Powering the Future: SMART Communities Optimized as Technology Improves and Digital Trends continue to Drive Sustainability

STATEMENT

Customers are imagining a day in the life in a connected community: better public services and outcomes for the individuals who call this community home. These customers will expect high reliability for a full spectrum of community systems that will require utilities to evolve. How might utility companies partner with community leaders to enable the physical, social and digital platforms to provide reliable, secure and safe services that are sustainable and convenient for customers.

CONTRIBUTING FACTORS

Although there is no single definition of what makes a community smart, many agree that a key attribute for a smart community is that it uses information and communication technology to optimize a set of shared utility services such as transportation, energy, water, sewage, waste management and public safety. These services are connected and integrated thus demanding a significant amount of data that is timely, accurate and secure. To manage these services, smart community leaders are creating plans that call for investment in broadband networks, data management and analytic software to offer clean, efficient, resilient, affordable and equitable utility services that improve the lives of their citizens.

As the technology improvement and digital trends continue, more data will continue to become available. Advancements in artificial intelligence and "big data" management are radically transforming service delivery in so-called "data-driven cities." It is predicted that 80 billion new devices will be connected by 2025, adding 180 trillion gigabytes of new data. Smart community citizens want to make their communities more "livable" –more connected, data-driven, sustainable, mobile, resilient, economically competitive, and inclusive.

Additionally, recent economic, political, and cultural realities have prompted many communities such as the cities of Philadelphia, Baltimore, Washington DC and New York to assess and reconsider their plans for long-term sustainability. These plans lay out broad, inclusive, and community-responsive sustainability agendas that call for an energy vision for the future, including clean electricity supply, citywide renewable energy availability, energy-efficiency, low-carbon thermal and low-carbon economy.

CHALLENGE

There is an opportunity for community leaders and utility companies to partner and innovate at the cross-roads of smart community advancements and sustainability. This challenge requires the team to ask which platforms should be prioritized and to come up with a recommendation for the most promising collaborative opportunities, including the conceptual solution of the most valuable options.

Thought starters on how to drive value for customers. How do we:

- create a smarter grid that can "self-heal" to minimize disruptions
- ensure resiliency and security against threats - cybersecurity attacks and extreme weather events
- enable customers to adopt DG, e.g. solar, storage, and ultimately transact as prosumers in an open marketplace
- achieve climate change objectives, through electrification – transport, business and residential
- provide better city services for citizens – integrated and optimized, e.g., water, gas, leveraging data, technology and digital