



# Smart Grid Survey (SGS): Smart Grid Program Challenges Facing Utility Executives

By Tom Hulsebosch

The design and implementation of smart metering, AMI, and smart grid projects has introduced unprecedented challenges for utility executives – both at a strategic and project level. West Monroe Partners recently surveyed nearly sixty executives from electric utilities to gain insight on the challenges faced by C-level utility professionals.

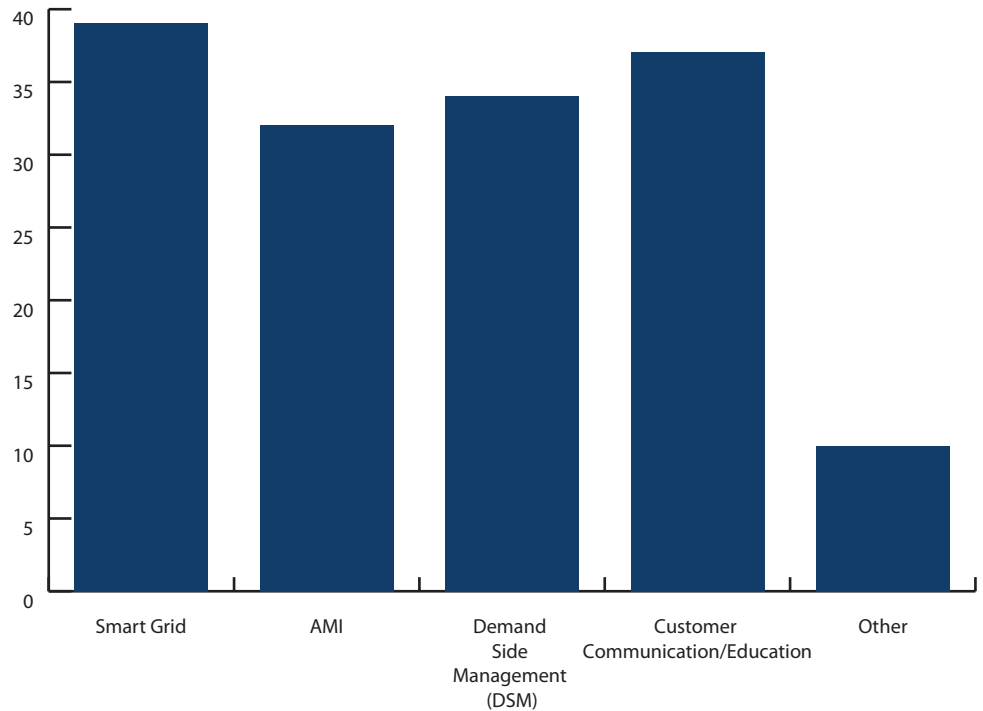
The Smart Grid Survey (SGS) consisted of six closed-ended questions inquiring into strategic projects planned or underway, and whether each project had a corresponding business case. Additionally, West Monroe explored the technologies, business practices and components of the utility’s smart grid vision. The survey concluded by gathering additional insight on challenges utility executives anticipate encountering within the next few years.

## Common Initiatives in Utilities

A number of electric utilities are positioned to expand on their existing AMI/AMR infrastructures and deploy additional smart grid solutions.

In addition to the smart grid and AMI initiatives, utilities are starting to focus on their customer programs. In an industry that has not historically had the need to be as focused on consumer programming, West Monroe noticed that DSM and Customer Communications initiatives are top-of-mind for many utilities.

Graph A: Initiatives Underway or Planned in the Next Three Years



## Business Case Development

Through the process of partnering with utilities to undergo smart grid program rollouts, West Monroe has designed programs around the best practice of utilizing a thorough smart grid business case and roadmap. The results of the SGS identify that 67% of the utility respondents are not currently utilizing an up to date smart grid business case. It is essential for utility executives to enhance project value and transparency while reducing monetary and schedule risks by developing a proper business plan.

