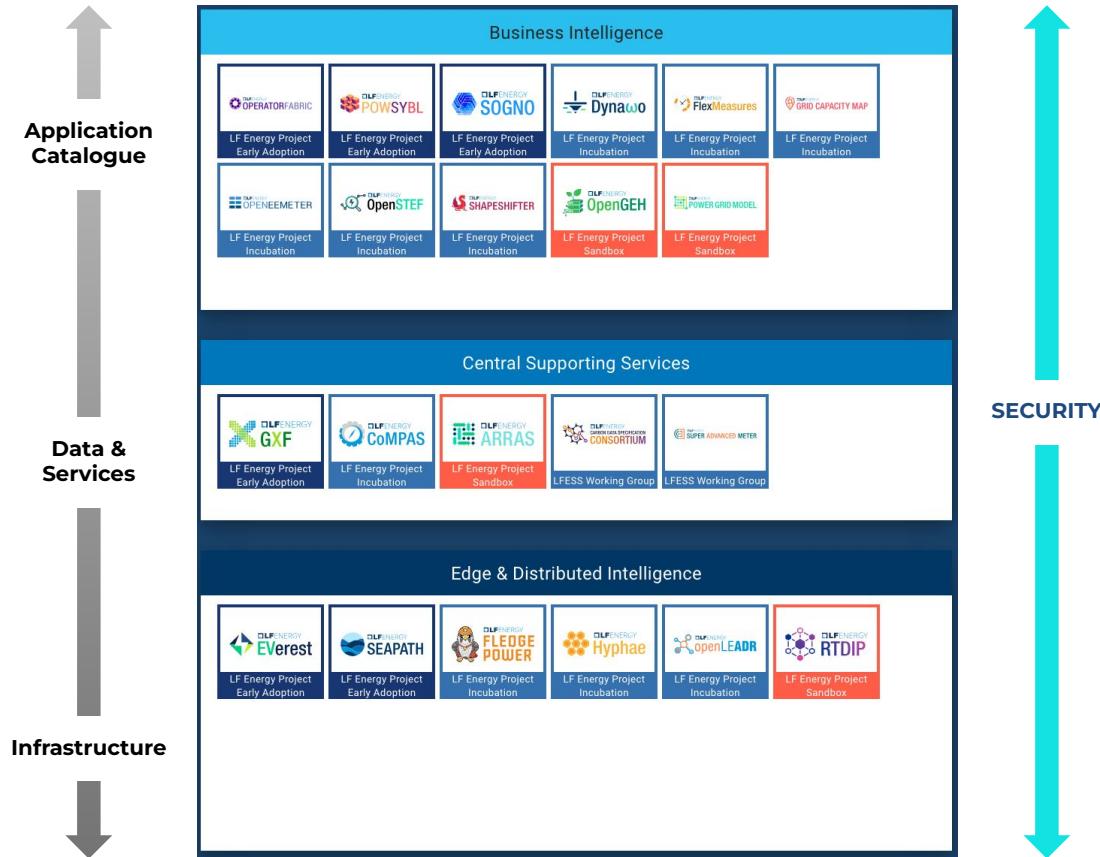


## LF Energy Key Stats:

- Hosting 24 open source projects covering the energy systems tech stack from generation to distribution to end use
- 70+ members, including utilities, research organizations, traditional energy system vendors, and technology vendors
- Annual increases of:
  - Contributors - 29%
  - Lines of code - 60 million
  - Members - 19%

## Where We Add Value:

- Neutral governance providing a home for collaboration across all stakeholders from utilities to researchers, vendors, government, and more
- Project management and hosting infrastructure
- Legal support including licensing, trademarks, etc.
- Communications support including events, thought leadership, etc.
- Community management, to encourage growth, innovation, and determining priorities and direction



# LF Energy Landscape

[lfenergy.org](https://lfenergy.org)

1,343 projects,  
market cap of  
\$7.5T and  
funding of  
\$17B.



