**Section 1 – Respondent Profiles**

1. Please provide your contact information.

|  |  |
| --- | --- |
| Total Responses | 60 |
| Companies and/or Organizations | 51 |
| Individual Representatives | 59 |

2. Do you participate in (check as many as are applicable):

37 Wholesale Natural Gas Market 4 Producer

10 Pipeline

6 Distributor

6 Services or Technology Company

12 End User

5 Other Participant

3. 31 Wholesale Electric Market as a 14 Transmission Company

12 Generator

9 Distributor/Load Serving Entity

5 End User

6 Independent Grid Operators and Planners

10 Marketers/Brokers

2 Technology and Services Companies

4 Other Participant

4. 16 Retail Energy Market as a 7 Retail Electric Service Providers/Suppliers

3 End Users/Public Agencies

4 Retail Gas Market Interests

7 Retail Electric Utilities

4 Other Participant

5. 3 If you do not fit into any of the market functions described in questions 2 through 4, or if one of your market functions has not been provided in questions 2 through 4, please describe your market function.:

|  |  |
| --- | --- |
| 1. | We are an LDC for natural gas, but there are subsidiaries under our parent company that have electric utilities (Participant in All Markets) |
| 2. | Consultant (Market Participation Not Provided) |
| 3. | Retail electric broker - NAESB Groupie (Participate in All Markets) |
| 4. | Wholesale transmission (Participant in Wholesale Electric Market) |
| 5. | Regulator for Bulk Electric System Reliability in North America (Participant in Wholesale Electric Market) |
| 6. | PNNL is a US DOE national laboratory, we do research and facilitate activities in the electric power industry consistent with the federal role of enhancing the economic and social welfare of the nation. (Market Participation Not Provided) |
| 7. | Regulator (Market Participation Not Provided) |

# 

|  |  |
| --- | --- |
| Individual Respondent Identification of Market Participation - Single/Multi Market (60 Data Points) | |
| Single Market | |
| Wholesale Electric Market | 15 |
| Wholesale Gas Market | 19 |
| Retail Market | 4 |
| Multi Market | |
| Wholesale Electric & Gas Market | 7 |
| Wholesale Electric & Retail Market | 1 |
| Wholesale Gas & Retail Market | 3 |
| All Markets | 8 |
| Unidentified | 3 |

|  |  |
| --- | --- |
| Cumulative Responses by Market Participation - (87 Data Points) | |
| Wholesale Electric Market | 37 |
| Wholesale Gas Market | 31 |
| Retail Market | 16 |
| Unidentified | 3 |

# 6. Are you a member of NAESB?

57 Yes

3No

**7.** If you are not a member, why have you not joined NAESB?

2 Financial reasons

0 My organization is an affiliate of a member company

0 NAESB’s activities are not currently relevant to my organization

0 My organization’s interests are represented by another entity

1 Other

Other:

|  |
| --- |
| US DOE national laboratory without electricity system operational responsibility. |