## Smart Grid Project Types and Risk Areas

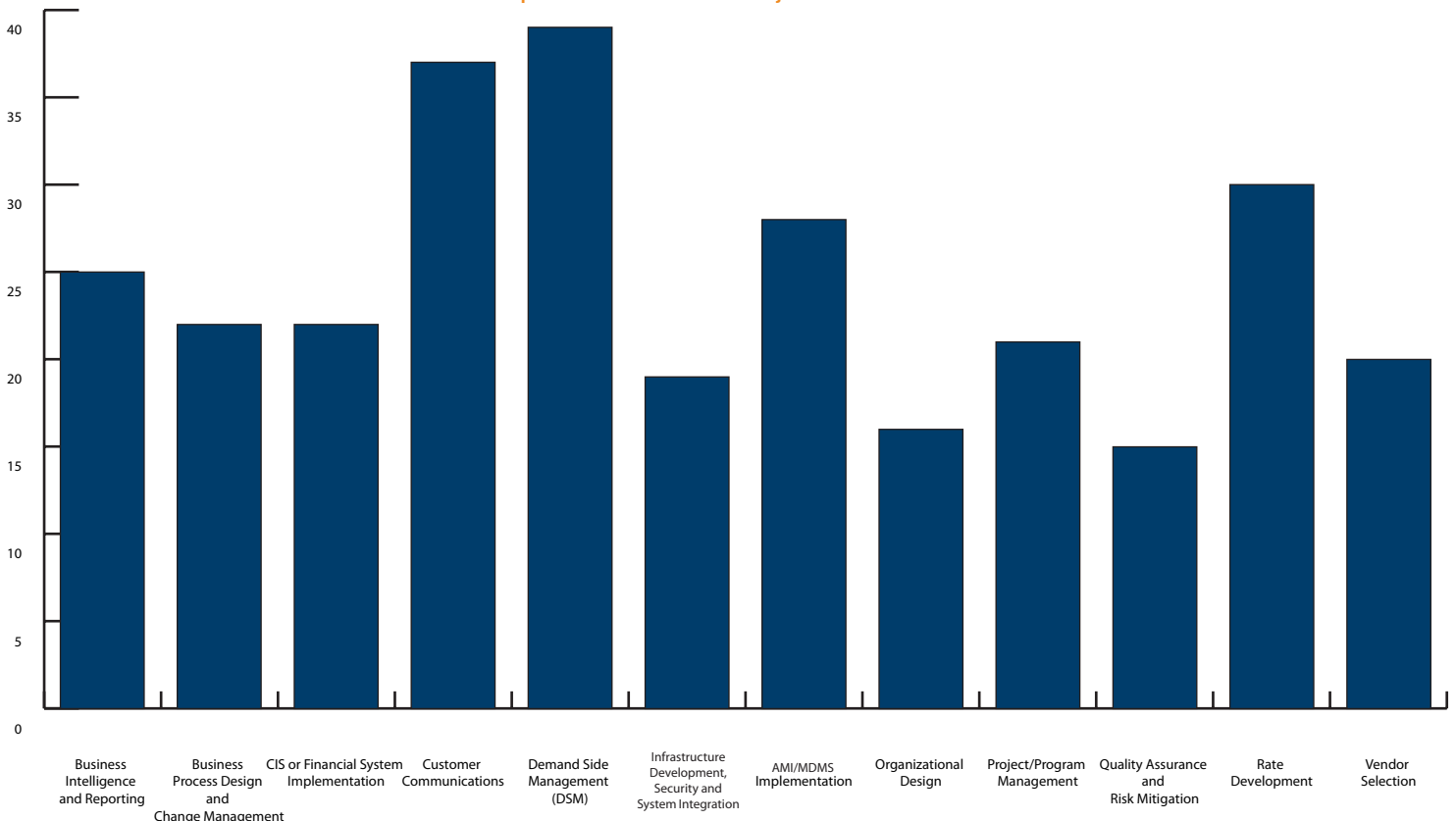
The SGS highlighted three high-level project areas of focus: Technology Implementation, Business Transformation and Customer Transformation. The following diagram details what projects are driving these initiatives.

Figure A: Smart Grid Projects



Many electric utilities have shifted focus to customer transformation projects with a majority (36%) of respondents identifying DSM, Advanced Rates, or Customer Communiations as near term initiatives.