The LF Energy Landscape is a comprehensive resource developed by the LF Energy Foundation. It provides a central hub for energy stakeholders, researchers, innovators, and others to use as a resource to connect with the LF Energy ecosystem.

This landscape includes logos from over 1,300 organizations across various sectors, including:

- Renewable Energy:** Solar, Wind, Hydro, Geothermal, Bioenergy
- Battery and Energy Storage:** Battery, Hydrogen
- Modeling and Optimization:** Emerging Systems, Buildings and Heating, Mobility and Transportation, Production and Industry, Computation and Communication
- Carbon Intensity and Accounting:** Carbon Capture and Removal, Emissions
- Monitoring and Control:** Distribution and Grids, Datasets on Energy Systems
- Earth Systems:** Atmosphere, Biosphere, Cryosphere, Hydrosphere
- Climate and Earth Science:** Earth and Climate Modeling, Radiative Transfer, Metabolical Processes and Soil, Climate Data Processing and Access, Integrated Assessment
- Nature References:** Air Quality, Water Supply and Quality, Soil and Land, Agriculture and Nutrition, Natural Hazard and Disaster
- Sustainable Development:** Sustainable Development, Sustainable Investment, Knowledge Platforms, Data Catalogs and Interfaces, Curated Lists
- Life Cycle Assessment:** Includes logos for various companies and organizations involved in LCA.
- Circular Economy and Waste:** Various logos representing companies and initiatives in the circular economy and waste management space.

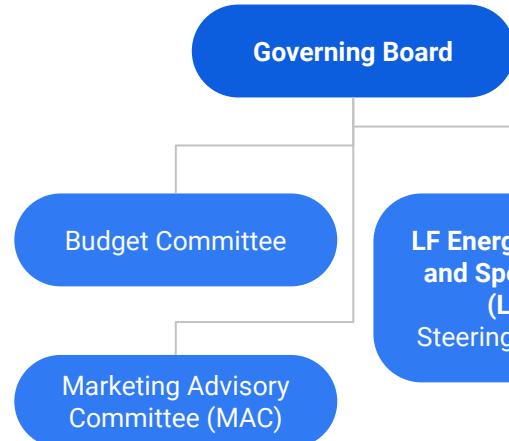
The LF Energy Landscape is a valuable resource for anyone interested in the energy sector, providing a centralized platform to connect with industry leaders, stay up-to-date on the latest developments, and contribute to the LF Energy ecosystem.

# Governance & Membership

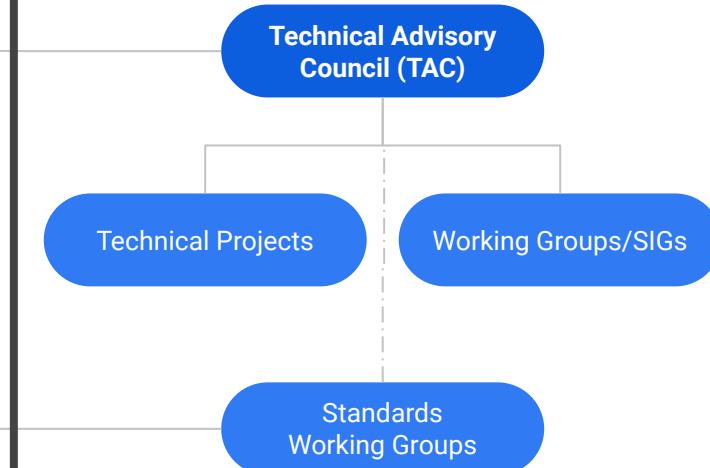
**QLF** ENERGY

# Governance at a Glance

Fiduciary Governance - Membership driven



Technical Governance - Open to all



# Governing Board voting representatives



**Lucian Balea**  
**Chair**

Open Source  
Program Director at  
RTE (Reseau de  
Transport  
d'Electricite)