# **Section 2 – Potential Standards Development Areas**

# Please indicate whether NAESB should consider standards development or other activities in the following areas within the next 18 to 24 months. Comments may be provided for each development effort.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Distributed Ledger Technologies** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 13 | 24 | 3 | 20 | 60 |
| By Market | | | | | | |
| Wholesale Gas Market | | 5 | 19 | 2 | 11 | 37 |
| Wholesale Electric Market | | 7 | 12 | 1 | 11 | 31 |
| Retail Energy Markets | | 5 | 7 | 0 | 4 | 16 |
| No Market Identified | | 1 | 0 | 0 | 2 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | Potential opportunities include the EIR, e-Tagging systems, and OASIS systems. Additional opportunities also include Transmission and Market Transaction Settlements. | | | | | |
| 2. | Marketplace settlement transactions | | | | | |
| 3. | I believe while the WGQ is at the forefront of DLT, there should be a standardize business process for the industry if implemented. | | | | | |
| 4. | Gas Purchase and Sale Agreements are examples but not Gas Transportation Contracts | | | | | |
| 5. | Invoicing | | | | | |
| 6. | DLT could be used to enhance high availability and resiliency of EIR and/or other functions, i.e. e-tagging | | | | | |
| 7. | Settlement, Billing - back office functions. Collateral Management | | | | | |
| 8. | As cybersecurity has come to the forefront have standards addressing digital exposures is critical | | | | | |
| 9. | Power trading through accounting, Rec contract through attestation & retirement, and Gas Pipeline Transportation | | | | | |
| 10. | Standards on Redirect, Preemption & Competition, Consolidation etc | | | | | |
| 11. | Natural Gas Supply Chain (active), REC Voluntary (active), Wholesale Electricity | | | | | |
| 12. | Cheniere's current NAESB request at R19014 | | | | | |
| 13. | Natural Gas Trading, Scheduling & Invoicing activities | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 1 | Standardization in the area is not needed (comments below) | | | | | |
|  | No comments provided | | | | | |
| 0 | Standards currently exist that adequately address the area for the energy industry | | | | | |
| 1 | Standards development by NAESB would be inappropriate (comments below) | | | | | |
|  | Distributed Ledger is a technology choice that might have application in many areas that are not subject to NAESB regulations. NAESB members may not be in the best position to develop standards for this technology. Instead, NAESB should focus its efforts on standards that are more aligned with its core area of responsibility/oversight. | | | | | |
| 1 | Standards development by NAESB would be inappropriate at this time (comments below) | | | | | |
|  | Do not see as a priority at this time. | | | | | |
| **Additional Comments** | | | | | | |
| 1. | A standard tracking system outside of WECC and a standard contract for voluntary environmental attribute transactions would be useful. | | | | | |
| 2. | Much effort has been put into creation of digital datasets for the NAESB Base Contract and related datasets over the past several years. Those datasets have the potential to greatly improve the related processes; however, I anticipate additional work will be needed to improve the datasets and move the processes into the Distributed Ledger realm. | | | | | |
| 3. | DLT can be a great efficiency tool. As new vendors spool up to provide the Purchase and Sales process electronically there will be updates and enhancements to the newly developed NAESB DLT documentation. | | | | | |
| 4. | No opinion on the continued development of electronic versions of NAESB Base Contract and related Transaction Confirmation and Invoice. At this time, no opinion is based on that there is no actual industry experience with current proposed standards that could be used in an analysis of benefits versus cost of implementation and impacts to a company’s existing commercial systems, accounting, and operations. | | | | | |
| 5. | Distributed ledger aka block chain is a more secure method than email. email is the primary method for wholesale markets. | | | | | |

