North American Energy Standards Board

Board Strategy Committee

2022 NAESB Standards Development Survey Summary Report

*Submitted to the NAESB Board of Directors on September 1, 2022*

1. **summary report recommendations**

The purpose of this report is to provide a summary of the data and responses resulting from the 2022 NAESB Standards Development Survey and to offer recommendations based upon the analysis of the Board Strategy Committee for consideration by the Board of Directors. All information collected through the survey has been compiled and organized in an Appendix to the summary report. Based upon the discussion during the August 22, 2022 conference call, the Board Strategy Committee is recommending the following:

1. **survey background**

On June 29, 2022, the NAESB Board Strategy Committee distributed the fifth NAESB Standards Development Survey. This action was taken pursuant to the committee’s mission to provide assistance to the Board of Directors by (a) developing and maintaining a multi-year strategic plan, (b) appraising NAESB work products to ensure that NAESB is addressing member needs, (c) assessing NAESB structure to ensure that market segments that take part in development of NAESB work products are adequately and fairly represented, and (d) reviewing market trends to ensure that NAESB remains relevant. The survey is developed by the committee and distributed to members and non-members on a biennial basis to solicit feedback from the industry-at-large concerning specific areas for potential standards development or other activities that NAESB may pursue in eighteen to twenty-four months. The information obtained through the survey serves as a foundation for the organization’s strategic planning efforts and informs the Board of Directors as it makes decisions on the overall direction of NAESB and appropriate resource allocation. The process also reinforces that the activities of the organization related to standards development, industry tool management, certification and coordination are consistent with and furthering NAESB’s mission of supporting the energy markets’ commercial transactions through standards activities.

This year’s survey was distributed to over two-thousand member and non-member contacts that work in the energy industry for public and private corporations, government agencies, national laboratories, trade press, trade organizations and consulting firms. The survey was developed by the Board Strategy Committee during its April 5, 2022 conference call and subsequent email communications, dated April 13, 2022 and June 17, 2022. As in the past, this report and the data supporting it will be submitted to the Board of Directors and reviewed during the September board meeting in support of the organization’s annual plan development process and other activities that become apparent through analysis of the report.

As was the case in the 2020 survey, the 2022 survey focused solely on *potential* standards development or other supportive activities and provided nine generalized areas for consideration. The nine areas included in the survey were developed by the committee based primarily on the discussions during the February 11, 2022 NAESB Advisory Council meeting.[[1]](#footnote-1)

|  |  |  |  |
| --- | --- | --- | --- |
| **Areas for Potential Standards Development in the Next 18 to 24 Months** | | | |
| 1. | Standards that support Renewable Natural Gas transactions, other than a standardized contract | 6. | Standards that support Cybersecurity |
| 2. | Standards that support Sustainably Produced/Responsibly Sourced Gas transactions, other than a standardized contract | 7. | Standards that support Grid Infrastructure Improvements, including Microgrid Technology and Resiliency |
| 3. | Standards that support Carbon Offsets | 8. | Standards that support Distributed Ledger Technology beyond the contracting process |
| 4. | Standards that support the Hydrogen Market | 9. | Standards that support the implementation of new Digital Technologies |
| 5. | Standards that support Gas and Electric Market Coordination |

**table 1.**

Respondents were asked to indicate whether they “strongly support,” “support,” or “do not support” NAESB considering standards development or other activities in each of the nine areas identified within the next eighteen to twenty-four months. Respondents were also given an option of providing a “no opinion” response. In addition to selecting one of the responses provided, participants were encouraged to provide any open-ended comments. To encourage more detailed and/or specific responses through the comment sections of the survey, the descriptions of the standards development areas were intentionally left broad and subject to the interpretation of the respondents. Participants that selected “strongly support” or “support” were asked to provide more detailed information - specifically, whether they had an example of a business practice, process or transaction that would benefit from standardization by NAESB in the given area. If no examples were provided, respondents had the option to provide any open-ended comments. Participants selecting “do not support” were asked to provide more detailed information by selecting one or more of the following: “standardization in the area is not needed,” “standards currently exist that adequately address the area for the energy industry,” “standards development by NAESB would be inappropriate,” “standards development by NAESB would be inappropriate at this time,” or “other.” Respondents also had the option to provide open-ended comments expanding on their “do not support” selection and/or on the area itself.

1. **respondents**

In total, ninety-six responses were received from seventy-one companies/organizations, with close to 90% of the surveys coming from member companies.[[2]](#footnote-2)  Nearly 30% of the entire NAESB membership participated in the survey, representing a 10% increase from the previous survey. The ten respondents from non-member companies were asked to provide a reason why they have declined membership within NAESB and were given four optional responses or the “other” option with a comment box. Three of the respondents cited financial reasons for not becoming NAESB members, and four respondents stated that their organization is an affiliate of a NAESB member company. Three respondents chose “Other” and their comments were “[h]aven’t joined yet,” “[w]e were considering whether we should join,” and “[u]nclear for what membership provides at the current rate.”

The respondents represented a wide array of market segments from the wholesale gas, wholesale electric and retail energy markets. Each respondent was asked to identify with one or more of the NAESB markets and segments. Those that could not identify with a specific market or segment were asked to describe their market function through an open-ended question. Of the ninety-six responses, nineteen identified their affiliation with only the wholesale gas market, twenty-two identified affiliation with only the wholesale electric market, and four identified affiliation with only the retail markets. For those with participation in multiple markets, twelve identified with wholesale electric and gas markets, five identified with wholesale electric and retail markets, two identified with wholesale gas and retail market, and twenty-three of the remaining respondents indicated their companies/organizations participate in all markets. Figure 1 illustrates the responses by markets alone, while Figure 1.1 depicts the make-up of the respondents by market and segment.

**Figure 1 Market Affiliation Profile of Respondents**

**Figure 1.1 market and segment affiliation Profile of Respondents**

As noted above, in total there were ninety-six responses, representing seventy-one total companies, and respondents were provided the opportunity to select participation in one or more markets/segments. This ensures an accurate reflection of each entity’s and/or respondent’s market participation affiliation as well as provides consistency with NAESB’s governance documents which allow membership in one or more segments. The report will evaluate the data on both a cumulative and market/segment basis. Respondents who indicated participation in multiple markets/segments were included in the results for all markets/segments that were identified. Evaluating the data in this manner can provide a clearer indication of market trends and better reflects how entities participate in NAESB’s standards development process. Utilizing this method of analysis, the survey responses created two hundred and eight data points for evaluation on a segment basis consistent with the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Total Individual Survey Responses 96** | | | | |
| **Cumulative Responses by Quadrant and Market Segment (208 Data Points)** | | | | |
|  | **Quadrant/Segment** | | **Cumulative Responses** | **Respondent Segment Participation** |
|  | **Wholesale Electric Market** | | **101** |  |
|  |  | Transmission Company |  | 19 |
|  |  | Generator |  | 19 |
|  |  | Distributor/Load Serving Entities |  | 15 |
|  |  | End Users |  | 8 |
|  |  | Independent Grid Operators and Planners |  | 10 |
|  |  | Marketers/Brokers |  | 14 |
|  |  | Technology and Services Company |  | 10 |
|  |  | Other Participant |  | 6 |
|  | **Wholesale Natural Gas Market** | | **69** |  |
|  |  | Producer |  | 7 |
|  |  | Pipeline |  | 18 |
|  |  | Distributor |  | 13 |
|  |  | Services or Technology Company |  | 11 |
|  |  | End User |  | 13 |
|  |  | Other Participant |  | 7 |
|  | **Retail Energy Market** | | **37** |  |
|  |  | Retail Electric Service Providers/Suppliers |  | 9 |
|  |  | End Users/Public Agencies |  | 2 |
|  |  | Retail Gas Market Interests |  | 3 |
|  |  | Retail Electric Utilities |  | 6 |
|  |  | Other Participant |  | 17 |
|  | **Unidentified Participant(s)** | | **1** |  |
|  | **Total Cumulative Responses** | | **208** |  |

**Table 2.**

**IV. response data**

**Individual Responses**

As noted above, respondents were given four optional responses for each of the nine areas identified in the survey. The following graph shows the (non-market specific) percentages of responses received in each of the areas. The area garnering the highest percentage of “strongly support” and “support” responses is Cybersecurity (76%). Other areas that received a majority, 50% or greater, “strongly support” or “support” responses are Gas Electric Market Coordination (66%), Sustainably Produced Gas (55%), Hydrogen (53%), Distributed Ledger Technology (52%), Digital Technology (50%), and Renewable Natural Gas (50%). Lastly, Grid Infrastructure Improvements received 43% and Carbon Offsets – 42%.

**figure 2.**

**Cumulative Market and Segment – Wholesale Gas**

In analyzing the responses on a per market and segment basis for wholesale gas respondents, the area with the highest number of “strongly support” and “support” responses is Cybersecurity with 72% total support. Other areas garnering a majority (greater than 50%) of “strongly support” or “support” responses are Renewable Natural Gas (64%), Distributed Ledger Technologies (60%), Gas Electric Market Coordination (58%), and Sustainably Produced Gas (58%). Across the categories, there are five areas that had 20% or greater responses returned as “do not support”: (1) Gas Electric Market Coordination (26%); (2) Carbon Offsets (28%); (3) Sustainably Produced Gas (25%); (4) Hydrogen (21%); and Renewable Natural Gas (20%). In Figure 3 below, the “strongly support” and “support” responses are added together within each area and the resulting percentages are shown above the bar in blue. The “do not support” percentages are shown in red.

