Background

SGIP PAP25 (**S**mart **G**rid **I**nteroperability **P**anel – **P**riority **A**ction **P**lan 25 – Harmonized Financial Data), the "Next Green Button", was established in 2014 with the objective of harmonizing financial data interoperability between stakeholders by seeking to expand awareness of key resources that with industry collaboration could be aligned instead of duplicated, starting with simple Data Sets for exchanging common data as an email attachment. And with multi-industry collaboration could truly deliver on the potential of data interoperability to improve efficiency, increase effectiveness, reduce redundant data entry, drive down soft costs, enable data analytics, along with the creation of new financial products and services throughout the supply chain.

The formal establishment of some initial Data Sets will promote system administrators and application developers to create new innovative tools and resources, modeled after how the initial Green Button energy usage Data Set and guidelines spawned a wide range of new applications that could analyze energy usage and develop energy saving strategies.

SGIP PAP25 seeks to replicate the Green Button so that new innovative applications can be developed for building the nation's energy infrastructure, the Smart Grid. Not as an energy only specific and "silo'ed" resource, but as a multi-industry, multi-stakeholder resource that energy aligns with. Data interoperability processes and procedures that are not constrained by proprietary systems, but enabled by public open standards like XBRL, acceptable to government agencies, and administered by XBRL US. Not the silo "tree", the entire "forest". Not the final answer, but an ongoing contribution to constantly evolving digital reporting, from raw text to XBRL and FIBO, which builds on XBRL.

Together with XBRL-CET (e**X**tended **B**usiness **R**eporting **L**anguage – **C**onstruction, **E**nergy and **T**ransportation) there have been a series of outreach efforts, industry presentations, open meetings and DOE sponsored activities that have resulted in a broad range of stakeholders being aware, supportive and engaged with the exploration of data interoperability in varying degrees. What we refer to as the "Cat Herd".

The DOE sponsored Funding Opportunity Announcement "Solar Bankability Data to Advance Transactions and Access (SB-DATA)" has been a significant catalyst for promoting multi-industry engagement and collaboration, and largely shares the same objectives as SGIP PAP25 and XBRL-CET. The DOE SunShot group is in the final review stages and will shortly start the process of forming the SB-Data Strategy Working Group, and SGIP PAP25 needs to be updated.

SGIP PAP25 is being Re-tasked to align with SB-DATA to be responsive to the feedback provided by the DOE as a collaboration resource to the eventual Strategy Working Group. It is also being expanded to be responsive to the potential opportunities that can advanced with data interoperability, like improving access to opportunities for small business and helping veterans transition to great careers in the energy industry.

The purpose of expanding SGIP PAP25 beyond just energy is to secure broader engagement and higher return on investment for a greater number of stakeholders. Limiting to just energy is a constraint on adoption and implementation, expanding to cover all construction, energy and transportation will significantly improve the level of participation, and further the cause of open standards.

<u>Status Update on Initial SGIP PAP25</u>

Initial Deliverable

D1   Establish XBRL-CET initial taxonomy. An open standards based XBRL semantic extension specifically for Construction, Energy and Transportation to enable interoperability between stakeholders.

> The XBRL GAAP taxonomy already exists, the expanded XBRL-CET contribution to identify and tag more data fields will be undertaken independently and as part of SB-Data.

> The number of publically traded utility, solar and construction companies means the majority of the common financial reporting data elements are available now.

> The process for expanding the taxonomy, and utilizing it beyond just financial reporting to the SEC, is currently under review by the Surety Fidelity Association of America (SFAA) with XBRL US, along with participation by the National Association of Surety Bond Producers (NASBP) and Acord. The SFAA/XBRL US review is starting with the basic "work on hand" report relating to construction activity.

> The "work on hand" report was cited by the respondents to SB-Data as an initial activity to establish the process of expanding the XBRL taxonomy to include energy related data fields as a platform to collaborate with XBRL and the surety industry.

D2   Create a prototype Construction Performance Measurement Dashboard using the XBRL -CET.

> Submitted the Dashboard to DOE App's for Energy contest – Data By Design

D3   CAISO currently publishes online an excel worksheet that provides status updates to stakeholders on all projects in queue. With CAISO support we will have their publicly posted excel spreadsheet properly tagged with XBRL-CET so that stakeholders can better utilize and/or import the information provided.

> Deferred until an adequate structure and formally approved XBRL tags are established, which will be part of SB-Data.

D4   There are over 3,600 utilities that implement the single FERC regulation for interconnection security, and understandably there are numerous versions of surety bond forms, each with their own interpretation of the security obligations. This unnecessarily complicates the ability of the surety industry to develop consistent underwriting policies and procedures and undermines the reliability and predictability of the surety claims handling process. We will work to develop a national standardized interconnection payment bond that can be electronically delivered to any utility consistent with FERC regulations.

The following standardized surety bonds tailored to the Smart Grid were distributed in concurrently with the September 14th through 17th Solar Power International conference in Anaheim California, and in anticipation of the SB-Data Strategy Working Group outreach and review process. The resulting suite of bonds, all utilizing XBRL Data Sets, will reflect multi industry collaboration and consensus, mutually acceptable to all stakeholders, and integrate with efficient project administration for the entire supply chain.

