LF ENERGY

TAC Meeting

25 January 2022

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Agenda

<u>Opening (25 Minutes)</u>

- **Landscape updates**
- **TAC Sponsors for projects**
- **Summary of last TAC meeting & Updates from the Board Meeting**

<u>TAC Business (50 Minutes)</u>

- FAWG annual review
- DAWG annual review
- CDSC review

<u>Outreach updates (10 Minutes)</u>

<u>Closing and next meeting (5 Minutes)</u>

TAC Voting Members
New members in **bold**

Full Name	Account Name	Appointed By
Boris DOLLEY	RTE (Reseau de Transport dElectricite)	Vote of TSC Committee - OperatorFabric
Anne Tilloy	RTE (Reseau de Transport dElectricite)	Vote of TSC Committee - PowSyBl
Carmen Best	Recurve	Vote of TSC Committee - OpenEEmeter
Arjan Stam	Alliander	Membership Entitlement
Jonas van den Bogaard	Alliander	Vote of TSC Committee - GXF
Benoît Jeanson	RTE (Reseau de Transport dElectricite)	Membership Entitlement
Antonello Monti	RWTH Aachen University	Vote of TSC Committee - SOGNO

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LF Energy Hosted Project Leads

Changes in **bold**

Project	Project Lead(s)
PowSyBl	Anne Tilloy, RTE
OperatorFabric	Boris Dolley, RTE
OpenEEmeter	Carmen Best, Recurve
GXF	Jonas van den Bogaard, Alliander
SOGNO	Antonello Monti, RWTH Aachen University
CoMPAS	Frederic Fouseret, RTE
FledgePOWER	Akli Rahmoun, RTE
Hyphae	Kotaro Jinushi, Sony ESL
openLEADR	Lonneke Driessen & Stan Janssen, OpenADR
SEAPATH	Eloi Bail, Savoir-faire Linux
Grid Capacity Map	**Per Lysemose Hansen, Energinet**
Shapeshifter	Jelle Wijnja, Alliander
OpenSTEF	Frank Kreuwel, Alliander
EVerest	Marco Möller, PIONIX
Green Energy Hub	Martin F. Hansen, Energinet
FlexMeasures	Nicolas Höning, Seita Energy Flexibility B.V.

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Working Groups

- Annual reviews of both TODAY

Name	Description	Lead
Full Architecture WG (FAWG)	Architecture standing committee to develop the overall architecture for LF Energy	Benoît Jeanson, RTE
Data Architecture WG (DAWG)	Working group on Data Architecture	TBD

Landscape now with more project info!

We are using the LF Energy Landscape to showcase more project information:

- Mailing List/Slack Channel
- LFX Insights
- SBOM
- Wiki
- TSC Meeting Notes
- Calendar
- Contribution Guidelines

ACTION: Project leads please review your entry and ensure it is accurate; issue PR for any changes needed.

□LFENERGY **SOGNO**

LF Energy Early Adoption	LF Project
Open Source Software	License Mozilla Public License
CII Best Practices 25%	

more...   total: ⊙ ★52

Crunchbase	crunchbase.com/organization/lf-energy		
LinkedIn	linkedin.com/company/lf-energy		
Twitter	@LFE_Foundation	Latest Tweet	this week
First Commit	5 years ago	Latest Commit	3 weeks ago
Contributors	35	Headcount	1-10
Headquarters	San Francisco, California		

Mailing List	https://lists.lfenergy.org/g/sogno-discussion
Slack Channel	#sogno
LFX Insights	https://insights.lfx.linuxfoundation.org/projects/lfenergy%2Fsogno
Wiki Page	https://wiki.lfenergy.org/display/HOME/SOGNO
SBOM	https://github.com/lfscanning/spdx-lfenergy/tree/main/sogno
TSC Meeting Notes	https://github.com/sogno-platform/tsc/tree/master/tsc/meetings
Calendar	https://lists.lfenergy.org/g/sogno-tsc/calendar
Contribution Guidelines	https://github.com/sogno-platform/tsc/blob/master/CONTRIBUTING.md

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."