**figure 3.**

**Cumulative Market and Segment – Wholesale Electric**

Looking to the responses from respondents indicating participation in the wholesale electric market segments, Cybersecurity also has the highest number of respondents indicating “strongly support” and “support,” totaling 86%, closely followed by Gas Electric Market Coordination with 80% total support. The next three highest areas of support were Renewable Natural Gas (67%), Hydrogen (64%), and Sustainably Produced Gas (64%). Overall, the only area that did not receive at least 50% total support from wholesale electric market respondents was Carbon Offsets, with 46% support. This is the only area where a majority of wholesale electric market respondents (49%) marked “no opinion” and had the greatest number of participants (5%) choosing “do not support.” In Figure 4 below, the “strongly support” and “support” responses are added together within each area and the resulting percentages are shown above the bar in blue. The “do not support” percentages are shown in red.

**figure 4.**

**Cumulative Market and Segment – Retail**

As with wholesale gas and wholesale electric market participants, Cybersecurity received the highest number of retail market respondents electing “strongly support” or “support” with 89%. Unlike the other markets, a majority of the retail market respondents supported every category of potential area of standards development. Areas receiving at least super majority support (67%) were Renewable Natural Gas (83%), Hydrogen (78%), Distributed Ledger Technology (77%), Gas Electric Market Coordination (73%), and Sustainably Produced Gas (73%). Although Grid Infrastructure Improvements and Digital Technologies both had over 50% support from respondents, these areas also had the highest number of no opinion responses and do not support responses (Grid Infrastructure Improvements 36% versus 8% and Digital Technologies 34% versus 6%). In Figure 5 below, the “strongly support” and “support” responses are added together within each area and the resulting percentages are shown above the bar in blue. The “do not support” percentages are shown in red.

**figure 5.**

**Potential Areas of Standards Development on a Market and Segment Basis**

As is evident from the breakdown of responses, not all areas of potential standards development were equally supported on a per market or segment basis, and there are some areas in which certain segments did not align with the broader market data. The charts below provide the most granular data in the report and provide a breakdown of responses on a per segment basis within each market to show the percentage of responses returned as “strongly support/support,” “do not support,” or “no opinion.” They are organized in order of potential area of standards development based on greatest support to least as identified in Figure 2.

**Cybersecurity**

**Gas Electric Coordination**

**Sustainably Produced Gas**

**Hydrogen**

**Distributed Ledger Technology**

**Digital Technologies**

**Renewable Natural Gas**

**Grid Infrastructure Improvements**

**Carbon Offsets**

1. **Examples, Explanations and General Comments**

As discussed above, respondents were given the opportunity to provide examples of business practices, processes or transactions that would benefit from standardization by NAESB in the given area to expand upon “strongly support” or “support” responses. Additionally, participants providing a “do not support” response were asked to supplement their response with more detailed information. As in the past, respondents had opportunities to provide generalized comments to each of the nine areas identified and to the survey overall. A total of two-hundred and three comments were provided by respondents in the areas identified in the survey, and thirteen comments were provided in response to the request for any general comments at the conclusion of the survey. These comments are cataloged in the table below and can be found in the appendix to this report.

| **Potential Areas for Standards Development or Other Activities in the Next 18 to 24 Months** | | **Number of Comments** |
| --- | --- | --- |
| 1. | Standards that support Renewable Natural Gas transactions, other than a standardized contract | |
|  | Comments Supporting Responses in Support | 8 |
|  | Comments Supporting Responses not in Support | 12 |
|  | Additional Comments | 5 |
| 2. | Standards that support Sustainably Produced/Responsibly Sourced Gas transactions, other than a standardized contract | |
|  | Comments Supporting Responses in Support | 5 |
|  | Comments Supporting Responses not in Support | 12 |
|  | Additional Comments | 4 |
| 3. | Standards that support Carbon Offsets | |
|  | Comments Supporting Responses in Support | 7 |
|  | Comments Supporting Responses not in Support | 13 |
|  | Additional Comments | 2 |
| 4. | Standards that support the Hydrogen Market | |
|  | Comments Supporting Responses in Support | 6 |
|  | Comments Supporting Responses not in Support | 11 |
|  | Additional Comments | 5 |
| 5. | Standards that support Gas and Electric Market Coordination | |
|  | Comments Supporting Responses in Support | 14 |
|  | Comments Supporting Responses not in Support | 11 |
|  | Additional Comments | 9 |
| 6. | Standards that support Cybersecurity | |
|  | Comments Supporting Responses in Support | 10 |
|  | Comments Supporting Responses not in Support | 5 |
|  | Additional Comments | 7 |
| 7. | Standards that support Grid Infrastructure Improvements, including Microgrid Technology and Resiliency | |
|  | Comments Supporting Responses in Support | 1 |
|  | Comments Supporting Responses not in Support | 5 |
|  | Additional Comments | 8 |
| 8. | Standards that support Distributed Ledger Technology beyond the contracting process | |
|  | Comments Supporting Responses in Support | 3 |
|  | Comments Supporting Responses not in Support | 4 |
|  | Additional Comments | 7 |
| 9. | Standards that support the implementation of new Digital Technologies | |
|  | Comments Supporting Responses in Support | 2 |
|  | Comments Supporting Responses not in Support | 6 |
|  | Additional Comments | 8 |
| General Comments | | 13 |
| This table captures the number of written comments submitted outside of the predefined responses | | |

**table 7**

The information gathered through this biennial report has been extremely valuable to the Board of Directors for the purposes of strategic planning, resource allocation and in the development of the NAESB annual plans. The Board Strategy Committee deeply appreciates the time commitment made to NAESB by completing the survey and looks forward to supporting the Board of Directors in the analysis of the data contained in this report.

**Section 1 – Respondent Profiles**

1. Please provide your contact information.

|  |  |
| --- | --- |
| Total Responses | 96 |
| Companies and/or Organizations | 71 |
| Individual Representatives | 94 |

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

69 Wholesale Natural Gas Market as a 7 Producer

18 Pipeline

13 Distributor

11 Services or Technology Company

13 End User

7 Other Participant

3. 101 Wholesale Electric Market as a 19 Transmission Company

19 Generator

15 Distributor/Load Serving Entity

8 End User

10 Independent Grid Operators and Planners

14 Marketers/Brokers

10 Technology and Services Companies

6 Other Participant

4. 37 Retail Energy Market as a 9 Retail Electric Service Providers/Suppliers

2 End Users/Public Agencies

3 Retail Gas Market Interests

6 Retail Electric Utilities

17 Other Participant

5. Responses:

|  |  |
| --- | --- |
| Individual Respondent Identification of Market Participation - Single/Multi Market (87 Data Points) | |
| Single Market | |
| Wholesale Electric Market | 22 |
| Wholesale Gas Market | 19 |
| Retail Market | 4 |
| Multi Market | |
| Wholesale Electric & Gas Market | 12 |
| Wholesale Electric & Retail Market | 5 |
| Wholesale Gas & Retail Market | 2 |
| All Markets | 23 |

|  |  |
| --- | --- |
| Cumulative Responses by Market and Segment Participation (208 Data Points) | |
| Total WGQ Response Participants | 69 |
| Total WEQ Response Participants | 101 |
| Total RMQ Response Participants | 37 |
| Total Unidentified Response Participants | 1 |
| Total Cumulative Response Participants | 208 |

# 6. Are you a member of NAESB?

86 Yes

10No

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

3 Financial reasons

4 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

3 Other

Other:

|  |  |
| --- | --- |
| 1. | Haven’t joined yet |
| 2. | We are considering whether we should join |
| 3. | Unclear for what membership provides at the current rate |

# **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 that support Renewable Natural Gas transactions, other than a standardized contract – NAESB currently has an effort underway to develop an addendum to the NAESB Base Contract for Sale and Purchase of Natural Gas to support Renewable Natural Gas transactions.** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 47 | 92 | 16 | 47 | 202 |
| By Market and Segment | | | | | | |
| **Wholesale Gas Market** | | **15** | **29** | **14** | **11** | **69** |
|  | Producer | 0 | 2 | 3 | 2 | 7 |
|  | Pipeline | 2 | 6 | 7 | 3 | 18 |
|  | Distributor | 5 | 5 | 3 | 0 | 13 |
|  | Services or Technology Company | 2 | 6 | 1 | 2 | 11 |
|  | End User | 3 | 7 | 0 | 3 | 13 |
|  | Other | 3 | 3 | 0 | 1 | 7 |
| **Wholesale Electric Market** | | **19** | **47** | **1** | **31** | **98** |
|  | Transmission Company | 1 | 9 | 0 | 9 | 19 |
|  | Generator | 2 | 11 | 0 | 6 | 19 |
|  | Distributor/Load Serving Entity | 5 | 8 | 0 | 2 | 15 |
|  | End User | 3 | 4 | 0 | 1 | 8 |
|  | IGO and Planners | 1 | 4 | 0 | 5 | 10 |
|  | Marketer/Broker | 2 | 5 | 0 | 4 | 11 |
|  | Technology or Service Company | 0 | 5 | 1 | 4 | 10 |
|  | Other Participant | 5 | 1 | 0 | 0 | 6 |
| **Retail Energy Markets** | | **13** | **16** | **1** | **5** | **35** |
|  | Retail Electric Service Provider/Supplier | 2 | 5 | 0 | 2 | 9 |
|  | End User/Public Agency | 0 | 2 | 0 | 0 | 2 |
|  | Retail Gas Market Company | 0 | 3 | 0 | 0 | 3 |
|  | Retail Electric Utility | 2 | 3 | 0 | 0 | 5 |
|  | Other Participant | 9 | 3 | 1 | 3 | 16 |
| **Unidentified Participant** | | **0** | **1** | **0** | **0** | **1** |

