Project title: Metaverse and the International Digital Ecosystem Architecture (IDEA)
Policy, Planning and Permitting for Next Generation Energy and Agricultural Infrastructure, Microgrids, Community Resiliency and Agrivoltaics

Area of Interest: 1E

Points of Contact

Technical and business points of contact
Lead Advisors:
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Grant recipient points of contact:
County of Sonoma: Senator Mike McGuire
County of Marin: Councilmember Eric Lucan
Note: For this concept paper no due diligence has been undertaken. Formal authority to submit a grant request is pending encouragement by the DOE. Encouragement by DOE does not obligate submission of formal proposal.

Academic Research
University of California Berkeley, Infrastructure Regulatory Polices
Texas A&M, Infrastructure for Sustainable Communities - Formation

Proposal
Expand the XBRL/IFRS taxonomy for permitting energy transmission projects.
Utilize pilot projects to convene multiple stakeholders from trade associations, public agencies, private entities and academic leaders for continued expansion of the XBRL taxonomy to establish an International Digital Ecosystem Architecture (IDEA) that can be utilized by any permitting system and replicated by any community.

Research permitting, policy and process for projects that involve transmission.
Utilize pilot projects to identify standardized permitting data plus research on digital ecosystems that enable next generation infrastructure as an IDEA enabled Metaverse. Where digital ecosystems improve the permitting process to accelerate clean energy, promote regenerative agriculture, empower agrivoltaics and digitally connect all stakeholders as a next generation community, a Metaverse.

A community better managed with a sustainable higher quality of life.

DESCRIPTION OF APPLICANT AND PROJECT(S)

1. Eligibility

Marin and Sonoma are local governmental entities

2. Proposed Project and Its Objectives

Our collaboration proposal is to build on the SolarApp model and enable the development of future iterations of the online permit process by addressing complicated permits to identify data elements for incorporation into the XBRL taxonomy, and to contribute towards the ongoing development of permitting platforms for all projects by enabling the IDEA data standard with all the future data elements needed.

This collaboration response is a continuation of prior and current federal initiatives like Orange Button and SolarApp and legislative acts like the 2014 DATA Act, 2023 Financial Transparency Act, 21st Century IDEA and the 2023 Infrastructure Acts (IRA & IIJA) that seek to establish digital ecosystems to innovate next generation infrastructure.

The eXtended Business Reporting Language (XBRL) and the International Financial Reporting Standard (IFRS) are already aligned and establish the International Digital Ecosystem Architecture (IDEA) that can be expanded to reduce the estimated 40% waste in construction, align public and private data across multiple international market sectors, improve risk management and expand opportunities for small and local businesses.

Permitting is an effective collaboration starting point to form next generation digital ecosystems for infrastructure based on open standards that will enable innovations to drive down costs, including the cost and time to secure the permit.

Permit data will contribute to and improve ESG reporting.

Energy transmission is a major obstacle to the development of clean energy projects. Streamlining the permit process to incorporate and resolve transmission issues can reduce that barrier.

The 2023 Marin County Grand Jury report “Electrical Resiliency — It’s Time to Do More”, recommended:

> #2: the county select pilot projects for installing microgrids, and West Marin in particular. Spring Hill Ranch is in West Marin.
>
> #4: the Board of Supervisors will engage with County Planning to develop permitting and construction guidelines to accelerate the development of microgrids.

Research at Cal in public policy relating to permitting, microgrids and agrivoltaics will help pubic agencies to develop policies and procedures that will streamline the permit process.

Research at Texas A&M in next generation construction processes relating to the smart grid, microgrids and agrivoltaics and the formation of digital ecosystems will help developers and contractors to develop policies and procedures that can reduce the cost of constructing clean energy infrastructure by up to 40%.

That combined research coupled with the IDEA “will improve the chances of, and shorten the time required for, approval by the siting authority of the application relating to the siting or permitting”.

3. Identify Risks

Significant risk to all stakeholders is the high cost of permitting due to inefficiencies and time required in the manual permitting process. Risk can be mitigated for all stakeholders if the online DOE SolarApp permitting model was expanded to all permitting.

4. Overall Schedule

All research and Identification of data elements will be completed within 24 months.

5. Identify the Transmission Project

Covered transmission project.

Five western states underground infrastructure tunnel utilizing next generation plasma tunnel-boring technology. Project is under NDA but will be revealed with encouragement notice.

Related Transmission Project

Petaluma Creamery - Agricultural Infrastructure – Community Resiliency - Agrivoltaics

Research Partners:

Cal Berkeley – Energy and Resources Group

Texas A&M - Institute for Sustainable Communities

6. Qualifications, Experience, and Resources

Many of the collaboration participants were engaged in the DOE Orange Button to expand the XBRL taxonomy. Univ of California Berkeley and Texas A&M have extensive expertise in research and public policy.

7. Partners

Multiple collaborators