**Potential Charts for Report**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Distributed Energy Resources** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 15 | 24 | 2 | 19 | 60 |
| By Market | | | | | | |
| Wholesale Gas Market | | 7 | 14 | 1 | 15 | 37 |
| Wholesale Electric Market | | 7 | 17 | 2 | 5 | 31 |
| Retail Energy Markets | | 6 | 7 | 0 | 3 | 16 |
| No Market Identified | | 2 | 1 | 0 | 0 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | NC, SC, and FL have many solar and battery storage deployments. Indiana has several battery storage projects in the wholesale market. | | | | | |
| 2. | Continue support of electronic metering reporting standards, such as “Green Button “standard for retail electric meters. | | | | | |
| 3. | Community Solar | | | | | |
| 4. | Digitalization between nat gas and electric systems to achieve harmonization and thus reliability and resiliancy would be nice | | | | | |
| 5. | This might already exist but a standard interconnection agreement should exist and a documented process flow for the agreement, business process standards should also be developed. | | | | | |
| 6. | Communication with Utilities/ISOs (similar to NERC BES standards but for smaller load) Cybersecurity | | | | | |
| 7. | The retail electricity space for expanding the integration distributed energy resources with system operations is being hampered because terminology and related concepts are confusing and make for an inefficient dialogue, especially when discussing the nature of a service to be exchanged at the boundary between the electric power system infrastructure and customer premises. Understanding and separating operational objectives from the performance expectations of a service agreement are needed to make the business value propositions and related interactions between grid-related and customer-related parties become more effective and efficient. | | | | | |
| 8. | Trading, Scheduling & Invoicing activities under the NAESB Wholesale Gas Contract | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 0 | Standardization in the area is not needed | | | | | |
| 1 | Standards currently exist that adequately address the area for the energy industry (comments below) | | | | | |
|  | IEEE Standard 1547 provides requirements relevant to the performance, operation, testing, safety considerations, and maintenance of DER. | | | | | |
| 0 | Standards development by NAESB would be inappropriate | | | | | |
| 1 | Standards development by NAESB would be inappropriate at this time (comments below) | | | | | |
|  | No comments provided. | | | | | |
| **Additional Comments** | | | | | | |
| 1. | Also, market standards needed to complement the NERC reliability standards for variable energy resources. | | | | | |
| 2. | Standardization in this area would likely not affect the WGQ Pipelines. | | | | | |
| 3. | There appears to be an opportunity for future standards, NAESB should monitor and remain engaged to develop Business Practices when the technology matures. | | | | | |
| 4. | With Solar, Wind, Batteries being added to the energy mix, NEASB may wish to revisit WEQ-023 Modeling Standard for transparency. | | | | | |
| 5. | DER is growing at such a rapid pace that NAESB should continue to closely monitor the penetration and market activity of DER. | | | | | |
| 6. | Not Applicable to WGQ | | | | | |
| 7. | Integration of batteries is a challenge for regulators and market participants. If NAESB showed them how batteries can be used in multiple ways to maximize efficiencies, perhaps they will deploy faster. | | | | | |
| 8. | DER overtook Coal in ERCOT last year | | | | | |

**Potential Charts for Report**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Internet of Things (IoT)** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 6 | 16 | 8 | 26 | 56 |
| By Market | | | | | | |
| Wholesale Gas Market | | 3 | 10 | 7 | 15 | 35 |
| Wholesale Electric Market | | 3 | 8 | 3 | 13 | 27 |
| Retail Energy Markets | | 2 | 5 | 1 | 7 | 15 |
| No Market Identified | | 1 | 1 | 0 | 1 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | Retail markets - Distribution circuits and behind-the-meter customers | | | | | |
| 2. | North America- if cross border digital standards could be achieved interconnection issues including reliability could be solved | | | | | |
| 3. | supply chain | | | | | |
| 4. | Industrial Internet of Things - Sensor communication and cybersecurity | | | | | |
| 5. | To the extent that IoT standards support the integration of DER on the customer-side with electric system operations, as described in the previous question's response, this area is relevant. | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 0 | Standardization in the area is not needed | | | | | |
| 1 | Standards currently exist that adequately address the area for the energy industry (comments below) | | | | | |
|  | We address our internet systems at an enterprise level and don't feel the need for standards | | | | | |
| 0 | Standards development by NAESB would be inappropriate | | | | | |
| 6 | Standards development by NAESB would be inappropriate at this time (comments below) | | | | | |
|  | Not a priority at this time. NAESB should not have this focus. | | | | | |
|  | It is unclear what part of IOT the NAESB standards would address. Perhaps with more definition of the proposal there could be an opportunity. | | | | | |
|  | Technology is still to vague for standardization | | | | | |
| 1 | Other (comments below) | | | | | |
|  | Not applicable to any of the NAESB Quadrants | | | | | |
| **Additional Comments** | | | | | | |
| 1. | From our perspective, IoT devices and related communications would be backoffice processes used with our SCADA and/or measurement systems. Not sure how this might affect other segments and/or quadrants. | | | | | |
| 2. | At this time, no opinion is based on need to review specific proposed standards to analyze whether to support or not support a proposed standard. | | | | | |
| 3. | With the explosion of "smart devices" for homes, business, and industry, this seems like another great area to monitor to ensure standards are sufficient. This seems especially true in areas of privacy and security. | | | | | |
| 4. | Standards could be as simple as cross referencing standards already developed by other organizations. Thus, incorporating by reference an incorporation by reference ;) | | | | | |
| 5. | As I understand what is associated with the iot arena, i don't think there is a lot of commonalities in the needs of energy markets.. | | | | | |
| 6. | I'd like to see standards apply to all intrastate natural gas pipelines and not only to interstate natural gas pipelines, public electronic bulletin boards | | | | | |