| 1. **Standards that support Renewable Natural Gas transactions, other than a standardized contract – NAESB currently has an effort underway to develop an addendum to the NAESB Base Contract for Sale and Purchase of Natural Gas to support Renewable Natural Gas transactions.** | |
| --- | --- |
| **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. | When customer purchases RNG we don't know where the gas actually came from or what the avoided emissions are relative to fossil gas (*RMQ, WEQ, WGQ Other Participant*) |
| 2. | A standard that allows multiple certifying bodies to assign a score to a source of natural gas. A standard to allow tracking and reporting of CertGas quantities from source to consumption. The standards would need to consider contracts, process, and distributed ledger technology. (*RMQ Retail Electric Service Provider/Supplier*) |
| 3. | 10-year planning explores reliability scenarios where reliability coordination with gas plants is beneficial but not known at this time (*three responses; all RMQ Other Participant / WEQ – Transmission, Generation, Distributor/Load Serving Entity*) |
| 4. | Can't give specifics, but transaction whereby our company purchases RNG or products toward creating RNG (*WEQ Distributor/Load Serving Entity, End User, Marketer/Broker / WGQ Distributor*) |
| 5. | Technical Implementation of electronic versions of the RNG Addendum and Certified Gas Addendum (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 6. | Complete current effort and develop electronic versions of RNG Addendum for use by digital ledger systems. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 7. | Provide a mechanism, within the Gas nomination process, to indicate the nomination of renewable natural gas. (*RMQ Other Participant / WGQ Services or Technology Company*) |
| 8. | Years ago this example was discussed in various Gas forums and was not agreed upon. It started based upon a request from FERC to review how to simplify and streamline scheduling. The existing scheduling does work, and forums determined to leave it as is. With that said, there are ways to enhance this scheduling by reviewing what is done in electric market for sub-hourly electronic scheduling, or similar. (*RMQ Other Participant / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed.  *Seven responses, six with comments.* | |
|  | RNG is a product sourced from a variety of methods, it's unclear what standardization of transactions would mean in this context or if it is feasible. It is also not clear what type of standardization NAESB proposes. (*WGQ Distributor*) |
|  | NAESB should not address standards development until there are sufficient communications/business practices that have been developed and are in practice by the industry (*five responses: all WGQ Pipeline*) |
| Standards currently exist that adequately address the area for the energy industry.  *One response with no comments.* | |
| Standards development by NAESB would be inappropriate.  *One response with comment.* | |
|  | The technical standards for each facility must meet the pipeline gas quality standards consistent with FERC policy on gas quality, would be different for each pipeline. *(WGQ Producer)* |
| Standards development by NAESB would be inappropriate at this time.  *Three responses with three comments* | |
|  | This issue is already being addressed in other industry forums. (*WGQ Producer*) |
|  | Updating the wording around renewable natural gas in the NAESB contract is sufficient at this time, without pursuing actual standards. (*WGQ Producer*) |
|  | While efforts on the RNG Addendum makes sense given the widespread use of the Base Contract in RNG transactions, I am not currently aware of another area where NAESB is the most appropriate arbiter of RNG standards. (Although I'm open to hearing what those might be). Any standard development should be done in coordination with the RNG Coalition. (*RMQ Other Participant / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| Other  *Two responses with comments:* | |
|  | Standards development would be inappropriate until a request for such is submitted. (W*GQ Pipeline*) |
|  | RNG is not a fungible product and therefore hard to standardize and it is very unclear what standardization NAESB is proposing. (*WGQ Distributor*) |
| **Additional Comments** | |
| 1. | The markets for Renewable Natural Gas, Sustainably Produced/Responsibly Sourced Gas and Hydrogen are beginning to develop. We feel that these markets are not currently to the point where additional standards are required; however, as the markets continue to develop over the next 18 to 24 months, needs may arise for standardization of certain business practices. We support exploring requests for standards that address those needs as they are presented to the organization. (*WGQ Pipeline*) |
| 2. | Once standardized Addendum is in place, we'll see if other standards are desired. (*WGQ Services or Technology Company*) |
| 3. | NAESB should especially NOT wade into Gas Quality standards. (*RMQ Other Participant / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| 4. | At least in NC, we have adopted quality standards for RNG. We also allow "directed" biogas, and rely on attestations for RNG injections. (*Unidentified Participant*) |
| 5. | Although the need is on the horizon, I have a concern that we may be getting slightly ahead of our headlights in this instance. (*RMQ Retail Electric Utility, Retail Electric Service Provider/Supplier / WEQ Transmission, Generator, Distributor/Load Serving Entity / WGQ End User*) |

| 1. **Standards that support Sustainably Produced/Responsibly Sourced Gas transactions, other than a standardized contract – NAESB currently has an effort underway to develop an addendum to the NAESB Base Contract for Sale and Purchase of Natural Gas to support Sustainably Produced/Responsibly Sourced Gas transactions** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 39 | 80 | 19 | 48 | 186 |
| By Market and Segment | | | | | | |
| **Wholesale Gas Market** | | **13** | **21** | **15** | **10** | **59** |
|  | Producer | 1 | 0 | 4 | 1 | 6 |
|  | Pipeline | 1 | 4 | 8 | 2 | 15 |
|  | Distributor | 2 | 4 | 3 | 0 | 9 |
|  | Services or Technology Company | 2 | 3 | 0 | 5 | 10 |
|  | End User | 4 | 7 | 0 | 2 | 13 |
|  | Other | 3 | 3 | 0 | 1 | 7 |
| **Wholesale Electric Market** | | **16** | **41** | **3** | **29** | **89** |
|  | Transmission Company | 2 | 6 | 1 | 7 | 16 |
|  | Generator | 2 | 8 | 1 | 6 | 17 |
|  | Distributor/Load Serving Entity | 1 | 8 | 1 | 4 | 14 |
|  | End User | 3 | 3 | 0 | 1 | 7 |
|  | IGO and Planners | 0 | 5 | 0 | 4 | 9 |
|  | Marketer/Broker | 3 | 5 | 0 | 2 | 10 |
|  | Technology or Service Company | 0 | 5 | 0 | 5 | 10 |
|  | Other Participant | 5 | 1 | 0 | 0 | 6 |
| **Retail Energy Markets** | | **10** | **17** | **1** | **9** | **37** |
|  | Retail Electric Service Provider/Supplier | 1 | 5 | 0 | 3 | 9 |
|  | End User/Public Agency | 0 | 2 | 0 | 0 | 2 |
|  | Retail Gas Market Company | 0 | 2 | 0 | 1 | 3 |
|  | Retail Electric Utility | 1 | 4 | 1 | 0 | 6 |
|  | Other Participant | 8 | 4 | 0 | 5 | 17 |
| **Unidentified Participant** | | **0** | **1** | **0** | **0** | **1** |

| 1. **Standards that support Sustainably Produced/Responsibly Sourced Gas transactions, other than a standardized contract – NAESB currently has an effort underway to develop an addendum to the NAESB Base Contract for Sale and Purchase of Natural Gas to support Sustainably Produced/Responsibly Sourced Gas transactions** | |
| --- | --- |
| **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. | The standards would expand to tracking and reporting of natural gas from source to consumption. The standard may include a certifier, grade or score of the natural gas. The standard may also include incorporation into a blockchain/distributed ledger via a smart contract. (*RMQ Retail Electric Service Provider/Supplier*) |
| 2. | Complete current effort and develop electronic versions for use in digit ledger technologies or systems. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 3. | As additional scrutiny of gas emissions is placed on gas generator resources, the SP/RSG should focus on enhancing contracts to allow for this type of generation to continue to support reliable grid operations as a complement to renewable generation sources. (*WEQ IGO and Planners / WGQ End User*) |
| 4. | Certified Gas Contract Addendum with Certification and/or Attestation (*four respondents: (1) WEQ Transmission; (2) WEQ Generator; (3) WEQ Marketer/Broker; (4) WEQ Transmission, Generator, Marketer/Broker / WGQ End User)* |
| 5. | Technical implementation of electronic versions of Certified Gas Addendum (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed  *Ten responses with six comments* | |
|  | All segments of the industry have not even agreed on the name sustainably produced/responsibly sourced gas/certified gas. This is the same product as conventional natural gas so when it comes to contracting, a potential addendum to existing contracts would suffice. Also it is not clear what type of standardization NAESB proposes. (*WGQ Distributor*) |
|  | NAESB should not address standards development until there are sufficient communications/business practices that have been developed and are in practice by the industry (*five responses: all WGQ Pipeline*) |
| Standards currently exist that adequately address the area for the energy industry  *One response with comments* | |
|  | The Certifiers have adopted standards; the registries and Platt's also have standard requirements. (*WGQ Producer)* |
| Standards development by NAESB would be inappropriate  *Zero responses* | |
| Standards development by NAESB would be inappropriate at this time  *Three responses with comments* | |
|  | Other more appropriate entities like Platts are already addressing this need. (*WGQ Producer)* |
|  | Wording attaching itself to responsibly sourced gas in the NAESB contract is appropriate at this time, without actually developing standards. (*WGQ Producer)* |
|  | Market needs further development prior to standard setting (*WGQ Producer)* |
| Other  *Two responses with comments* | |
|  | Standards development would be inappropriate until a request for such is submitted. (*WGQ Pipeline*) |
|  | RSG or PCG are not standardized products (no one can even agree on a name) and not fungible. It is extremely unclear what NAESB is attempting to standardize. (*WGQ Distributor*) |
| **Additional Comments** | |
| 1. | The lack of a standardized product might present challenges in developing a standard contract. (*WGQ* *Distributor)* |
| 2. | This "feels" similar to RNG, but I'm not familiar with anyone raising this in the regulatory context in my state. (*Unidentified Participant*) |
| 3. | Like with the RNG Addendum, once we have the certified gas addendum, we'll see if other standards are desired (*WGQ Services or Technology Company*) |
| 4. | The markets for Renewable Natural Gas, Sustainably Produced/Responsibly Sourced Gas and Hydrogen are beginning to develop. We feel that these markets are not currently to the point where additional standards are required; however, as the markets continue to develop over the next 18 to 24 months, needs may arise for standardization of certain business practices. We support exploring requests for standards that address those needs as they are presented to the organization. (*WGQ Pipeline*) |