ASK: Volunteer to be a TAC sponsor for a project

Project	Current Level	TAC Sponsor
CoMPAS	Incubation	
Data Architecture Working Group (DAWG)	Working Group	
EVerest	Incubation	
FledgePOWER	Incubation	Benoît Jeanson
FlexMeasures	Incubation	
Full Architecture Working Group (FAWG)	Working Group	
Green Data Hub	Incubation	
Grid Capacity Map	Incubation	
GXF	Early Adoption	Jonas van den Bogaard
Hyphae	Incubation	Antonello Monti
OpenEEmeter	Incubation	Carmen Best
OpenLEADR	Incubation	
OpenSTEF	Incubation	Jonas van den Bogaard
OperatorFabric	Early Adoption	Boris Dolley
PowSyBl	Early Adoption	Anne Tilloy
SEAPATH	Incubation	Benoît Jeanson
Shapeshifter	Incubation	Jonas van den Bogaard
SOGNO	Early Adoption	Antonello Monti

Summary of last TAC meeting

- Meeting notes and deck at
  https://wiki.lfenergy.org/display/HOME/Technical+Advisory+Council#
  TechnicalAdvisoryCouncil-MeetingMinutes

Updates from the Board

- CDSC kickoff - more details in this call
- New members: Indra, FlexiDAO, UtilityAPI, WattCarbon, M-RETS, Inc.,
  electricityMap

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TAC Business (50 Minutes)

- **FAWG annual review**
- **DAWG annual review**
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Outreach updates (10 Minutes)

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FAWG Annual Review

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What is the FAWG?

A bit of history (before 2021):

- Many architecture activities in parallel:
    - Design of the LFE Functional architecture
    - Technical architecture working group
    - Data architecture working group
    - Some other wg…

    ⇒ the Full Architecture Working Group was launched to gather the outcomes of these activities

    The FAWG meetings were followed by a large audience

- The momentum slowed down:
    - In the WG related to the FAWG (technical and data architecture, and totally stopped for the functional arch)
    - The take off of TAC took over the concern: the TAC became the right place for technical discussions and decision making

What is the FAWG?

2021: Looking for a new breath!

February FAWG: discussion on the goal of the FAWG.

⇒ a place for open discussion, not a place for decision making

⇒ a place for becoming experts of the LFE ecosystem to be able to support the onboarding of new project (relations with other project, right place in the LFE-Landscape / Functional architecture, challenge)

⇒ proposal to have presentations of the projects of LFE trying to bundle them per topic/adherence

Activity in 2021

March: EPRI presented its approach of modelling with Archimate.

> ⇒ Proposal to dig deeper on the PSNO perimeter as a sample. Special FAWG meeting in january 2022.

April: Virtualisation at the edge with SEAPATH, and LF-Edge EVE projects presentations

May-June: very little attendance -> proposal to postpone the topic (cf. October)

July-August: Off

September: Collaboration on shared integration requirements (by Tennet)

October: Customer side interface: Flexmeasures, and "Grid architecture from the customer perspective" by Bruce Nordman

Related work

Archimate: Work done by EPRI on PSNO perimeter. A special FAWG meeting was held January 20th to show the work achieved. Few people (~10) were attending.

⇒ Proposal to promote that work and make it collaborative

Study and planning tool: in collaboration with G-PST. Collaboration with PowSyBl, Pandapower, PyPsa, Powermodels, Powersystems on a common demo/comparison of the tools.

⇒ presentation of the tools and the initiative on January 24th FAWG

⇒ date to be define for final restitution (~March)

Future of the FAWG

Yet to be defined.

Any ideas?