**Dr. Antonello  
Monti**

Professor at RWTH  
Aachen University



**Arjan Stam**  
**Treasurer**

Value Stream Lead  
at Alliander



**Audrey Lee**

Senior Director,  
Energy Strategy at  
Microsoft  
Corporation



**Bryce Bartmann**  
Chief Digital  
Technology Advisor  
at Shell  
International  
Petroleum Company



**Jordan Hughes**  
Senior Software  
Engineer at Apple  
Inc.



**Dr. Marissa  
Hummon**  
CTO at Utilidata



**Maud Texier**  
Head of Energy  
Development at  
Google LLC



**Dr. McGee Young**  
CEO at WattCarbon

# Technical Advisory Council (TAC) voting representatives



**Antonello Monti**  
Chair  
Professor  
RWTH Aachen  
University



**Anne Tilloy**  
Project manager  
RTE (Reseau de  
Transport  
d'Electricite)



**Art Pope**  
Member of  
Technical Staff at  
Google LLC



**Avi Allison**  
Program Manager,  
Energy,  
Sustainability  
Microsoft  
Corporation



**Boris DOLLEY**  
Director of  
Sustainable IT  
Strategy  
RTE (Reseau de  
Transport  
d'Electricite)



**Bryce Bartmann**  
Chief Digital  
Technology Advisor  
Shell International  
Petroleum Company



**Jonas van den  
Bogaard**  
Open Source Office  
Lead  
Alliander



**Maarten Mulder**  
PO Field Device  
Platforms  
Alliander



**Travis Sikes**  
Senior Data  
Scientist  
Recurve

# LF Energy Members

LF ENERGY

## LF Energy Member - Strategic\_(5) +1

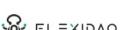


## LF Energy Member - General\_(25) +3



ELECTRICITY MAPS

ENERGINET



RECURVE



ZEDDEDA

## LF Energy Member - Associate\_(37) +3

Carbon  
Co-op



IOWA STATE  
UNIVERSITY

TRUSTED<sup>®</sup>  
COMPUTING  
GROUP

# Membership and Participation Levels

Membership Level	Annual Fee	Plus Linux Foundation Membership: Silver (if not a member)	Board Seat	TAC Seat	Outreach Committee	Suggested Minimum FTE*	Notes
Strategic	Flat fee: \$150k	\$20k	Yes	Yes	Yes	1	Two year minimum commitment
General	Based on number of employees \$50K (5000+) \$30K (1000–4999) \$20K (200–999) \$10K (100–199) \$5,000 (0–99)	Based on number of employees \$20K (5000+) \$15K (499-4999) \$10K (100-499) \$5,000 (0-99)	(Possible) 1 per every 10 General members	Based on Merit	Yes	N/A	A TAC seat may be earned by technical contribution as a project leader
Associate	No fee	No	(Provisional at start-up)	Based on Merit	Yes	N/A	Limited to academic, research and NGO organizations

\* FTE = Full Time Equivalent (e.g. 2 employees each spend 50% of their time on a project). This suggestion is meant to provide a minimum resource investment to ensure members are contributing technically. Most projects see much higher investment of resources than the minimum requirement.