**Potential Charts for Report**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support General Data Protection Regulation (GDPR)** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 5 | 21 | 8 | 22 | 56 |
| By Market | | | | | | |
| Wholesale Gas Market | | 2 | 13 | 7 | 13 | 35 |
| Wholesale Electric Market | | 3 | 8 | 5 | 11 | 27 |
| Retail Energy Markets | | 1 | 8 | 1 | 5 | 15 |
| No Market Identified | | 2 | 0 | 0 | 1 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | In the WEQ, OASIS and other standards provide guidance on the treatment of some data. Developing a common set of standards to manage what data is shareable and with whom would benefit industry. This could include OASIS, EIR, e-Tag, retail meter data, Gas pipeline data, etc. | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 2 | Standardization in the area is not needed (comments below) | | | | | |
|  | This is an EU only initiative. | | | | | |
| 1 | Standards currently exist that adequately address the area for the energy industry (comments below) | | | | | |
|  | No comments provided. | | | | | |
| 3 | Standards development by NAESB would be inappropriate (comments below) | | | | | |
|  | These standards are well defined for companies that must comply with this regulation. | | | | | |
|  | I am interpreting this to refer to the European General Data Protection Regulation, which is not related to the North American energy industry. Some North American companies may be required to comply with it, but I don't believe NAESB has a role to play in setting standards. | | | | | |
| 2 | Standards development by NAESB would be inappropriate at this time (comments below) | | | | | |
|  | GDPR is an EU regulation and would seemingly be outside the scope of NAESB. NAESB members and NAESB Standards are North America centric. As we understand GDPR, it applies to international organizations based outside of the EU that have activity on European soil. None of our entities fit that description nor do we believe other U.S. marketing entities would either. Prior to supporting any standard, we would need to review specific proposed standards to determine the impact on our U.S. commercial activities. Finally, similar to NAESB Contract Standards, any standards adopted by NAESB should be completely voluntary and not mandated by FERC or other federal agency without enabling legislation. | | | | | |
| **Additional Comments** | | | | | | |
| 1. | From our perspective, we do not generally gather or use personal information for individuals. | | | | | |
| 2. | Need More Information | | | | | |
| 3. | Our company has been asked to support GDPR security standards for some of the global companies we work with. | | | | | |
| 4. | under cyber concern | | | | | |
| 5. | As i currently understand this is a uk regulation. in the event the us does not have something then european activities around this regulation could be monitored maybe under the cybersecurity subcommittee work. | | | | | |
| 6. | The handling of customer information with privacy rights is important for integrating an customer-side resources with electric system operations. | | | | | |