| 1. **Standards that support Carbon Offsets** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 20 | 65 | 24 | 75 | 184 |
| By Market and Segment | | | | | | |
| **Wholesale Gas Market** | | **6** | **16** | **17** | **22** | **61** |
|  | Producer | 0 | 0 | 4 | 2 | 6 |
|  | Pipeline | 0 | 2 | 8 | 5 | 15 |
|  | Distributor | 1 | 3 | 4 | 2 | 10 |
|  | Services or Technology Company | 2 | 3 | 1 | 5 | 11 |
|  | End User | 1 | 6 | 0 | 5 | 12 |
|  | Other | 2 | 2 | 0 | 3 | 7 |
| **Wholesale Electric Market** | | **9** | **32** | **5** | **44** | **90** |
|  | Transmission Company | 0 | 5 | 2 | 9 | 16 |
|  | Generator | 0 | 7 | 1 | 10 | 18 |
|  | Distributor/Load Serving Entity | 1 | 6 | 1 | 6 | 14 |
|  | End User | 1 | 5 | 0 | 1 | 7 |
|  | IGO and Planners | 3 | 1 | 0 | 5 | 9 |
|  | Marketer/Broker | 1 | 3 | 0 | 6 | 10 |
|  | Technology or Service Company | 1 | 3 | 1 | 5 | 10 |
|  | Other Participant | 2 | 2 | 0 | 2 | 6 |
| **Retail Energy Markets** | | **5** | **16** | **2** | **9** | **32** |
|  | Retail Electric Service Provider/Supplier | 2 | 5 | 0 | 2 | 9 |
|  | End User/Public Agency | 0 | 1 | 0 | 0 | 1 |
|  | Retail Gas Market Company | 0 | 1 | 0 | 1 | 2 |
|  | Retail Electric Utility | 0 | 4 | 1 | 0 | 5 |
|  | Other Participant | 3 | 5 | 1 | 6 | 15 |
| **Unidentified Participant** | | **0** | **1** | **0** | **0** | **1** |

| **3. Standards that Support Carbon Offsets** | |
| --- | --- |
| **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. | The Carbon Offsets market would benefit from standards that are not dependent on specific companies, geographic regions (States), or tracking/reporting mechanisms. NAESB standards would add transparency and interoperability to the carbon offset market. (*RMQ Retail Electric Service Provider/Supplier*) |
| 2. | If carbon offsets are traded, perhaps a contract version similar to REC Base Contract could be developed. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 3. | To the extent there may be a market for purchase and sale of carbon assets perhaps development of a standard contract for trading similar to the recent REC Base Contract. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 4. | Tougher nut to crack, but a standardization, or use of an existing standard carbon offset measurement in the gas value chain (nom, delv, consumption) would be beneficial. (*RMQ Other Participant / WGQ Services or Technology Company*) |
| 5. | ESPI (REQ.21) could benefit by inclusion of the data regarding carbon offsets. (*RMQ Retail Electric Service Provider/Supplier*) |
| 6. | NAESB should consider how business practices can support standard approaches to calculating the value associated with carbon offsets. (*WEQ IGO and Planners / WGQ End User*) |
| 7. | California SB100 (*WEQ IGO and Planners / WGQ Other Participant*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed  *Ten responses with seven comments* | |
|  | It is not clear what type of standardization NAESB proposes. The CFTC has stated a proceeding related to carbon offsets and the related market; therefore, NAESB should not get ahead of the CFTC. In the end, it's possible that consideration could be given for a standardized platform for tracking and retiring of carbon offset credits used in the voluntary market, but again others maybe looking at this issue. (*WGQ Distributor*) |
|  | NAESB should not address standards development until there are sufficient communications/business practices that have been developed and are in practice by the industry (*five responses: all WGQ Pipeline*) |
|  | No business opportunity, carbon offset / trades are already happening in the marketplace. (*RMQ Other Participant / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| Standards currently exist that adequately address the area for the energy industry  *One response with comments* | |
|  | Carbon is currently regulated at the state level. If there is a move toward national standards then NAESB should be involved. (*RMQ Retail Electric Utility / WEQ Transmission, Generator, Distributor/Load Serving Entity / WGQ Pipeline, Distributor*) |
| Standards development by NAESB would be inappropriate  *One response with comments* | |
|  | These are global products and standards are being developed through global organizations. We would not want the US developing conflicting standards. |
| Standards development by NAESB would be inappropriate at this time  *Two responses with comments* | |
|  | Too early to set standards (*WGQ Producer)* |
|  | Need to see how the global market/standards develop to ensure reciprocity (*WGQ Producer*) |
| Other  *Two responses with comments* | |
|  | Standards development would be inappropriate until a request for such is submitted. (*WGQ Pipeline*) |
|  | What NAESB means by standards is extremely unclear. We might be able to support efforts related to tracking and retiring voluntary offsets that are not required by other regulations. (*WGQ Distributor*) |
| **Additional Comments** | |
| 1. | To the extent the need arises for standards to support Carbon Offsets, we support standards that would address the needs of our industry. (*WGQ Pipeline*) |
| 2. | It depends on what is addressed in a standard. I expect my state, and probably others, will want to define what is an allowable offset, similar to the variation among states as to what counts for a Renewable Portfolio Standard (*Unidentified Participant*) |

| 1. **Standards that support the Hydrogen market – NAESB currently has provisional annual plan items to support purchase and sale transactions related to the Hydrogen market on all three quadrant annual plans** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 35 | 79 | 13 | 60 | 187 |
| By Market and Segment | | | | | | |
| **Wholesale Gas Market** | | **9** | **20** | **13** | **19** | **61** |
|  | Producer | 0 | 0 | 4 | 2 | 6 |
|  | Pipeline | 2 | 3 | 6 | 4 | 15 |
|  | Distributor | 1 | 4 | 3 | 2 | 10 |
|  | Services or Technology Company | 2 | 6 | 0 | 3 | 11 |
|  | End User | 1 | 5 | 0 | 6 | 12 |
|  | Other | 3 | 2 | 0 | 2 | 7 |
| **Wholesale Electric Market** | | **16** | **41** | **0** | **33** | **90** |
|  | Transmission Company | 2 | 6 | 0 | 8 | 16 |
|  | Generator | 2 | 8 | 0 | 8 | 18 |
|  | Distributor/Load Serving Entity | 2 | 9 | 0 | 3 | 14 |
|  | End User | 1 | 5 | 0 | 1 | 7 |
|  | IGO and Planners | 2 | 1 | 0 | 6 | 9 |
|  | Marketer/Broker | 1 | 4 | 0 | 5 | 10 |
|  | Technology or Service Company | 2 | 6 | 0 | 2 | 10 |
|  | Other Participant | 4 | 2 | 0 | 0 | 6 |
| **Retail Energy Markets** | | **10** | **17** | **0** | **8** | **35** |
|  | Retail Electric Service Provider/Supplier | 3 | 2 | 0 | 4 | 9 |
|  | End User/Public Agency | 0 | 1 | 0 | 0 | 1 |
|  | Retail Gas Market Company | 1 | 1 | 0 | 1 | 3 |
|  | Retail Electric Utility | 2 | 2 | 0 | 1 | 5 |
|  | Other Participant | 4 | 11 | 0 | 2 | 17 |
| **Unidentified Participant** | | **0** | **1** | **0** | **0** | **1** |