# Membership Benefits



Tier	New to LF	Existing LF member	Benefits
<b>Strategic</b>	\$170,000	\$150,000	<ul style="list-style-type: none"> <li>• Appoint one (1) voting representative to the LF Energy Governing Board.</li> <li>• Appoint one (1) voting representative to the LF Energy Technical Advisory Council (TAC)</li> <li>• Appoint one (1) representative as a voting member in any subcommittees or activities of the Governing Board.</li> <li>• Enjoy most prominent placement in displays of membership including on the website and in marketing materials.</li> <li>• 1 guest LF Energy blog post per quarter</li> <li>• 1 LF Energy hosted webinar per quarter</li> <li>• 1 Linux.com blog post per year</li> <li>• 10 complementary LF Training course/certification tickets</li> <li>• Create an individualized press release to announce membership with LF Energy PR.</li> <li>• Receive greater insight into LF Energy strategy and project roadmaps through increased engagement with the LF Energy Executive Director and staff.</li> <li>• Receive ongoing, monthly 1:1, individual engagement and guidance from LF Energy Executive Director</li> <li>• Increased access to invitation-only Linux Foundation Member Summit.</li> <li>• Receive discounts on LF Energy conferences + event sponsorship.</li> </ul>
<b>General</b>	<p>\$70,000 (USD) 5,000+</p> <p>\$40,000 (USD) 2,000 – 4,999</p> <p>\$25,000 (USD) 500 – 1,999</p> <p>\$15,000 (USD) 100 – 499</p> <p>\$10,000 (USD) Up to 99</p>	<p>\$50,000 (USD) 5,000+</p> <p>\$25,000 (USD) 2,000 – 4,999</p> <p>\$10,000 (USD) 500 – 1,999</p> <p>\$5,000 (USD) 100 – 499</p> <p>\$5,000 (USD) Up to 99</p>	<ul style="list-style-type: none"> <li>• (Possible) Governing Board seat 1 per every 10 General and Academic and Research Institutions members collectively as a class, with a maximum of 3.</li> <li>• 1 guest LF Energy blog post per year</li> <li>• 1 LF Energy hosted webinar per year</li> <li>• 10 complementary LF Training course/certification tickets</li> <li>• Participate in all marketing, community, thought leadership opportunities.</li> <li>• Receive discounts on LF Energy conferences + event sponsorship.</li> <li>• Identify your organization as a member and display your logo on the LF Energy website and in marketing materials.</li> <li>• Access to The Linux Foundation's invitation-only Linux Foundation Member Summit.</li> </ul>
<b>Associate</b>	Free	Free	<ul style="list-style-type: none"> <li>• The Associate category of membership is limited to non-profit/non-governmental organizations. This requires approval by the Governing Board.</li> <li>• Participate in all marketing, community, thought leadership opportunities.</li> <li>• Receive discounts on LF Energy event sponsorship.</li> <li>• Identify your organization as a member and display your logo on the LF Energy website and in marketing materials.</li> </ul>

# LF Energy Projects



## LF Energy Projects - Early Adoption (6)



LF ENERGY  
**Everest**



LF ENERGY  
**GXF**



LF ENERGY  
**OPERATORFABRIC**



LF ENERGY  
**POWSYBL**



LF ENERGY  
**SEAPATH**



LF ENERGY  
**SOGNO**

## LF Energy Projects - Incubation (10)



LF ENERGY  
**CoMPAS**



LF ENERGY  
**DynaWo**



LF ENERGY  
**FLEDGE  
POWER**



LF ENERGY  
**FlexMeasures**



LF ENERGY  
**GRID CAPACITY MAP**



LF ENERGY  
**Hyphae**



LF ENERGY  
**OPENEEMETER**



LF ENERGY  
**openLEADR**



LF ENERGY  
**OpenSTEF**



LF ENERGY  
**SHAPESHIFTER**

## LF Energy Projects - Sandbox (4)



LF ENERGY  
**ARRAS**



LF ENERGY  
**OpenGEH**



LF ENERGY  
**POWER GRID MODEL**



LF ENERGY  
**RTDIP**

# Contribute to our projects - anyone can!

More information at

<https://wiki.lfenergy.org/display/HOME/Technical+Projects>

Contribute to an existing project:

- Submit a PR with a bugfix or new feature
- Pick existing GitHub issue as a sample project
- Integrate with a new app / contribute plugin
- Help improve project documentation
- Submit additional test cases
- Join the TSC discussion: dev mailing list, conf calls

Get involved with the TAC or Working Group:

- DevOps / CI expertise always useful
- Interest / expertise in security especially welcome
- Join the TAC discussions: [mailing list](#), [conf calls](#)

# Contact Us

## LF Energy Foundation

1 Letterman Drive  
Building D, Suite D4700  
San Francisco CA 94129  
Phone/Fax: +1 415 7239709  
[www.lfenergy.org](http://www.lfenergy.org)

General Inquiries

[info@lfenergy.org](mailto:info@lfenergy.org)

Membership

[membership@lfenergy.org](mailto:membership@lfenergy.org)