2015 09-14 SGIP PAP25 XBRL-CET - Advance Payment Bond - All States
2015 09-14 SGIP PAP25 XBRL-CET - Engineering Procurement Construction Payment Bond - All States
2015 09-14 SGIP PAP25 XBRL-CET - Interconnection Payment Bond - All States
2015 09-14 SGIP PAP25 XBRL-CET - Power Purchase Agreement Surety Payment Bond - All States
2015 09-14 SGIP PAP25 XBRL-CET - Solar Facility Decommissioning Bond - All States
2015 09-14 SGIP PAP25 XBRL-CET - Solar Module Payment Bond - All States
2015 09-14 SGIP PAP25 XBRL-CET - Solar Module Supply Bond - All States
2015 09-14 SGIP PAP25 XBRL-CET - Solar Module Warranty Bond - All States
2015 09-14 SGIP PAP25 XBRL-CET - Wind Facility Decommissioning Bond - All States

D5   Solar Nexus, the developer of the Integrated Energy Project Model (IEP XML) recently received a grant from the DOE to continue its development of IEP XML to establishing data standards for the solar industry. We will work with IEP XML so that it synergizes and harmonizes with XBRL-CET taxonomy
        Deferred until the SB-Data Strategy Working Group is formed.

Re-tasked Initial Deliverables

D1   Establish XBRL-CET initial taxonomy. An open standards based XBRL semantic extension specifically for Construction, Energy and Transportation to enable interoperability between stakeholders.
        No Change

D2   Create a prototype Construction Performance Measurement Dashboard using the XBRL -CET.
        Deferred until an adequate structure and formally approved XBRL tags are established, which will be part of SB-Data.

D3   CAISO currently publishes online an excel worksheet that provides status updates to stakeholders on all projects in queue. With CAISO support we will have their publicly posted excel spreadsheet properly tagged with XBRL-CET so that stakeholders can better utilize and/or import the information provided.
        Deferred until the SB-Data Strategy Working Group is formed.

D4   There are over 3,600 utilities that implement the single FERC regulation for interconnection security, and understandably there are numerous versions of surety bond forms, each with their own interpretation of the security obligations. This unnecessarily complicates the ability of the surety industry to develop consistent underwriting policies and procedures and undermines the reliability and predictability of the surety claims handling process. We will work to develop a national standardized interconnection payment bond that can be electronically delivered to any utility consistent with FERC regulations.

        Changed to
                Develop a suite of national standardized surety bond forms that can be electronically delivered to any stakeholder, utilize the XBRL taxonomy, tailored to the Smart Grid and energy related activities

D5   Solar Nexus, the developer of the Integrated Energy Project Model (IEP XML) recently received a grant from the DOE to continue its development of IEP XML to establishing data standards for the solar industry. We will work with IEP XML so that it synergizes and harmonizes with XBRL-CET taxonomy
        Deferred until the SB-Data Strategy Working Group is formed.

<u>Expanded Deliverables</u>

ED1   Responsive to SB-Data and a resource to the newly formed Strategy Working Group.

ED2   Responsive to the DATA Act and a resource for compliance.

ED3   Responsive to the SFAA/XBRL US effort to establish a process for expanding the XBRL taxonomy, staring with the "work on hand" report.

ED4   Promote the establishment of a university based Interoperability Research Center to facilitate the expansion of the XBRL taxonomy for energy related data, and synergy with other industry standards, as detailed in DOE FOA - Buildings University Innovators and Leaders Development (BUILD) – 2015 , Sunshot Initiative Solar Data and Informatics RFP, and the aggregated concept papers submitted to DOE.

ED5   As part of the educational opportunity for university students in support of establishing the Interoperability Research Center, demonstrate the potential of the expanded and synergized XBRL taxonomy by creating a Translation/Conversion application for generating XBRL files, and updating the old Chico Common App to various modern Cloud Based platforms like QuickBase (Intuit) and Salesforce with functionality to import and export formal XBRL and proposed XBRL data tags.

    Post the "Shareware" programming code and associated collaboration tools on the projects Quickbase and GitHub site, and the US Treasury GitHub site for DATA Act compliance.

        Old Chico Common App
        www.chico-commonapp-connection.com

        Log in as username "sample" and password "sample"
          Go to the "Submit" Tab – Far right along the top
          Upper Left – View Completed Questionnaire
            That is the data ready for printing – Standard Questionnaire

        Middle left – Export an XML Format
          Creates an XML file that can be sent as an attachment.

        Lower left - XML Cross Reference
          The imbedded cross referenced spreadsheet.

        Lower left of imbedded spreadsheet
          Export the imbedded spreadsheet to excel
               The cross referenced spreadsheet in excel designed to identify the data fields and propose XBRL tags for inclusion in the formal taxonomy.