Thanks to the FAWG planning team

Carmen Best

Juanjose Hierro

Gianluca Dianese

DAWG Annual Review

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LFE Service API Definitions
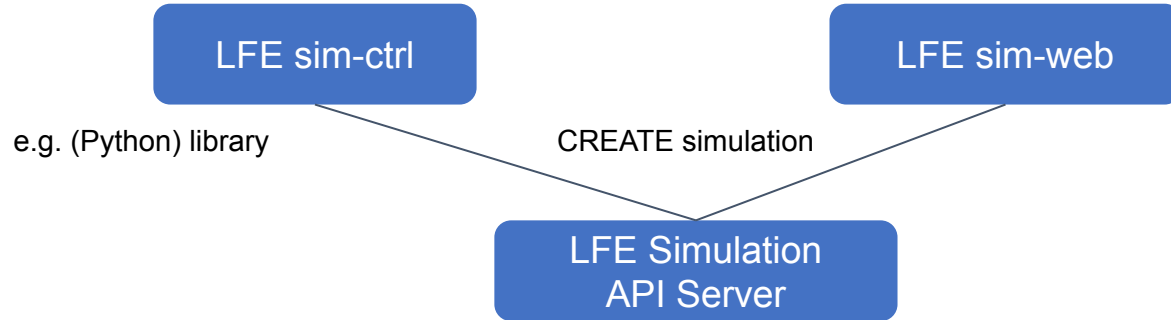
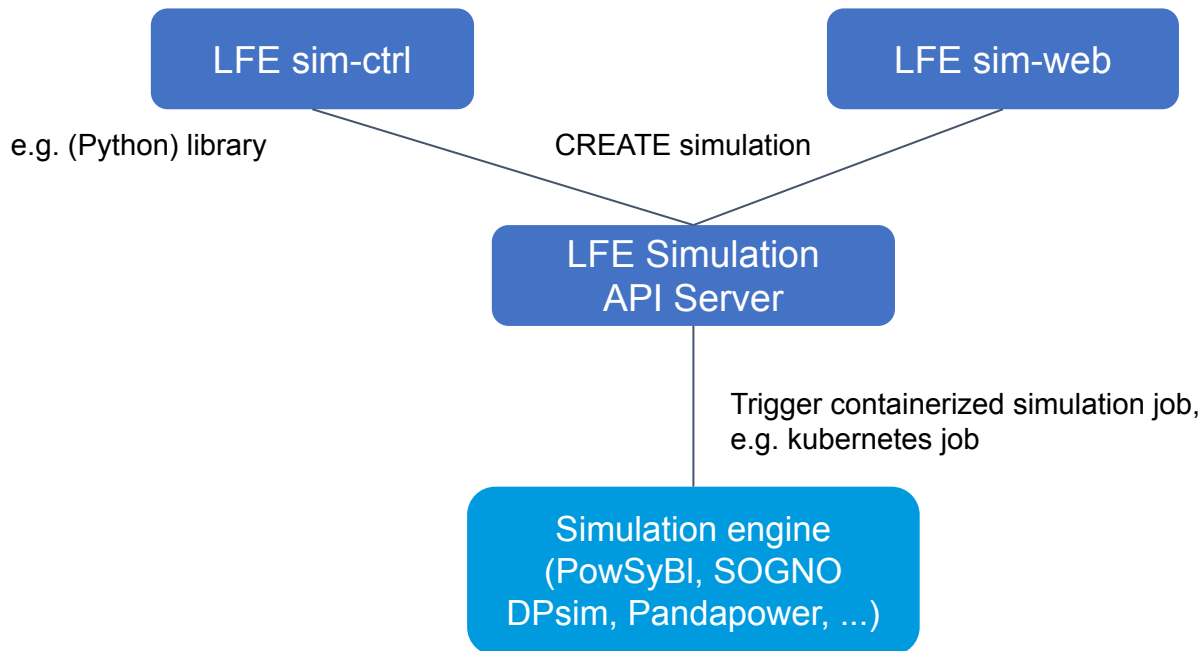Forecasting API

Simulation API

State Estimation API

Why do we need common APIs?

LFE Service API Definitions

To develop an ecosystem of tools that is easy to use but open for new implementations

LFE sim-ctrl

LFE sim-web

e.g. (Python) library

CREATE simulation

LFE Simulation API Server

LFE Service API Definitions

LFE sim-ctrl

LFE sim-web

e.g. (Python) library

CREATE simulation

LFE Simulation
API Server

Trigger containerized simulation job,
e.g. kubernetes job

Simulation engine
(PowSyBl, SOGNO
DPsim, Pandapower, ...)

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CDSC Review

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CDSC will be modeled as a Community Specification

What is the Community Specification For?