**Potential Charts for Report**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Battery Storage (Wholesale Market)** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 7 | 22 | 2 | 22 | 53 |
| By Market | | | | | | |
| Wholesale Gas Market | | 3 | 13 | 0 | 17 | 33 |
| Wholesale Electric Market | | 3 | 17 | 2 | 4 | 26 |
| Retail Energy Markets | | 5 | 6 | 0 | 4 | 15 |
| No Market Identified | | 1 | 0 | 0 | 2 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | Many regulated battery storage projects in NC, SC, FL, and IN | | | | | |
| 2. | Standards that communicate operating status of Battery Storage Facility and their ability to provide services to regional transmission authorities responsible for grid reliability. Standards development should only be undertaken after receipt of request by NAESB, | | | | | |
| 3. | Community Solar | | | | | |
| 4. | Communication and cybersecurity Bulk Electric Communication and cybersecurity Retail Electric | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 0 | Standardization in the area is not needed | | | | | |
| 1 | Standards currently exist that adequately address the area for the energy industry (comments below) | | | | | |
|  | There are already existing business rules and testing requirements for battery storage resources to participate in the wholesale market. We do not believe additional standards are necessary. | | | | | |
| 0 | Standards development by NAESB would be inappropriate | | | | | |
| 1 | Standards development by NAESB would be inappropriate at this time (comments below) | | | | | |
|  | There appears to be an opportunity for future standards, NAESB should monitor and remain engaged to develop Business Practices when the technology matures. | | | | | |
| **Additional Comments** | | | | | | |
| 1. | Also, market standards needed to complement the NERC reliability standards for variable energy resources. | | | | | |
| 2. | Standardization in this area would likely not affect the WGQ Pipelines. | | | | | |
| 3. | We support developing standards on this topic when it has matured. | | | | | |
| 4. | Many utilities such as TVA are encouraging the development and expansion of battery technology via request for proposals from third party developers so this is an area that would be great to monitor to ensure standards are being updated accordingly. | | | | | |
| 5. | Not Applicable to WGQ | | | | | |
| 6. | Given that many states require 10% or more renewable energy in the transmission grid and given that there are times when there isn't wind or sun, battery storage is a key piece in minimizing brown outs. given that grids can only hold so much energy, until there is a more cost-effective solution battery storage is here to stay. | | | | | |
| 7. | At this point, our company has only one battery storage pilot project underway, which is for generation purposes. I do not believe we will be seeking to use for firming wholesale marketing reasons for the foreseeable future. | | | | | |
| 8. | Integration of batteries is a challenge for regulators and market participants. If NAESB showed them how batteries can be used in multiple ways to maximize efficiencies, perhaps they will deploy faster. | | | | | |

**Potential Charts for Report**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Battery Storage (Retail Market)** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 3 | 17 | 3 | 30 | 53 |
| By Market | | | | | | |
| Wholesale Gas Market | | 0 | 13 | 1 | 19 | 33 |
| Wholesale Electric Market | | 1 | 11 | 3 | 11 | 26 |
| Retail Energy Markets | | 1 | 8 | 0 | 6 | 15 |
| No Market Identified | | 1 | 1 | 0 | 1 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | Many distribution connected Batteries in NC, SC, and FL | | | | | |
| 2. | Communication and cybersecurity Retail Electric | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 1 | Standardization in the area is not needed (comments below) | | | | | |
|  | Not applicable to PJM at the Retail Level. Retail Energy Storage Incentive Program is typically operated under a state program with specific state participation and incentive requirements. | | | | | |
| 0 | Standards currently exist that adequately address the area for the energy industry | | | | | |
| 0 | Standards development by NAESB would be inappropriate | | | | | |
| 1 | Standards development by NAESB would be inappropriate at this time (comments below) | | | | | |
|  | There appears to be an opportunity for future standards, NAESB should monitor and remain engaged to develop Business Practices when the technology matures. | | | | | |
| 1 | Other (comments below) | | | | | |
|  | It is inapplicable to our company, as we do not have a retail electricity or energy market in our region of the U.S. | | | | | |
| **Additional Comments** | | | | | | |
| 1. | Yes (e.g. significant battery storage to support demand response on the distribution system) | | | | | |
| 2. | Standardization in this area would likely not affect the WGQ Pipelines. | | | | | |
| 3. | We support developing standards for battery storage, however development is not needed at this time. | | | | | |
| 4. | Not Applicable to WGQ | | | | | |
| 5. | Integration of batteries is a challenge for regulators and market participants. If NAESB showed them how batteries can be used in multiple ways to maximize efficiencies, perhaps they will deploy faster. | | | | | |
| 6. | I don't see how battery storage links into retail market processes. | | | | | |
| 7. | Battery storage is part of the DER, customer-side resources whose management can be coordinated for electric system operation. | | | | | |