| **4. Standards that support the Hydrogen market – NAESB currently has provisional annual plan items to support purchase and sale transactions related to the Hydrogen market on all three quadrant annual plans** | |
| --- | --- |
| **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. | ESPI (REQ.21) could benefit by inclusion of the data regarding hydrogen at a Retail level, since it already carries electricity, natural gas, and water data (with a few other unused resource types also). (*RMQ Retail Electric Service Provider/Supplier*) |
| 2. | When the hydrogen market develops, there will likely be a need for a purchase and sales agreement for hydrogen similar to either a NAESB Base Contract or the NGL Sale Agreement. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 3. | Hydrogen commodity contract similar to the Natural Gas Purchase and Sales Base Contract or the NGL Purchase and Sales Agreement could be developed. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 4. | Is useful to identify the method used to produce the hydrogen, so in purchasing hydrogen could be a check off box as to production method which could then allow one to interpret the resulting environmental benefits of the purchase. (*RMQ, WEQ, WGQ Other Participant*) |
| 5. | The hydrogen market would benefit from starting with the natural gas supply chain NAESB standards an adopting for the hydrogen supply chain. The NAESB standard should consider using the most current blockchain/distributed ledger technology and cybersecurity for application to the hydrogen supply chain. (*RMQ Retail Electric Service Provider/Supplier)* |
| 6. | A hydrogen standard that adopts the qualities of the natural gas standards that are suitable for the hydrogen supply chain. (*RMQ Retail Electric Service Provider/Supplier*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed  *Eight responses with seven comments* | |
|  | There are several types of hydrogen; therefore, developing a standard for such a product is not likely feasible. (*WGQ Distributor*) |
|  | NAESB should not address standards development until there are sufficient communications/business practices that have been developed and are in practice by the industry (*five responses: all WGQ Pipeline*) |
|  | Need for standards in the hydrogen market in the U.S. are >24 months away; too much jurisdictional, technical, market, pricing and policy uncertainty. (*WGQ Producer*) |
| Standards currently exist that adequately address the area for the energy industry  *Zero responses* | |
| Standards development by NAESB would be inappropriate  *Zero responses* | |
| Standards development by NAESB would be inappropriate at this time  *Three responses with two comments* | |
|  | More work needs to be done to understand the technicalities of producing and transporting hydrogen in the US before NAESB gets involved. (*WGQ Producer*) |
|  | Too early to set standards (*WGQ Producer*) |
| Other  Two responses with comments | |
|  | Hydrogen comes in at least six different "colors" all based on how it was produced. It is extremely unclear what NAESB can do to standardize at least six different nonfungible products. (*WGQ Distributor*) |
|  | Standards development would be inappropriate until a request for such is submitted. (*WGQ Pipeline*) |
| **Additional Comments** | |
| 1. | Too many unknowns with Hydrogen at this time to form an opinion. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 2. | I'm going to preface this one with "if necessary." Maybe H2 gas contracts. Maybe something else to justify the source of the H2. Maybe something else entirely. Or maybe nothing at all. (*Unidentified* *Participant*) |
| 3. | There is much to be done with regard to hydrogen for physical pipelines, blending in the existing natural gas system, and commercial transactions. (*RMQ Retail Electric Utility / WEQ Transmission, Generator, Distributor/Load Serving Entity / WGQ Pipeline, Distributor*) |
| 4. | Today’s generation technology relies upon a variety of fuels, and the Hydrogen fuel source has very limited penetration. As a potential for becoming a more robust fuel source for electric generation, it seems this would best be suited as an annual plan item solely for WGQ until such time as the penetration of this fuel for electric source has matured. (*WEQ IGO and Planners / WGQ End User*) |
| 5. | The markets for Renewable Natural Gas, Sustainably Produced/Responsibly Sourced Gas and Hydrogen are beginning to develop. As the markets continue to develop over the next 18 to 24 months, needs may arise for standardization of certain business practices. We support exploring requests for standards that address those needs as they are presented to the organization. (*WGQ Pipeline*) |

| 1. **Standards that support Gas and Electric Market Coordination** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 52 | 82 | 21 | 32 | 187 |
| By Market and Segment | | | | | | |
| **Wholesale Gas Market** | | **11** | **25** | **16** | **10** | **62** |
|  | Producer | 0 | 2 | 3 | 1 | 6 |
|  | Pipeline | 1 | 6 | 6 | 3 | 16 |
|  | Distributor | 2 | 1 | 6 | 1 | 10 |
|  | Services or Technology Company | 2 | 6 | 0 | 3 | 11 |
|  | End User | 2 | 8 | 1 | 1 | 12 |
|  | Other | 4 | 2 | 0 | 1 | 7 |
| **Wholesale Electric Market** | | **30** | **42** | **4** | **14** | **90** |
|  | Transmission Company | 3 | 8 | 1 | 4 | 16 |
|  | Generator | 4 | 9 | 1 | 4 | 18 |
|  | Distributor/Load Serving Entity | 4 | 7 | 1 | 2 | 14 |
|  | End User | 3 | 4 | 0 | 0 | 7 |
|  | IGO and Planners | 3 | 6 | 0 | 0 | 9 |
|  | Marketer/Broker | 5 | 3 | 1 | 1 | 10 |
|  | Technology or Service Company | 3 | 4 | 0 | 3 | 10 |
|  | Other Participant | 5 | 1 | 0 | 0 | 6 |
| **Retail Energy Markets** | | **11** | **14** | **1** | **8** | **34** |
|  | Retail Electric Service Provider/Supplier | 3 | 2 | 0 | 3 | 8 |
|  | End User/Public Agency | 1 | 0 | 0 | 0 | 1 |
|  | Retail Gas Market Company | 1 | 2 | 0 | 0 | 3 |
|  | Retail Electric Utility | 1 | 2 | 1 | 2 | 6 |
|  | Other Participant | 5 | 8 | 0 | 3 | 16 |
| **Unidentified Participant** | | **0** | **1** | **0** | **0** | **1** |