The Community Specification process is a repository-based approach for creating standards and specifications in version control systems, such as Git.

What is the benefit?

The Community Specification allows you to start a specification development effort as easily as an open source project. The Community Specification incorporates the terms and processes required for standards and specification development, including legal terms, intellectual property issues, due process, and governance. It also provides the mechanisms to allow your project to grow and scale. For example, the Community Specification provides the basis to take your specification to other standards bodies, including international standards bodies (including a pass through to ISO), for formal standardization if your community desires to pursue those options.

Why use a specification license?

Open source is collaboration around a specific codebase, while specifications provide a blueprint developers implement in different ways in many different codebases. Accordingly, open source licenses provide terms to use and modify a particular codebase and specification licenses are designed to provide terms for separate independent implementations of the specification. Because of this, if you use an open source license for specifications, people implementing those specifications may be doing so without the meaningful copyright or patent grants that you expect.

A second difference is that common open source software and specification licenses tend to have different coverage scopes for intellectual property terms. Open source licenses generally grant terms scoped only to a contributor's contributions. Specification licenses, however, generally cover implementations of the entire specification, regardless of who made the actual contribution. Because the specification will often be developed with contributions from multiple organizations, the various contributing organizations will often want to review and approve the full specification before extending patent commitments to the final, combined result.

More information can be found at the Community Specifications Github site

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Carbon Data Specifications Consortium (CDSC)

Scope.md

The Carbon Data Specification is a data dictionary for raw data and a standard for data requirements that enable energy data access for measuring, quantifying, and tracking carbon emissions from energy production and consumption. These standards and requirements should boost confidence in data sources, increase data utilization, promote scalability, and enable data aggregation for centralized platforms, which shall support and inform grid decarbonization pathways and decision-making.
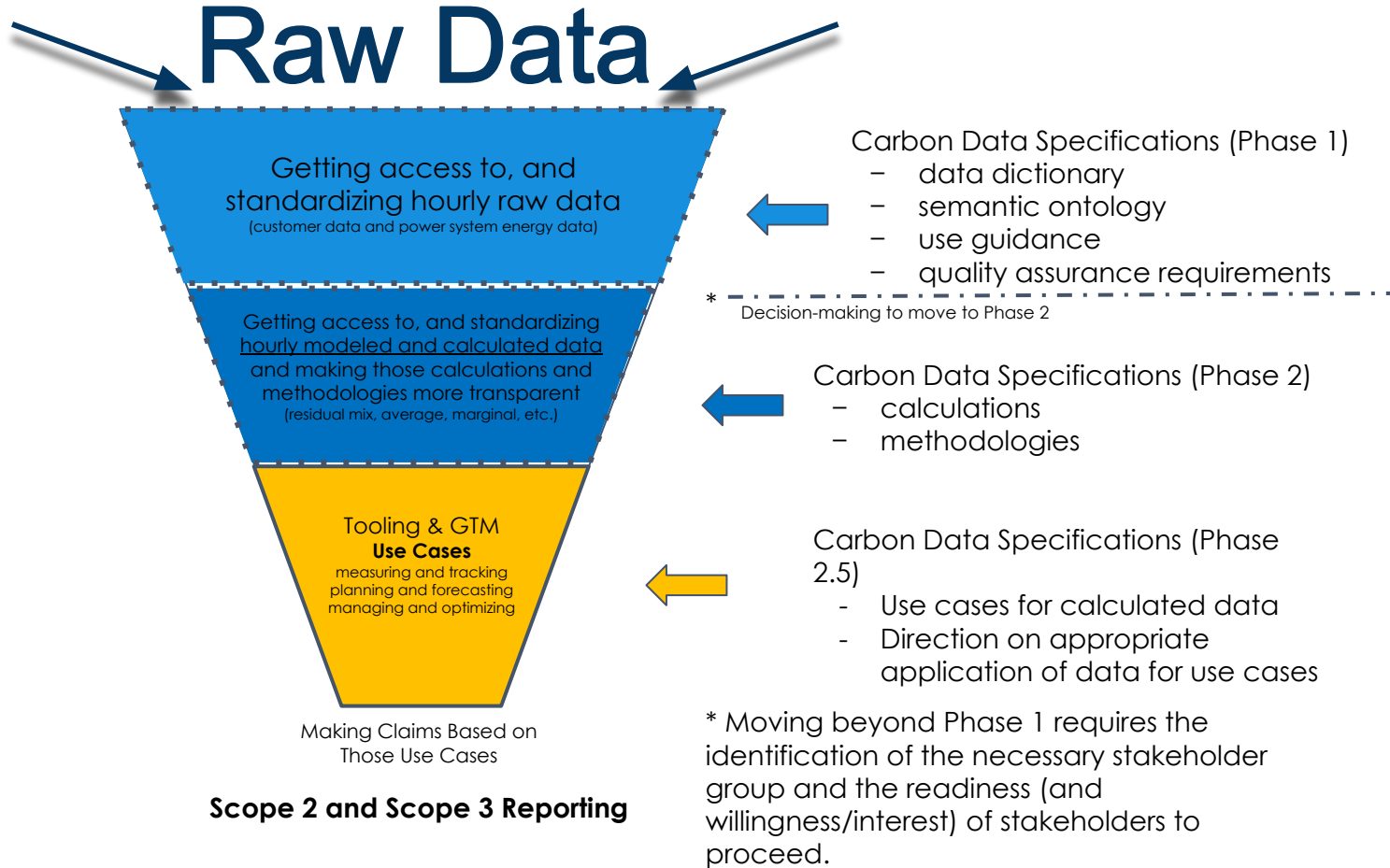
Scope of work (Phase 1)