Graph B: Smart Grid Project Distribution

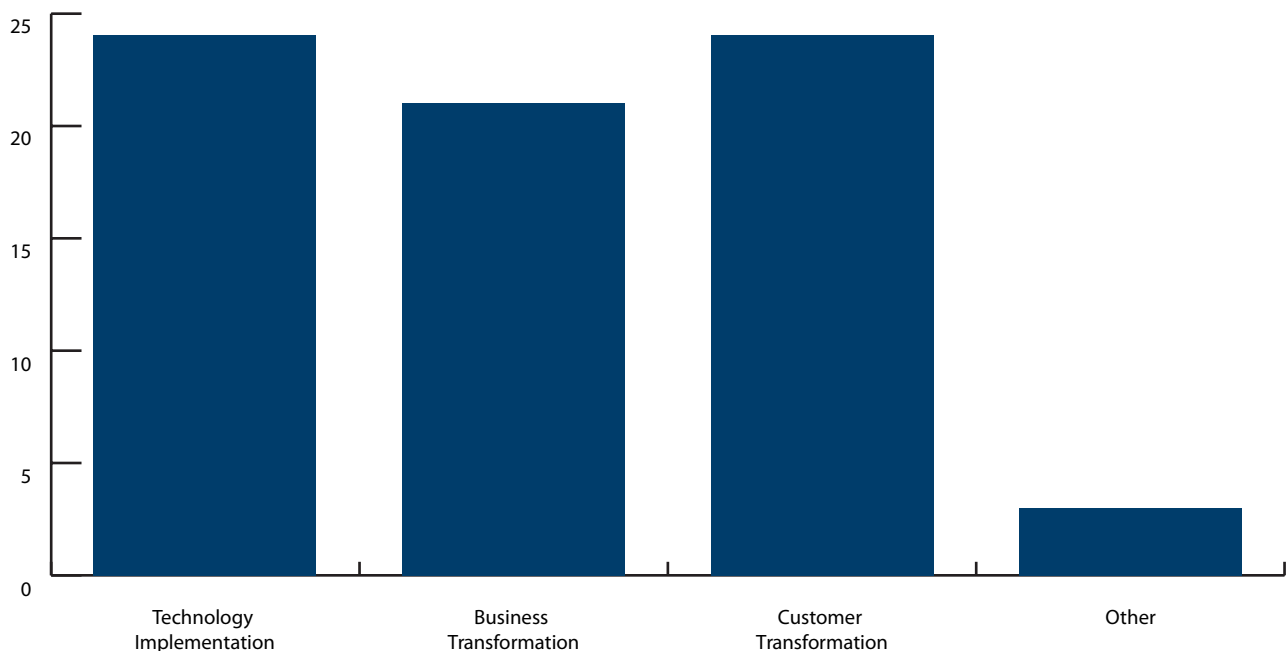


## Challenges in Smart Grid Programs

Finally, the survey inquired about the perceived challenges utility executives may face over the next three years. It was found that utility executives identified current or planned projects as the major business challenges on the horizon. Executives also noted that they were actively looking for strategies to navigate these challenges and mitigate the risks faced with these endeavors.

The challenges were nearly evenly distributed between Business Transformation, Technology Implementation and Customer Transformation project designations (Graph C). However, the challenge most recorded was Technology Implementation (34%). This finding is consistent with West Monroe’s client experience – selection of technology platforms and the integration of multiple disparate systems are both high risk areas.

Graph C: Challenges in Smart Grid Programs



## Technology Implementation Challenges

The technology implementation of smart grid programs adds multiple levels of complexity to the electric utility operations. New challenges have surfaced with the introduction of the following smart grid technologies:

- ◆ Smart meters
- ◆ AMI
- ◆ Wireless communications infrastructure
- ◆ MDMS
- ◆ CIS
- ◆ OMS
- ◆ GIS
- ◆ HAN
- ◆ DSM
- ◆ Advanced rate structures
- ◆ Distributed generation
- ◆ Conservation voltage reduction
- ◆ Substation and distribution automation

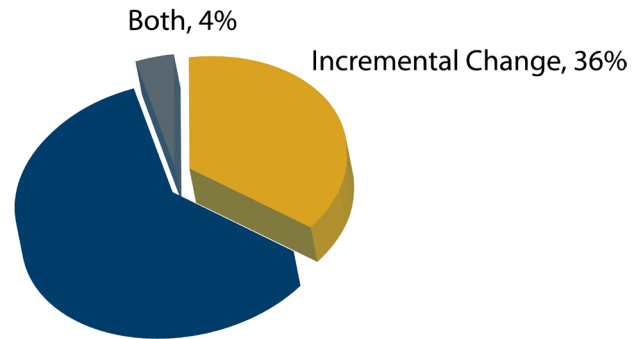
The integration of these systems to enable customer facing ePortals and customer DSM participation, present significant challenges to utility personnel. These systems require the expansion of high-tech infrastructure and the addition of increased security technology and processes – which pose new challenges to IT managers and CIOs.

With the complexity and degree of change associated with implementing Smart Grid, AMI and DSM initiatives, the majority of respondents understand that meeting future challenges requires business transformation.

To increase the chances of project success, West Monroe’s clients undergoing smart grid programs have employed a roadmap to optimize the sequencing of their smart grid solutions that include:

- ◆ Cyber Security
- ◆ Business Process Optimization
- ◆ Customer Communications
- ◆ Employee Change Management
- ◆ Smart Grid Solution Implementation
- ◆ Systems Integration

**Graph D: Transformation vs Incremental Change**



Transformational Change, 60%

## Conclusion

Today’s electric utilities face many challenges as they drive their smart grid programs forward. Most utility executives surveyed agree that their smart grid programs represent a fundamental business transformation and will require them to implement a strong Program Management Office, create new business processes, and follow a structured change management process. In addition, many utilities have yet to create a business case and roadmap for their smart grid vision – even though they acknowledge it is important to the successful execution of their program.

West Monroe assists their clients in all phases of their smart grid initiatives – from business case and roadmap development to deployment and QA. The Energy & Utilities practice is comprised of a diverse team of industry professionals and experienced consultants. Applying deep industry knowledge to deliver holistic solutions to the specific needs of public, private, and cooperative utilities, our professionals serve as trusted partners. With strong credentials in utility operation, telecommunications, security assessment and design, program management offices, systems integration, and measurement systems, West Monroe Partners is the consultancy of choice for utilities in any phase of a smart grid program.

For more information on how your utility can realize it’s smart grid vision through partnership with West Monroe, please contact Tom Hulsebosch, Managing Director of the Energy and Utilities practice.