| **5. Standards that support Gas and Electric Market Coordination** | |
| --- | --- |
| **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. | Hourly nomination profiles; 24/7 gas market (*RMQ, WEQ, and WGQ Other Participant*) |
| 2. | The problem occurs when a critical weather event greatly increases the need for visibility of the natural gas supply chain to electric generation. The information/data communication that works 99.99+ percent of normal operations, fails when natural gas supply is critical to keeping the electric grid up. As reported in the FERC/NERC Winter Storm Report, the ISO requires thousands of data points on a high frequency (5 to 15 minutes?) to determine if electric generation is going to be compromised and how to react. In normal operations, this communication may be handle via a phone calls, but info/data communication is completely overwhelmed during critical weather event. The standard should consider how to coordinate info/data communication during critical weather events. (*RMQ Retail Electric Service Provider/Supplier*) |
| 3. | Development of information exchange datasets between market participants. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 4. | Likely need communication standards or business practices for exchange of information between market participants. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 5. | Gas (*WEQ Transmission, Generator, Distributor/Load Serving Entity, Marketer/Broker*) |
| 6. | For example - coordination during a winter storm... After numerous attempts, this ship may have sailed. (*RMQ Other Participant / WGQ Services or Technology Company*) |
| 7. | Gas day, cycles, deadlines (*WGQ Pipeline*) |
| 8. | Additional intra-day nomination cycles should be developed that allow ratable deliver point flows for shorter than balance-of-day periods. Electric Generators (and presumably other industrial customers) have non-ratable flows. Nomination cycles developed for this need should benefit all customers with non-ratable takes as well as allow pipelines and IT shippers more opportunities to schedule and use Interruptible Transportation and associated services. (*WGQ Generator, Distributor/Load Serving Entity*) |
| 9. | (1) Weekend and holiday scheduling/procurement of natural gas that allows the flexibility needed to accommodate variable weather/load; (2) Align scheduling requirements with actual deliveries (e.g., hourly gas nominations); (3) Development of non-traditional gas market products that are responsive to changing electric market system needs (e.g., ramping); (4) Hardening of natural gas infrastructure and establishing a clear definition of “Critical Gas Infrastructure” that ensures that those facilities are identified and coordinated with their upstream electricity providers; (5) Improved gas pipeline notices (e.g., geographic location and standardized OFO thresholds) (*WEQ IGO and Planners*) |
| 10. | Coordination between Independent System Operators and pipelines/LDC (including state/federal tariffs) needs improvement - this may or may not be a role for NAESB but it is worth discussing with stakeholders. (*RMQ Retail Electric Utility / WEQ Transmission, Generator, Distributor/Load Serving Entity / WGQ Pipeline, Distributor*) |
| 11. | (1) Alignment of “Gas Day” to “Electric Day” to accommodate greater scheduling efficiencies between the gas generators, the natural gas pipelines and the wholesale electric markets; (2) Establish clear definition of “Critical Gas Infrastructure” and ensure that those facilities are identified and coordinated with their upstream electricity providers; (3) Establish enhanced natural gas market rules to provide greater supply availability over weekends/holiday periods to provide increased scheduling flexibility for gas fired generators to react to changing weather and load conditions. (*WEQ IGO and Planners*) |
| 12. | Although the effort failed once again, I believe we need standards that keep gas to generators and power to pipelines and producers in times of physical stress to either or both of electric and gas markets (*WGQ Services or Technology Company*) |
| 13. | Existing data communication practices appear to be adequate for generators and pipelines. However, there is limited data available to the grid operators regarding the nominations and deliveries to gas generators, upon which the reliable operation of the power grid relies. Improved standardization of the data associated with delivery interruptions and associated locational impacts of the disruptions occurring on the gas system would be an excellent starting point for this enhanced coordination. (*WEQ IGO and Planners / WGQ End User*) |
| 14. | USEA work shows important issues; multiple examples (*RMQ, WEQ, WGQ Other Participant*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed  *Six responses with comments* | |
|  | NAESB has tried and failed repeatedly to develop standards for gas-electric coordination. The latest gas day changes have solved nothing and only require schedulers to work later into the night. What is needed are market design changes on the power side. which are already being discussed in RTOs/ISOs. (*WGQ Producer*) |
|  | NAESB standards alone will not significantly improve any Gas-Electric coordination issues. For example, R21006 was submitted in response to the findings of the FERC/NERC report but was voted by NAESB sub-committee participants as “NO ACTION” since many participants believed the main cause of issues was lack of winterization efforts versus lack of gas-electric coordination; therefore should be addressed by other regulatory bodies since business standards would not correct the underlying issues. New non-ratable services can only be developed if the gas generation market is willing to support the pipe capacity needed for a pipeline to provide these services. FERC policy decisions around cost-recovery for those generators of securing reliable pipeline capacity can address this main issue. (*five responses: all WGQ Pipeline*) |
| Standards currently exist that adequately address the area for the energy industry  *Seven responses with three comments* | |
|  | Others, such as FERC and NERC, appear to be evaluating gas-electric coordination issues. (*WGQ* *Distributor*) |
|  | In our opinion, standards exist that would enhance electric reliability and resilience but are avoided for cost purposes. (*WGQ Distributor*) |
|  | Existing standards exist for Gas/Electric Coordination, along with some state regulatory bodies requiring additional Gas/Electric coordination (*WEQ Transmission, Generator, Distributor/Load Serving Entity, Marketer/Broker*) |
| Standards development by NAESB would be inappropriate  *One response, no comments* | |
| Standards development by NAESB would be inappropriate at this time  *One response, no comments* | |
| Other  *Two responses with comments* | |
|  | Standards development would be inappropriate until a request for such is submitted. (*WGQ Pipeline*) |
|  | These standards have already been addressed on multiple occasions and any additional standardization is not needed. (*WGQ Distributor*) |
| **Additional Comments** | |
| 1. | My concern is that gas standards do not yield to interests solely based in the electric market (*RMQ Retail Gas Market Company / WGQ End User*) |
| 2. | We welcome G/E coordination requests that are specific and don't conflict with pipelines' tariffs and regulatory requirements (*RMQ Other Participant / WEQ Other Participant / WGQ Pipeline*) |
| 3. | I know work has been done on this in the past, and I'm thinking more than a NAESB standard will be required (*Unidentified Participant*) |
| 4. | The NYISO supports efforts that increase the flexibility, liquidity, and transparency of gas and electric markets. Gas and Electric markets will need to adapt to increased intermittent resource integration, new demand patterns, and volatile/unprecedented weather conditions. (*WEQ IGO and Planners*) |
| 5. | This topic has obviously been discussed and examples by multiple others have been provided. With that said, seems the true coordination between these two groups could be enhanced, so gathering more specific examples and use cases would be beneficial to help focus the objectives in this area. (*RMQ Other Participant / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| 6. | The interdependency of gas and electric in Florida continues to be a point of consternation as a result of limited gas infrastructure into the state. The availability of gas in situations where compression is lost also puts electric generation at risk. There is too much reliance on limited pipeline infrastructure going into the fringes of the system coming into Florida. (*WEQ Transmission, Generator, Distributor/Load Serving Entity, End User / WGQ End User*) |
| 7. | Gas-Electric harmonization is such a broad topic that it often generates so many different ideas that little gets done... There are big picture items, like gas-infrastructure utilization, and then more operational items like the power/gas day that could be addressed, but without a more targeted approach, not sure much is going to happen in the near future. Not to mention the regional/pipeline differences that often create disparate views and priorities. (*RMQ Retail Electric Service Provider/Supplier, Retail Electric Utility / WEQ Transmission, Generator, Distributor/Load Serving Entity / WGQ Pipeline, Distributor*). |
| 8. | This may be very difficult, but the power and gas market and the impact of gas to a reliable power supply warrants more work to see if greater coordination and aligned markets and reliability standards are needed to ensure reliability and the combined market (*RMQ Retail Electric Service Provider/Supplier, Retail Gas Market Company / WEQ Transmission, Generator, Distributor/Load Serving Entity / WGQ End User*) |
| 9. | We support Standards that would have a meaningful impact on Gas and Electric Market Coordination to the extent those standards fall within NAESB’s scope and purpose. (*WGQ Pipeline*) |

| 1. **Standards that support Cybersecurity – NAESB currently has active annual plan items to review and update the existing NAESB Cybersecurity-related standards as necessary** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 78 | 75 | 8 | 24 | 185 |
| By Market and Segment | | | | | | |
| **Wholesale Gas Market** | | **21** | **21** | **7** | **9** | **58** |
|  | Producer | 0 | 3 | 1 | 2 | 6 |
|  | Pipeline | 3 | 7 | 2 | 1 | 13 |
|  | Distributor | 4 | 0 | 3 | 2 | 9 |
|  | Services or Technology Company | 7 | 2 | 0 | 2 | 11 |
|  | End User | 3 | 7 | 1 | 1 | 12 |
|  | Other | 4 | 2 | 0 | 1 | 7 |
| **Wholesale Electric Market** | | **39** | **39** | **0** | **12** | **90** |
|  | Transmission Company | 6 | 8 | 0 | 2 | 16 |
|  | Generator | 6 | 10 | 0 | 2 | 18 |
|  | Distributor/Load Serving Entity | 6 | 7 | 0 | 1 | 14 |
|  | End User | 3 | 4 | 0 | 0 | 7 |
|  | IGO and Planners | 1 | 5 | 0 | 3 | 9 |
|  | Marketer/Broker | 5 | 3 | 0 | 2 | 10 |
|  | Technology or Service Company | 6 | 2 | 0 | 2 | 10 |
|  | Other Participant | 6 | 0 | 0 | 0 | 6 |
| **Retail Energy Markets** | | **18** | **14** | **1** | **3** | **36** |
|  | Retail Electric Service Provider/Supplier | 5 | 4 | 0 | 0 | 9 |
|  | End User/Public Agency | 1 | 0 | 0 | 0 | 1 |
|  | Retail Gas Market Company | 2 | 1 | 0 | 0 | 3 |
|  | Retail Electric Utility | 2 | 2 | 1 | 1 | 6 |
|  | Other Participant | 8 | 7 | 0 | 2 | 17 |
| **Unidentified Participant** | | **0** | **1** | **0** | **0** | **1** |

| **6. Standards that support Cybersecurity – NAESB currently has active annual plan items to review and update the existing NAESB Cybersecurity-related standards as necessary** | |
| --- | --- |
| **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. | Standardization would encourage resolution of the risk today with a lax approach to nominations and operational systems (*RMQ, WEQ, and WGQ Other Participant*) |
| 2. | Standards are not keeping pace with the rate of change in the cybersecurity space. More flexibility is needed. (*WGQ Services or Technology Company*) |
| 3. | See Cyber Security element of the NAESB REQ.21 ESPI standard (*RMQ Other Participant*) |
| 4. | We support standards development to the extent they make customer interface consistent. For example, there are different methods of Multi-Factor Authentication (MFA) being deployed that may impact customers who access multiple customer activity websites. (*five responses; all WGQ Pipeline*) |
| 5. | Security standards for Distributed Energy Resources (DER) components (*RMQ Retail Electric Service Provider/Supplier / WEQ Transmission, Generator / WGQ Pipeline*) |
| 6. | Cybersecurity standards that would require a 3rd party to protect energy information when this information has been provided to 3rd party. For example, ISO/RTO grid network/facility information provided to a GIS vendor to create an outage management system with facility data overlaid on a geographic platform. This capability could apply to any sensitive energy data provided 3rd parties. (*WEQ Technology or Services Company*) |
| 7. | The current activity to migrate existing cyber standards to a common book within each quadrant is a good start for improving the flexibility of the standards to maintain relevant practices required for securing communications. (*WEQ IGO and Planners / WGQ End User*) |
| 8. | Extreme in Texas and California (*RMQ, WEQ, and WGQ Other Participant*) |
| 9. | A continued effort to increase speed, quality, and efficiency of developing, adopting and coordinating business transaction cybersecurity standards for the energy industry. (*RMQ Retail Electric Service Provider/Supplier*) |
| 10. | EDI security for gas and electric retail transactions (*RMQ Retail Electric Service Provider/Supplier / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed  *Zero responses* | |
| Standards currently exist that adequately address the area for the energy industry  *Four responses with one comment* | |
|  | As it relates to the gas industry, TSA has issued security directives related to cybersecurity and proposed formal rules maybe forthcoming. (*WGQ Distributor*) |
| Standards development by NAESB would be inappropriate  *Two responses with comments* | |
|  | Better addressed elsewhere. (*WGQ Distributor*) |
|  | NIST and the U.S. DOE have standards that are industry-accepted and it may dilute the focus of NAESB to create standards that would essentially compete with those. Rather, it would be better for NAESB to point to specific NIST/DOE standards that members should follow. (*RMQ Retail Electric* *Service Provider/Supplier*) |
| Standards development by NAESB would be inappropriate at this time  *Zero responses* | |
| Other (comments below)  *Two responses with comments* | |
|  | Standards development would be inappropriate until a request for such is submitted. (*WGQ Pipeline*) |
|  | Other groups are currently developing standards (*WGQ Distributor*) |
| **Additional Comments** | |
| 1. | Additional consideration would need to be considered given regulatory agencies are addressing and there is a security risk of disclosing specifics of same. (*WGQ Pipeline*) |
| 2. | Monitor NIST and other agencies policies and programs that may impact energy industries. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 3. | Keeping up with and updated existing standards is key. (*RMQ Other Participant / WGQ Services or Technology Company*) |
| 4. | Monitoring and reporting of activities or NIST or other governmental agencies for possible standards in response to changes in policies or regulations. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 5. | FERC (and NERC) have covered cyber standards for the bulk electric system (BES). NAESB already has some cyber standards. Who can say no to better cyber awareness and protection, but I'd have to see what gaps NAESB would be trying to fill. (*Unidentified Participant*) |
| 6. | Support for this area is contingent upon having a specific area that would add value to the industry. Given the significant depth of focus on this issue throughout multiple industries, and the multiple other efforts from various groups, this may be more of a coordination rather than standards setting effort perhaps. (*RMQ Other Participant / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| 7. | The TSA has issued directives to the pipelines related to cybersecurity. We support standards at NAESB related to Cybersecurity to the extent such standards compliment the TSA directives and do not conflict with TSA initiatives. (*WGQ Pipeline*) |