- The Carbon Data Specifications Consortium ("CDS") establishes specifications for the underlying measured / raw data needs used to calculate energy- and carbon-related metrics.
- It specifies procedures and technical standards for accessing and enabling aggregation of the raw / measured energy and emissions source data, including recommendations for temporal scale, locational scale, timely acquisition, and quality assurance.
- The power network-related metrics and raw data standards will be specified within the following categories:
  - Customer data. This may include, but is not limited to:
    - Metering consumption and production data
    - Account and bill data needed for project analysis
    - Authorization and consent processes
  - Power systems data. This may include, but is not limited to:
    - Power generation emissions
    - Delivery capacities and/or constraints
    - Generation mix
    - Power imports and exports
    - Power market data
    - Contractual data

It is applicable to historical source data and metrics that support emissions based decision making and the measuring and tracking of carbon emissions.

Any changes of Scope are not retroactive.

Scope

Raw Data

Getting access to, and standardizing hourly raw data
(customer data and power system energy data)

Getting access to, and standardizing hourly modeled and calculated data and making those calculations and methodologies more transparent
(residual mix, average, marginal, etc.)

Tooling & GTM
Use Cases
measuring and tracking
planning and forecasting
managing and optimizing

Making Claims Based on Those Use Cases

Scope 2 and Scope 3 Reporting

Carbon Data Specifications (Phase 1)
– data dictionary
– semantic ontology
– use guidance
– quality assurance requirements

* Decision-making to move to Phase 2

Carbon Data Specifications (Phase 2)
– calculations
– methodologies

Carbon Data Specifications (Phase 2.5)
- Use cases for calculated data
- Direction on appropriate application of data for use cases

* Moving beyond Phase 1 requires the identification of the necessary stakeholder group and the readiness (and willingness/interest) of stakeholders to proceed.

Technical Workstream

| Customer Data Working Group	Power System Data Working Group	Carbon Data Specification v.5
Customer Data Working Group	**Power System Data Working Group**	**Carbon Data Specification v.5** This will be the initial release of the Carbon Data Specification
Build a glossary, data dictionary, and semantic ontology of structured data elements and their metadata, including the formal naming and definitions of the types, quality requirements, properties and interrelationships between fundamental elements of hourly customer meter data. Develop specifications for enabling standardized access to the data.	Build a glossary, data dictionary, and semantic ontology of structured data elements and their metadata, including the formal naming and definitions of the types, quality requirements, properties and interrelationships between fundamental elements of hourly power systems data. Develop specifications for enabling standardized access to the data.	The initial specification will be built between January 2022 and June of 2022. It will include governance for how to grow, change, modify the standard moving forward. Ratification will take place during an in-person gathering, TBD