**Potential Charts for Report**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Cybersecurity** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 16 | 24 | 4 | 8 | 52 |
| By Market | | | | | | |
| Wholesale Gas Market | | 7 | 16 | 3 | 6 | 32 |
| Wholesale Electric Market | | 10 | 12 | 1 | 2 | 25 |
| Retail Energy Markets | | 6 | 6 | 1 | 2 | 15 |
| No Market Identified | | 1 | 1 | 0 | 1 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | Enhancement and evolution of existing standards. Standards to address appropriate security for cloud utilization with in the industry. | | | | | |
| 2. | NERC CIP assets, Distribution grid assets, and wide area telecom infrastructure | | | | | |
| 3. | Various security items | | | | | |
| 4. | Focus on enhancing security technologies for data exchange. | | | | | |
| 5. | The department of Commerce National Telecommunication and Information Administration is working on standards for "Software Bill of Materials"(SBOM), which would help energy companies know what inside a software object before installing. An SBOM is akin to the labeling of ingredients on a food product so that people with allergies don't take something that could cause death. An SBOM will help detect malware, before any attempt at installation in energy cyber asset ecosystem. | | | | | |
| 6. | Wholesale Gas Infrastructure Reporting to DOE and/or DHS for Situational Awareness. Wholesale Electric Infrastructure Reporting incorporation with NERC | | | | | |
| 7. | Cybersecurity policies that are standardized of set up as guides for interactions between customer-side flexibility resources with electric system infrastructure operation would help the integration of these resources. | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 0 | Standardization in the area is not needed | | | | | |
| 2 | Standards currently exist that adequately address the area for the energy industry (comments below) | | | | | |
|  | NERC CIP, NIST CSF, ISO 27001, PCI, SOX | | | | | |
| 1 | Standards development by NAESB would be inappropriate (comments below) | | | | | |
|  | Other industry groups are already adequately supporting this initiative. NAESB should continue to focus on ensuring its standards development compliments those efforts. | | | | | |
| 1 | Standards development by NAESB would be inappropriate at this time (comments below) | | | | | |
|  | No comment provided. | | | | | |
| **Additional Comments** | | | | | | |
| 1. | Standards are needed as requested by the Department of Energy and/or other regulatory entities. | | | | | |
| 2. | The topic “Cybersecurity” is too broad to provide better comments. Consider narrowing this topic to a specific area within cybersecurity. | | | | | |
| 3. | For the WGQ, extensive work has been performed over the past year to incorporate cybersecurity improvements in the Standards, where needed, based on recommendations of Sandia National Labs. However, we are always supportive of any Standardization needed to strengthen our cybersecurity efforts. | | | | | |
| 4. | The latest standards and manual updates for WGQ V3.2 addressed cybersecurity concerns raised by Sandia National Laboratory in their latest review. This area will always be pertinent and changing as more and more devices are connected and sharing data. | | | | | |
| 5. | Support high level guidance allowing each company to determine their best implementation | | | | | |
| 6. | One of the issues with setting standards for CyberSecurity is the inherent visibility this gives to those who would do harm. This needs to be taken into consideration. | | | | | |
| 7. | process to quickly address changes in a rapidly changing field. | | | | | |
| 8. | All non third world countries rely on electronic communications for their business. successful hacking is at an all time high and many have been successful. given that the hackers hold data for ransom should put everyone on alert. | | | | | |
| 9. | There will presumably be a role for NAESB to complement NERC's mandatory reliability standards, but I do not have specific comments at this time. | | | | | |