| 1. **Standards that support Grid Infrastructure Improvements, Including Microgrid Technology and Resiliency** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 29 | 66 | 10 | 83 | 188 |
| By Market and Segment | | | | | | |
| **Wholesale Gas Market** | | **6** | **17** | **5** | **33** | **61** |
|  | Producer | 1 | 0 | 1 | 4 | 6 |
|  | Pipeline | 1 | 0 | 1 | 12 | 14 |
|  | Distributor | 1 | 3 | 1 | 5 | 10 |
|  | Services or Technology Company | 2 | 5 | 0 | 4 | 11 |
|  | End User | 0 | 8 | 2 | 3 | 13 |
|  | Other | 1 | 1 | 0 | 5 | 7 |
| **Wholesale Electric Market** | | **17** | **34** | **2** | **37** | **90** |
|  | Transmission Company | 3 | 5 | 0 | 8 | 16 |
|  | Generator | 3 | 7 | 1 | 7 | 18 |
|  | Distributor/Load Serving Entity | 3 | 7 | 0 | 4 | 14 |
|  | End User | 1 | 5 | 0 | 1 | 7 |
|  | IGO and Planners | 2 | 1 | 0 | 6 | 9 |
|  | Marketer/Broker | 1 | 3 | 1 | 5 | 10 |
|  | Technology or Service Company | 2 | 5 | 0 | 3 | 10 |
|  | Other Participant | 2 | 1 | 0 | 3 | 6 |
| **Retail Energy Markets** | | **6** | **14** | **3** | **13** | **36** |
|  | Retail Electric Service Provider/Supplier | 1 | 4 | 0 | 4 | 9 |
|  | End User/Public Agency | 1 | 0 | 0 | 0 | 1 |
|  | Retail Gas Market Company | 0 | 2 | 0 | 1 | 3 |
|  | Retail Electric Utility | 2 | 0 | 2 | 2 | 6 |
|  | Other Participant | 2 | 8 | 1 | 6 | 17 |
| **Unidentified Participant** | | **0** | **1** | **0** | **0** | **1** |

| **7. Standards that support Grid Infrastructure Improvements, Including Microgrid Technology and Resiliency** | |
| --- | --- |
| **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 business practices and related standards for these markets similar to OASIS for wholesale electric markets. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed  *Zero responses* | |
| Standards currently exist that adequately address the area for the energy industry  *Three responses, one comment* | |
|  | NIST and the U.S. DOE have entire divisions dedicated to grid-infrastructure support, development, and standards. (*RMQ Retail Electric Service Provider/Supplier*) |
| Standards development by NAESB would be inappropriate  *One response with comment* | |
|  | There are more appropriate organizations for this. (*WGQ Distributor*) |
| Standards development by NAESB would be inappropriate at this time  *Two responses with no comments* | |
| Other  *One response with comment* | |
|  | Standards development would be inappropriate until a request for such is submitted. (*WGQ Pipeline*) |
| **Additional Comments** | |
| 1. | There are initiatives already underway, such as at FERC, supporting distributed energy resource participation. (*WGQ Distributor*) |
| 2. | Emerging technologies present an operational challenge to the traditional way energy is distributed. With many standards and regulation still in its infancy, NAESB guidance could help shape this part of the industry. (*WEQ Transmission*) |
| 3. | Need more information to have an opinion (*five responses: all WGQ Pipeline*) |
| 4. | Support is specific to electric power sector for Grid Infrastructure Improvements, including Microgrid Technology and Resiliency (*WGQ Producer*) |
| 5. | MISO would like to see a better definition on what this entails prior to providing an opinion. (*WEQ IGO and Planners / WGQ End User*) |
| 6. | Again, for the bulk electric system FERC/NERC seem to have this covered. This always comes down to a question of risk, cost v benefit. State regulators would want the final say on where to draw that line, so it would depend on what NAESB thinks it can add without setting requirements and stepping on anyone's toes. (*Unidentified Participant*) |
| 7. | Standards that support electric grid reliability are needed to support a transition to renewables. However, FERC Order 2222 is working on addressing distributed energy resources, so that may be taking care of a portion of what NAESB is thinking about. (*WGQ Distributor*) |
| 8. | ISO RTOS define market services and products in our Market Protocols and Tariff. To the extent standards should be addressed within the WEQ, the buyers and sellers of these products will need to come to the table to advocate for standardization. (*WEQ IGO and Planners / WGQ End User*) |

| 1. **Standards that support Distributed Ledger Technology beyond the contracting process – NAESB currently has several efforts underway to support the digitalization and implementation of existing NAESB contracts, including the NAESB Base Contract for Sale and Purchase of Natural Gas and the NAESB Base Contract for Sale and Purchase of Voluntary Renewable Energy Certificates** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 19 | 91 | 4 | 66 | 180 |
| By Market and Segment | | | | | | |
| **Wholesale Gas Market** | | **5** | **29** | **2** | **21** | **57** |
|  | Producer | 0 | 3 | 0 | 3 | 6 |
|  | Pipeline | 0 | 5 | 1 | 7 | 13 |
|  | Distributor | 1 | 4 | 1 | 4 | 10 |
|  | Services or Technology Company | 0 | 9 | 0 | 2 | 11 |
|  | End User | 3 | 5 | 0 | 3 | 11 |
|  | Other | 1 | 3 | 0 | 2 | 6 |
| **Wholesale Electric Market** | | **10** | **40** | **1** | **37** | **88** |
|  | Transmission Company | 2 | 6 | 0 | 8 | 16 |
|  | Generator | 2 | 9 | 0 | 7 | 18 |
|  | Distributor/Load Serving Entity | 0 | 8 | 0 | 6 | 14 |
|  | End User | 1 | 2 | 0 | 3 | 6 |
|  | IGO and Planners | 1 | 2 | 0 | 6 | 9 |
|  | Marketer/Broker | 2 | 4 | 0 | 4 | 10 |
|  | Technology or Service Company | 0 | 6 | 1 | 3 | 10 |
|  | Other Participant | 2 | 3 | 0 | 0 | 5 |
| **Retail Energy Markets** | | **4** | **22** | **0** | **8** | **34** |
|  | Retail Electric Service Provider/Supplier | 1 | 5 | 0 | 2 | 8 |
|  | End User/Public Agency | 0 | 1 | 0 | 0 | 1 |
|  | Retail Gas Market Company | 1 | 1 | 0 | 1 | 3 |
|  | Retail Electric Utility | 0 | 4 | 0 | 2 | 6 |
|  | Other Participant | 2 | 11 | 0 | 3 | 16 |
| **Unidentified Participant** | | **0** | **0** | **1** | **0** | **1** |

| **8. Standards that support Distributed Ledger Technology beyond the contracting process – NAESB currently has several efforts underway to support the digitalization and implementation of existing NAESB contracts, including the NAESB Base Contract for Sale and Purchase of Natural Gas and the NAESB Base Contract for Sale and Purchase of Voluntary Renewable Energy Certificates** | |
| --- | --- |
| **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. | This type of technology could be useful in executing contracts from purchases to nominations to scheduling in one fell swoop. Such technology would need to be integrated with existing trading platforms such as ICE and any future platforms. (*WGQ Distributor*) |
| 2. | Continue the current efforts to have electronic versions for all Contract documents for use by digital ledger technologies and systems. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 3. | Efforts are underway to move natural gas transaction settlements into the market via blockchain. (*WGQ Services or Technology Company*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed  *Zero responses* | |
| Standards currently exist that adequately address the area for the energy industry  *Zero responses* | |
| Standards development by NAESB would be inappropriate (comments below)  *One response with comments* | |
|  | It does not seem that NAESB would be the appropriate organization to handle this. (*WGQ Distributor*) |
| Standards development by NAESB would be inappropriate at this time  *Zero responses* | |
| Other  *Three responses with comments* | |
|  | Standards development would be inappropriate until a request for such is submitted. (*WGQ Pipeline*) |
|  | I have expressed my concern for this many times in the past. It seems to be a solution in search of a problem. (*Unidentified Participant*) |
|  | DLT technology and blockchain technologies have lost favor and are known to suffer debilitating flaws, accord to a recent DARPA report. (*WEQ Technology or Services Company*) |
| **Additional Comments** | |
| 1. | Need more information to have an opinion (*five responses: all WGQ Pipeline*) |
| 2. | NAESB should attempt to coordinate with the leading distributed-ledger programs already deployed in the field; such as the microgrid efforts in NYC and the various trading platform work already out there. NAESB should not attempt to create something from scratch that is not already field tested, as it would require too much expertise and time. (*RMQ Retail Electric Service Provider/Supplier*) |
| 3. | Not sure the distributed ledger space is developed enough or mature enough for this to be a focus at this time, but my knowledge on the subject is not deep. (*RMQ Retail Electric Service Provider/Supplier, Retail Electric Utility / WEQ Transmission, Generator, Distributor/Load Serving Entity / WGQ Pipeline, Distributor*) |
| 4. | We would be supportive of some type of effort related to blockchain for contracting, nominating, confirmation, and scheduling of natural gas supplies; however, such a technology would need to be adopted by all existing trading platforms and any new trading platforms. It is hard to believe that such an adoption will occur anytime soon. (*WGQ Distributor*) |
| 5. | Perhaps a Luddite, and maybe "distribute ledger technology" is just a fancy way of saying "computerize." I'm not opposed to improving efficiency of tracking transactions, perhaps in the vein of OASIS. (*Unidentified Participant*) |
| 6. | Provides incremental improvement to Cyber security protection that will be beneficial for industry. The potential for application of DLT to the wholesale electric industry will need to be evaluated after these initial rollouts of the DLT gas contract. (*WEQ IGO and Planners / WGQ End User*) |
| 7. | We support standards related to Distributed Ledger Technology beyond the contracting process to the extent such standards fall within the NAESB’s scope and purpose. (*WGQ Pipeline*) |