Strategy Workstream

Strategy Committee

Strategy Document for how if to address calculations and methodology.
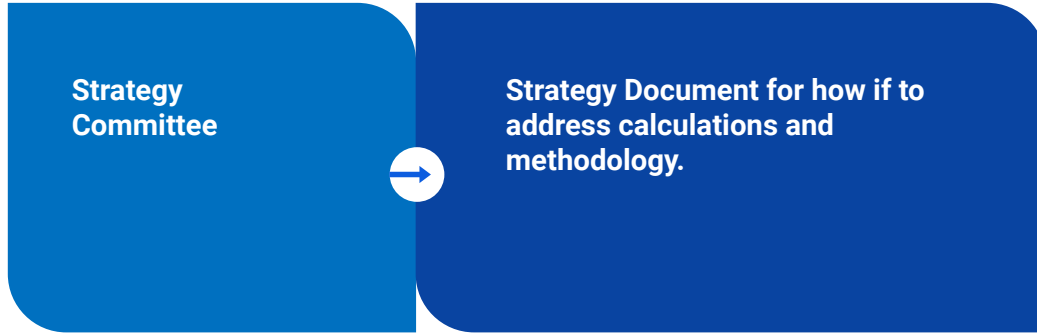
The work of the Strategy Committee is four-fold: 1) develop a strategy and approach to the ongoing care and evolution of the specification; 2) develop a strategy and approach to the adoption and diffusion of the specification; 3) determine how best or if to proceed to calculations and methodologies; and 4) how to have this conversation, who needs to be part of this and what is the venue for the conversation.

The Strategy Consensus Document will guide the direction of: 1) the initial release of the Carbon Data Specification; 2) the design for an in-person meeting; 3) identification of a process and key stakeholders for advancing standardization of calculated metrics and methodologies

Overall governance and structure

Read more at
https://github.com/carbon-data-specification/the_way_we_work/blob/main/Governance.md
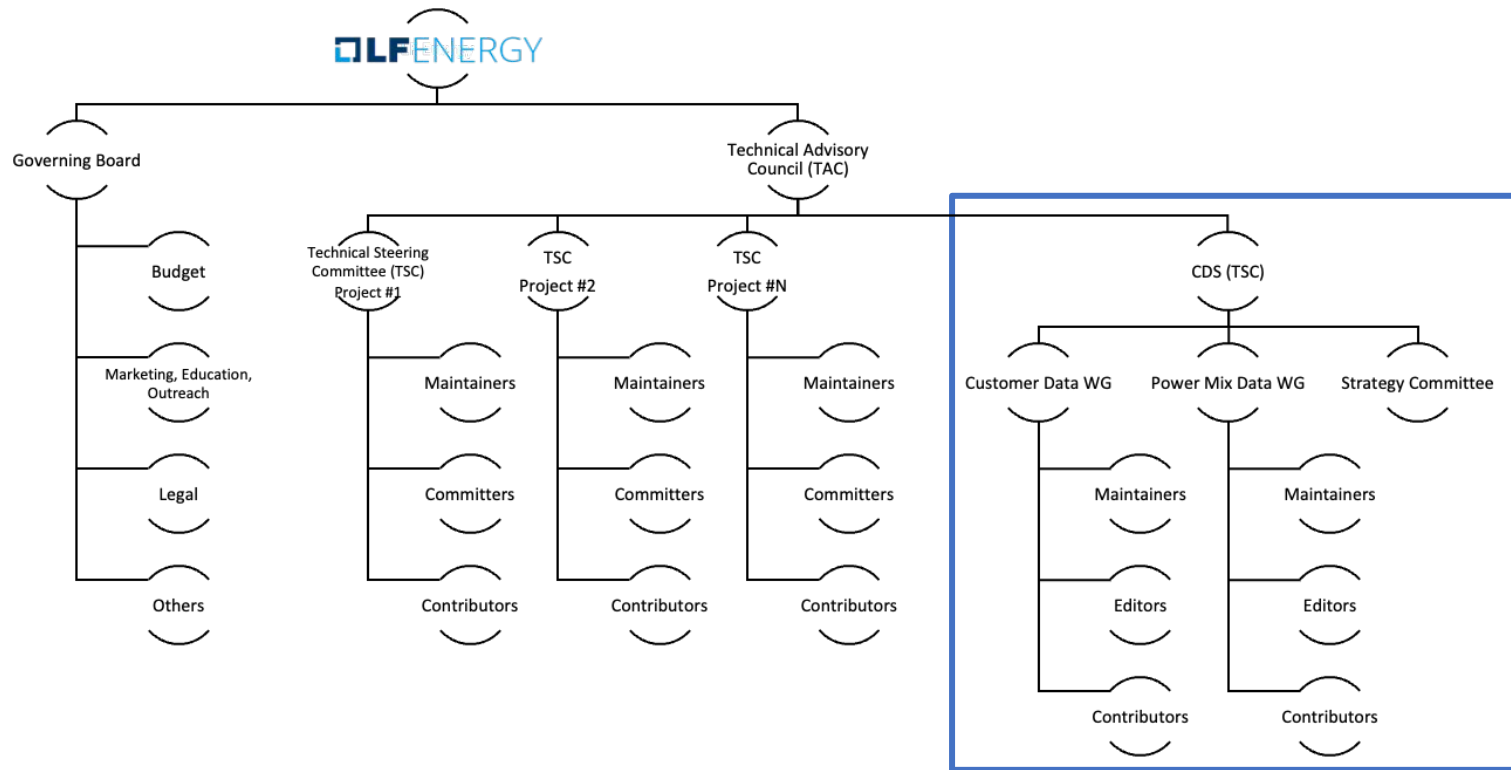
Project Review Cycle