ED6   Expand the impact of SB-Data by extending the stakeholders beyond just energy by developing partnerships with stakeholders that have systems and/or applications that would be improved with data interoperability, and provide those agencies, trade associations and government assistance programs with the free "Shareware" Chico Common Application programming code for others to replicate or incorporate, and access to online Translation/Conversion applications, along with technical assistance for cost effective R&D and significantly reduced cost to implement.

   1) Support the SFAA and XBRL in their efforts with respect to the "work on hand" Data Set.
   2) Support Caltrans and their compliance with the DATA Act.
   3) Support trade associations and government sponsored programs that help small business.
   4) Support efforts to help veterans transition to high quality careers.

ED7   Align the new Cloud Based Quickbase/Salesforce Chico Common App with the US Treasury and US Department of Health and Human Services effort to establish Data Interoperability for compliance with the DATA Act.

ED8   Develop updated outreach and educational symposiums to demonstrate the potential of data interoperability, across both energy and transportation simultaneously, to improve project administration and access to opportunities for small business while also complying with the DATA Act.

   - Caltrans - Helping Small Business by Complying with the Data Act
     - Lammers Road Interchange
   - US DOE - Small Business and Big Energy
   - US Treasury - Helping Public Agencies and Private Stakeholders Throughout the Supply Chain Comply with the DATA Act with Engagement and Collaboration to Promote Open Standards and Innovation
   - Proposed Energy Summit - XBRL - Building the Nation's Energy Infrastructure

ED9   Develop new outreach and educational symposiums that cover key topics
   1) Performance metrics and data analytics for solar projects
   2) Legal considerations to data exchange
   3) Electronic bonding

ED10   Facilitate various different contractor systems that contain company profiles for outreach to have an XBRL export option that contains the XBRL Data Set for Company Profile.

ED11   Provide an online cloud based translation/conversion application for generating XBRL files.
          Part of ED6

ED12   Facilitate various different surety and bank systems that could import company profiles to have an XBRL import option for the XBRL Data Set for Company Profile.

ED13   Work with public agencies to post project status information that provides compliance with the DATA Act, and can be utilized by the surety for default risk mitigation data analytics.
          Part of ED8 -   Caltrans - Helping Small Business by Complying with the Data Act
                          Lammers Road Interchange

ED14 Develop a pilot project with participating stakeholders to improve access to opportunities in solar and energy related careers, particularly for veterans and veteran owned companies.

Steps for establishing pilot project:

1) Develop guidelines for establishing the parameters for veteran owned companies to secure bonding support.

    A. Veteran Owned Company Underwriting Considerations
        o Company financial statement, company profile and "work on hand report" available in XBRL
        o Completion of the Solar Ready Vet Program
        o Or, completion of US Department of Transportation (DOT) Bonding Education Program
        o Submission of a business plan
        o Acceptable credit score.

    B. Project Underwriting Considerations
        o Solar installation contract under $500,000
        o Projects over $500,000 with minimal additional information.
        o Panel module supplier responsible for panel warranty.
        o Bonded panel module supply contract.

2) Public Agency establishes training and projects that are appropriate for veteran owned firms.
    ▪ A New Solar Energy Job-Training Pilot Program for Veterans
    ▪ Obama: Solar Program to Train Troops for Civilian Careers DoD News
    ▪ Three Military Bases Partner with Energy Department to Train Veterans for Solar Jobs
    ▪ Army awards second technology under $7 billion renewable energy MATOC

3) Public agency establishes procurement policy that utilizes XBRL Data sets for core project data

4) XBRL Data Sets can then be utilized for import into surety underwriting systems

5) Standard contract and surety bond forms for installation of solar assets.

6) XBRL Data Sets can then be utilized for contract preparation, insurance policy issuance and electronic execution of standardized bond forms.

7) XBRL Data Sets can then be utilized for public agency contract administration, including access to project progress information by the surety in addition to compliance for the DATA Act.

ED15 Coordinate the establishment of data exchange protocols between stakeholders with various efforts to address cybersecurity issues by participating in responses to DOE funding opportunity announcements. Stakeholders working on SB-Data must have the benefit and awareness of activities that relate to safe and secure data interoperability.

Energy Policy Modernization Act of 2015
- $65M for each of fiscal years 2017 through 2025 for cyber security testing and cyber resilience program
- $15M (2017 through 2025) for Cyber Security component testing and writing of procurement guidelines
- $10M to develop a physical and Cyber Security maturity model as well as research on hardening the grid

Smart Grid Act of 2015

Secure and Trustworthy Cyberspace (SaTC)

While the expanded deliverables of SGIP PAP25 may seem too aggressive the reality is the project remains essentially the same, how to get Data Sets from one system to another in the supply chain efficiently and cost effectively. The expanded deliverables simply reflects the numerous "touch points" that efficiency could be utilized, and the opportunities that can realized, with data interoperability.

Solve it for one deliverable, and its impact can be on all the deliverables identified. They are not separate; they are connected by the common utilization of the XBRL Taxonomy and synergized industry specific standards.

More importantly the expanded effort on harmonized financial data will generate more innovations enabled by data interoperability.

Just like the initial Green Button.