| 1. **Standards that support the implementation of new Digital Technologies** | | **Strongly  Support** | **Support** | **Do Not Support** | **No Opinion** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| All Respondents | | 36 | 51 | 12 | 80 | 179 |
| By Market | | | | | | |
| **Wholesale Gas Market** | | **8** | **13** | **7** | **30** | **58** |
|  | Producer | 0 | 3 | 0 | 3 | 6 |
|  | Pipeline | 0 | 2 | 3 | 10 | 15 |
|  | Distributor | 1 | 0 | 3 | 6 | 10 |
|  | Services or Technology Company | 4 | 4 | 0 | 3 | 11 |
|  | End User | 1 | 3 | 1 | 5 | 10 |
|  | Other | 2 | 1 | 0 | 3 | 6 |
| **Wholesale Electric Market** | | **20** | **25** | **3** | **37** | **85** |
|  | Transmission Company | 3 | 6 | 1 | 6 | 16 |
|  | Generator | 3 | 5 | 1 | 8 | 17 |
|  | Distributor/Load Serving Entity | 2 | 5 | 1 | 6 | 14 |
|  | End User | 1 | 3 | 0 | 2 | 6 |
|  | IGO and Planners | 1 | 2 | 0 | 6 | 9 |
|  | Marketer/Broker | 3 | 1 | 0 | 4 | 8 |
|  | Technology or Service Company | 4 | 2 | 0 | 3 | 9 |
|  | Other Participant | 3 | 1 | 0 | 2 | 6 |
| **Retail Energy Markets** | | **8** | **13** | **2** | **12** | **35** |
|  | Retail Electric Service Provider/Supplier | 2 | 3 | 0 | 4 | 9 |
|  | End User/Public Agency | 0 | 1 | 0 | 0 | 1 |
|  | Retail Gas Market Company | 0 | 2 | 0 | 1 | 3 |
|  | Retail Electric Utility | 1 | 0 | 2 | 3 | 6 |
|  | Other Participant | 5 | 7 | 0 | 4 | 16 |
| **Unidentified Participants** | | **0** | **0** | **0** | **1** | **1** |

| **9. Standards that support the implementation of new Digital Technologies** | |
| --- | --- |
| **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. | Continue the current efforts to have electronic versions for all Contract documents for use by digital ledger technologies and systems. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 2. | Solar forecast and generation normalization (*RMQ Retail Electric Service Provider/Supplier / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| **Responses not in Support**  Detailed information concerning responses by those not supportive of standards development or other activity | |
| Standardization in the area is not needed  *Zero responses* | |
| Standards currently exist that adequately address the area for the energy industry  *One response* | |
| Standards development by NAESB would be inappropriate  *One response with comments* | |
|  | How a company digitize should be their own solution (*RMQ Retail Electric Utility / WGQ End User*) |
| Standards development by NAESB would be inappropriate at this time  *Zero responses* | |
| Other  *Five responses, four comments* | |
|  | Not clear what type of standardization NAESB proposes. (*WGQ Distributor*) |
|  | Standards development would be inappropriate until a request for such is submitted. (*WGQ Pipeline*) |
|  | This is not defined so I cannot support it (*RMQ Retail Electric Utility / WEQ Transmission, Generator, Distributor/Load Serving Entity / WGQ Pipeline, Distributor*) |
|  | Complete unclear what is meant by new digital technologies. (*WGQ Distributor*) |
| **Additional Comments** | |
| 1. | This is an important area, however, caution in regards to technologies or efforts that come and go. This is a rapidly moving area with many R&D efforts, and some will be excellent future add-ons and some will look great right now, but will never move forward due to multiple potentials. So caution is really to be aware that time/efforts may be expended here that risk never being needed in the future depending on the technology. (*RMQ Other Participant / WEQ Technology or Services Company / WGQ Services or Technology Company*) |
| 2. | Need more information to have an opinion (*five responses: all WGQ Pipeline*) |
| 3. | Kinda broad (*RMQ Other Participant/ WGQ Services or Technology Company*) |
| 4. | More specific information is needed to properly assess this effort. (*WGQ Services or Technology Company*) |
| 5. | MISO would like to have more information as to what is meant by Digital Technologies prior to providing an opinion (*WEQ IGO and Planners / WGQ End User*) |
| 6. | This question is unclear (*WEQ IGO and Planners / WGQ End User*) |
| 7. | To the extent a need arises for standards that support the implementation of digital technologies, we are supportive of efforts that fall within NAESB’s scope and purpose. (*WGQ Pipeline*) |
| 8. | Not now |

|  |  |
| --- | --- |
| **General Comments** | |
| 1. | AGA reached out to its membership about the survey, but received only limited responses. AGA is concerned that NAESB will receive limited responses as well. If only limited responses are received, NAESB should be cautious about the direction received from the survey, e.g., if the survey is sent to thousands but only dozens respond that might not be enough to warrant action. Also, members indicated that the general nature of the survey made it difficult to properly respond. (*WGQ Distributor Segment*) |
| 2. | NAESB and the quadrants that are supported by our standards are under increased pressure to be more efficient and more secure. GISB/NAESB started in 90s with a standard contract that today serves over 99+ percent of physical natural gas bought/sold in North America. The challenge is there are inefficient business processes, increased cybersecurity risks, and high capital/credit risk in the supply chain that NAESB needs to keep up with and should outpace industry requirements. NAESB should implement Standards-as-a-Service via a smart contract that increases efficiency, reduces cybersecurity risks, and reduces capital/credit risks between trading partners. (*RMQ Retail Electric Service Provider/Supplier*) |
| 3. | Update revenue reviews studies to determine if membership fees or fees for standards need to be increase for inflation and to insure ongoing viability of the NAESB organization. (*RMQ Other Participant / WEQ End User / WGQ End User*) |
| 4. | The survey seems heavily oriented to the Electricity and Gas Wholesale Market, which the Green Button Alliance does not participate in. Given the current market participation in the Retail Electric Market, should NAESB consider focusing future efforts solely on the Wholesale Market for standards development? (*RMQ Other Participant*) |
| 5. | Thank you NAESB for soliciting our input! (*WEQ IGO and Planners / WGQ End User*) |
| 6. | Lots of interesting ideas. But the devil is in the details. Many of these don't immediately lend themselves to NAESB standards in my mind, but others who have suggested them might be able to make the case for a need for such standards. I know I checked "support" for nearly all, but that support is lukewarm pending articulation of a specific need. (*Unidentified Participant*) |
| 7. | Thank you for asking! These are very important areas for NASEB (*RMQ, WEQ, and WGQ Other Participant*) |
| 8. | NAESB AND THE STAFF ARE THE BEST! (*RMQ Retail Electric Utility*) |
| 9. | PSEG completed the survey for all standards. I have only provided additional feedback for the cybersecurity standard. (*RMQ Retail Electric Service Provider/Supplier / WEQ Transmission, Generator / WGQ Pipeline*) |
| 10. | Thank you very much. (*WEQ Distributor/Load Serving Entity / WGQ Distributor*) |
| 11. | In general, we are supportive of standardizing business practices that address specific needs of the industry, fall within the scope and purpose of NAESB and do not conflict with the initiatives of other governing bodies. (*WGQ Pipeline*) |
| 12. | Tenaska is generally supportive of the initiatives and standards development activities currently underway at NAESB and appreciates the contribution that NAESB makes to the energy sector. (*WEQ Marketer/Broker / WGQ Other Participant)* |
| 13. | Thanks to the NAESB staff and the entire NAESB membership for your efforts (*WEQ Technology or Services Company*) |

1. The February 11, 2022 Advisory Council Notes can be found through the following hyperlink: <https://naesb.org/pdf4/advisory021122notes.docx>. [↑](#footnote-ref-1)
2. Two respondents provided two sets of responses representing two separate entities resulting in ninety-six responses from ninety-four individual representatives. [↑](#footnote-ref-2)