Project	Current Level	Initially Accepted	Last Review Date	Next Review Date
~~Full Architecture Working Group (FAWG)~~	~~Working Group~~			~~January 15, 2022~~
~~Data Architecture Working Group (DAWG)~~	~~Working Group~~			~~January 15, 2022~~
FledgePOWER	**Incubation**	**February 11, 2021**		**February 15, 2022**
SOGNO	Early Adoption	October 27, 2020	March 16, 2021	March 8, 2022
Shapeshifter	Incubation	April 6, 2021		March 29, 2022
Grid Capacity Map	Incubation	April 27, 2021		April 19, 2022
OperatorFabric	Early Adoption	April 30, 2019	July 20, 2021	July 12, 2022
CoMPAS	Incubation	May 5, 2020	June 29, 2021	July 12, 2022
PowSyBl	Early Adoption	April 30, 2019	August 31, 2021	August 23, 2022
OpenEEmeter	Incubation	June 4, 2019	October 12, 2021	September 13, 2022
OpenSTEF	Incubation	September 21, 2021		September 13, 2022
GXF	Early Adoption	February 4, 2020	October 12, 2021	October 4, 2022
Green Data Hub	Incubation	October 12, 2021		October 4, 2022
OpenLEADR	Incubation	September 15, 2020	November 23, 2021	October 25, 2022
SEAPATH	Incubation	October 6, 2020	November 23, 2021	October 25, 2022
EVerest	Incubation	October 12, 2021		November 15, 2022
FlexMeasures	Incubation	November 2, 2021		November 15, 2022
Hyphae	Incubation	December 8, 2020	December 14, 2021	December 6, 2022

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Closing and next meeting (5 Minutes)

Outreach Updates

- TFiR videos
- Recent press articles
- We want your project news!
    - Doesn't need to be anything huge!
    - Examples of news:
        - New releases (example https://github.com/powsybl/pypowsybl/releases)
        - New features added
        - New maintainers/organizations involved
        - Upcoming plans

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Next TAC Meeting

The next meeting of the LF Energy TAC is scheduled for 15 February 2022 at 8:00 am US Pacific Time/11:00 am US Eastern Time/5:00 pm Central European Time.

Agenda will include:

- Recap of last TAC meeting/Governing Board updates
- FledgePOWER annual review

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Thank you!