**Potential Charts for Report**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Grid Modernization Activities, including the Department of Energy Grid Modernization Initiative** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 13 | 15 | 2 | 22 | 52 |
| By Market | | | | | | |
| Wholesale Gas Market | | 4 | 11 | 1 | 16 | 32 |
| Wholesale Electric Market | | 8 | 10 | 1 | 6 | 25 |
| Retail Energy Markets | | 3 | 6 | 0 | 6 | 15 |
| No Market Identified | | 2 | 0 | 0 | 1 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | Utility partner in multiple Grid Modernization Laboratory Consortium (GLMC) projects | | | | | |
| 2. | Should strongly support standards starting with safety supporting the us third world grid | | | | | |
| 3. | The first example in this survey is a part of the DOE-GMLC 2.5.2 project on Grid Services and Energy Services Interface that is a part of this program. | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 0 | Standardization in the area is not needed | | | | | |
| 1 | Standards currently exist that adequately address the area for the energy industry (comments below) | | | | | |
|  | The Department of Energy and NERC are already working on these areas. | | | | | |
| 1 | Standards development by NAESB would be inappropriate (comments below) | | | | | |
|  | Need clear direction from Regulators and Congress prior to taking on these initiatives. | | | | | |
| 0 | Standards development by NAESB would be inappropriate at this time | | | | | |
| **Additional Comments** | | | | | | |
| 1. | Standards are needed as requested by the Department of Energy and/or other regulatory entities. Also, market standards needed to complement the NERC reliability standards for variable energy resources. | | | | | |
| 2. | Standardization in this area would likely not affect the WGQ Pipelines. | | | | | |
| 3. | NAESB should be engaged with the developments of this effort at the DOE. While it is unclear at this time how NAESB can initiate standards activity, it is very likely there will be opportunity in the future. | | | | | |
| 4. | Ensuring the standards are aligned to the advancement of grid technologies is important. | | | | | |
| 5. | Need more details on NAESB Role | | | | | |
| 6. | Always a good idea to support a federal mandate and assist with implementation so that it goes smoothly. | | | | | |
| 7. | Fully support DOE initiatives. | | | | | |
| 8. | The GMI ties into several other standards initiatives listed in the survey. | | | | | |

**Potential Charts for Report**

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| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Renewable Natural Gas (such as biogas or biomethane)** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 5 | 17 | 3 | 27 | 52 |
| By Market | | | | | | |
| Wholesale Gas Market | | 2 | 15 | 2 | 13 | 32 |
| Wholesale Electric Market | | 4 | 8 | 1 | 12 | 25 |
| Retail Energy Markets | | 2 | 4 | 2 | 7 | 15 |
| No Market Identified | | 1 | 0 | 0 | 2 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | Capturing further characteristics regarding gas quality, BTU content standardization, etc. will further enhance gas markets. Verification of these characteristics is an additional opportunity. | | | | | |
| 2. | Hydrogen technologies are becoming more relevant | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 2 | Standardization in the area is not needed (comments below) | | | | | |
|  | No comments provided. | | | | | |
| 1 | Standards currently exist that adequately address the area for the energy industry (comments below) | | | | | |
|  | No comments provided. | | | | | |
| 0 | Standards development by NAESB would be inappropriate | | | | | |
| 0 | Standards development by NAESB would be inappropriate at this time | | | | | |
| **Additional Comments** | | | | | | |
| 1. | As biogas and/or biomethane fits into the distributed resource category, market standards needed to complement the NERC reliability standards for variable energy resources. | | | | | |
| 2. | Would need additional information to determine how this might affect the WGQ Standards. | | | | | |
| 3. | This appears to be an area NAESB can incorporate into its gas contract processes. | | | | | |
| 4. | We support the movement and proposed methodologies for Renewable Natural Gas and believe NAESB should in response to specific requests work on standards since Renewable Natural Gas efforts would benefit from standardization. | | | | | |
| 5. | With the expansion of natural gas to meet power demand, the standards in the area should be monitored accordingly. | | | | | |
| 6. | More Information Needed | | | | | |
| 7. | Could be interesting, but I don't know standardization would fit into this market | | | | | |
| 8. | I would need more information on how this would differ from current wholesale gas standards. | | | | | |
| 9. | RNG is fairly small, but would benefit from using some of our WNG standards. | | | | | |

