

## Unlocking the Potential of Smart Cities for Smart Energy Efficiency

### IceBreaker

5 minutes for the tables to discuss what they want from the session

Table 1: Interested in learning about:

- The newest technologies
- The different kinds of wireless opportunities

Table 2: Wants to hear more about:

- The variety of data involved with Smart Cities
- The engagement surrounding that data

Table 3: Drawn by more information about:

- Operability and compatibility of controls as new systems are integrated

## Introduction

### The Smart Imperative

- A whole new world of technology. How will this develop within our cities?

### The Energy Perspective

- Better management of energy supply and demand resources to meet utility and city goals
- Smart integration to balance energy resources in a responsible way

### DNVGL Smart Cities Research

- Research Project on what cities are doing to implement city smart projects including vendor engagement:
  - Traditional Procurement
  - Partnerships
  - Innovative
- What are cities doing to find mutually beneficial partnerships?
  - Example → Buildings used as innovation hubs where innovator are invited to work on city-specific problems

## City of San Diego – Parita Amerlahn

- Collaboration and communications is key to smart cities. San Diego's departments are silos. Each department has a different idea of a smart city. There are several groups in San Diego that

give opportunity for different groups to overlap and gain understanding of what is mutually beneficial.

- How do we make this happen? We PILOT.
  - o Example→ Adaptive Control Pilot. Through a partnership with LGP, we found a vendor. With a pilot, you can monitor and evaluate if you are reaching program requirements.
- Lessons Learned: Technology isn't perfect, but its helpful when technology is able to learn from its mistakes Ex→ sensors were counting oil spots as cars. They were able to reprogramed in a way where that wouldn't happen anymore.
- Smart Deployment , SMART CITY project that saves money and therefore finances itself

Q: Have you seen an increase in revenue from parking tickets?

A: Yes!

Q: How were you able to finance your lighting sensor project?

A: We received a loan

## City of Chula Vista – Colleen Wisniewski

- LED Streetlights:
  - o 2008 Pilot Project, really needed to find ways to save money. Did a test bed to try different technology
  - o 2011-2013 Streetlight retrofits
  - o 2017 Upgrading streetlights to include dimming, smart controls, sensors. Technology types are in discussion
- CityWide LED Retrofit
  - o 2014 – Pilot City-wide in progress (40 facilities and over 10,000 fixtures
  - o Not going smart because the payback is needed right away
- Chula Vista Bayfront
  - o 5 acres, partnership to redevelop area of old infrastructure with a smart energy focus. Largest redevelopment in all of the W. Coast. 10 years to create the Bayfront Master Plan. Got coastal commission okay 5 years ago. Starting an RV park right away, going into Environmental Review, possible groundbreaking within the year.
  - o How do you create a district scale smart city? A team created a concrete plan for a smart city focusing aon sustainable development as a test bed for learning. It was also focused on as a catalyst for economic development.
  - o Be: Connected. Responsive. Transparent. Innovative.
- Library Energy Efficiency Outreach
  - o WiFi hotspots
  - o Residents can try out and rent technology
  - o Innovation station for 6<sup>th</sup> graders to learn about technology, murals including educational materials on energy efficiency/conservation

## San Leandro – Sally Barros

- 50% of city computing is on the cloud
- Partnership with private sector can increase broadband
- Interesting development of a community-wide micro-grid
- Publishing data for the public to use
- An app to call in potholes Crowdsourcing information.
- Adopt-a-Drain to delegate maintenance
- Wireless mesh through the streetlights
- Recreation department is able to get location information to better understanding of recreational needs
- Vendor engagement with energy services company
- \*smart cities don't mean quick cities\*
- Projects:
  - o "Internet of Things"
  - o Building Automation Systems
  - o Irrigation Upgrades – Microgrid Battery Storage
- Technology sometimes creates a solution for problems that don't exist Ex→ Smart – smart salt shaker
- GHG Emissions Data collection
  - o We have to spend so much time wrestling with data holders
  - o How can cities have a more cumulative approach to receiving data?
  - o Need a brilliant way at the state level

Q: You're meeting with CPUC on special tariffs? Elaborate?

A: We have a pilot rate SG&E. The dimmable rate was just approved. We will be heard by CPUC Jan of 2018 and start July 2018.

Q: Advice to other jurisdictions that don't own their lights who what to pursue smart city infrastructure?

A: San Pablo doesn't own and doesn't want to. We are working with PG&E on what type of poles we can get. When we change these, we can get nodes with up to four prongs of technology.

Comment: A tariff template from San Diego can be used by other Utilities. Capabilities and Adaptability are great, but tariffs aren't there yet. We're all looking for a team to lay the groundwork for uniformity so other cities don't have to reinvent the wheel.

Q: Looking back and/or forward, what hurdles did you face that you weren't expecting?

A: Sally: Using new technologies means you may have to be the proof of concept, but cities are risk averse

Colleen: Tried using On Bill financing, but now looking at other options, having options is important

Parita: Community Engagement – We had 6 different types of LEDs that the community could choose from, not too few and not too many options.

Q: Example of a rural city implementing Smart Cities?

A: Identify what your actual problem is, Maybe start a smart city working group to help understand needs, then find solutions from there. Engage with your population.