**Potential Charts for Report**

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| --- | --- | --- | --- | --- | --- | --- |
| 1. **Standards or Other Activities that Support Responsibly Produced Natural Gas** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| All Respondents | | 5 | 18 | 3 | 26 | 52 |
| By Market | | | | | | |
| Wholesale Gas Market | | 3 | 15 | 3 | 11 | 32 |
| Wholesale Electric Market | | 2 | 7 | 0 | 16 | 25 |
| Retail Energy Markets | | 0 | 7 | 0 | 8 | 15 |
| No Market Identified | | 1 | 0 | 0 | 2 | 3 |
| **Responses in Support**  Examples of specific business practices, process or transactions that would benefit from standardization by those supportive of standards development or other activity | | | | | | |
| 1. | SWN is a leader in Responsibly Produced Methane and has been involved in this movement for some time. | | | | | |
| 2. | Distribution Ledger/Blockchain to certify origin | | | | | |
| 3. | Where do I start? | | | | | |
| 4. | The words, “responsibly produced" indicate that some gas production activities or processes are currently irresponsible. if that's the case then a best practice document should be developed and following the development, the current naesb standards for gas production should be "challenged" against the document to see if there are areas in those processes where they need to be strengthened to help the party be more responsible. | | | | | |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | | | | | | |
| 2 | Standardization in the area is not needed (comments below) | | | | | |
|  | Not relevant area for NAESB. | | | | | |
| 0 | Standards currently exist that adequately address the area for the energy industry | | | | | |
| 1 | Standards development by NAESB would be inappropriate (comments below) | | | | | |
|  | This market is still at the conceptual stage. It may be appropriate for NAESB to have a role once the market structure is defined and ready for implementation. | | | | | |
| 0 | Standards development by NAESB would be inappropriate at this time (comments below) | | | | | |
| **Additional Comments** | | | | | | |
| 1. | Would need additional information to determine how this might affect the WGQ Standards. | | | | | |
| 2. | This appears to be an area NAESB can incorporate into its gas contracts process. | | | | | |
| 3. | We support the efforts related to Responsibly Produced Natural Gas and believe NAESB should, in response to specific requests, work on standards since Responsibly Produced Natural Gas efforts would benefit from standardization. | | | | | |
| 4. | More information needed to determine if current standards suffice | | | | | |
| 5. | This could support a new market in responsibly produced natural gas as well as provide origin certification for customs purposes | | | | | |

**Potential Charts for Report**

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| --- | --- |
| **Additional Comments** | |
| 1. | We would like to see standards development that addresses a need for alternatives for the G846UPRD in NAESB Standard 5.4.14. Specifically, there are currently no standards addressing the amount and frequency of inbound UPRDs that reflect industry participants who utilize a pay per-file contract and would prefer to send data to parties on a more timely basis outside the G846UPRD request for download. Frequently, there are non-customer users of this data and the data request could better be addressed through a timely automated push rather than the inbound request at significant cost savings. |
| 2. | We proposed the standard for scheduling/allocation previously submitted at WGQ R19014 and encourage the Board of Directors to find such standard within Scope for the WGQ to develop. |
| 3. | Forgive me if this is a stupid question but with the growth of teleworking, I am curious if this will have an impact on any NAESB standards? |
| 4. | Looking forward to continue working with the NAESB team and members. |
| 5. | Keep up the good work. |
| 6. | Transparency and security in markets will help us remain on the forefront of sustainable energy |