Funding & Expediting Citywide Infrastructure Renewal with Energy Upgrades

League of California Cities Webinar
Speakers & Agenda

Ashu Jain, P.E.
Senior Manager, ENGIE North America

Marc Mondell, ICMA-CM, AICP
City Manager, City of Tulare

Agenda

1. Anchoring citywide infrastructure improvement programs
2. City of Tulare case study presentation
3. Q&A session
Anchoring Citywide Infrastructure Improvement Programs
Why Start with Energy?

**Cost Reduction**

Energy costs are a significant budget item that can be controlled.

10% of a local government’s annual operating budget is spent on energy.

**Infrastructure Renewal**

Energy is a ubiquitous component of city infrastructure and can become a platform for infrastructure renewal.

States and localities are facing $873 billion in deferred maintenance costs - energy systems and infrastructure represent a significant portion of this backlog.

**Climate Action**

Energy consumption is a major contributor to carbon emissions and an opportunity for action.

25% of total U.S. greenhouse gas emissions come from burning fossil fuels for electricity.

**Community Development**

Energy is a powerful area of focus to advance local economies, careers, and academic collaboration.

Efficiency and clean energy sectors have the fastest growing employment numbers in energy, with skilled labor identified as a barrier to continued growth.
Smart Infrastructure Solutions @ the Energy Nexus

**eMobility Infrastructure**
Equipment and smart charging services

**Renewable Energy**
Onsite solar PV, performance guarantees

**Building Efficiency & Automation**
Energy conservation measures, building controls

**Energy Storage & Resiliency (microgrids)**
Peak demand management and emergency backup power

**Streetlighting**
Citywide LED upgrades, controls and outage detection

**Water & Wastewater Systems**
Advanced metering, pumps, and process improvements
The Benefits of Bundling Projects

Bundling upgrades across different types of municipal infrastructure can help pay for projects, improve services, and engage local communities.

- **More Savings**: Leverage projects with long-term and short-term ROI, and a combination of energy, water and operational savings.
- **More Incentives**: Take advantage of adders for government/utility incentives to pair certain technologies or locate projects in certain areas.
- **Deployment Efficiencies**: More efficiently work through backlogs of deferred maintenance with fewer disruptions to operations.
- **Community Engagement**: Engage your local community with an innovative portfolio of upgrades – building appreciation for advanced technologies and responsible resource management.
Key energy and climate elements of the IRA:

- Reduces the cost of clean, renewable energy through tax incentives and grant funding
- Extension and modification of the Investment Tax Credit (ITC) for energy infrastructure
  - Tax exempt entities can now benefit from credit through direct payments
- Puts US on path of 40% GHG reduction by 2030
- Supports environmental justice and domestic content preferences

The Inflation Reduction Act includes $369B in climate investment, tax credits and loans

- Clean Electricity Tax Credits $161 billion
- Air Pollution, Hazardous Materials, Transportation and Infrastructure $40 billion
- Clean Fuel and Vehicle Tax Credits $36 billion
- Conservation, Rural Development, Forestry $35 billion
- Clean Manufacturing Tax Credits $37 billion
- Building Efficiency, Electrification, Transmission, Industrial, DOE Grants and Loans $27 billion
- Other Energy and Climate Spending $14 billion

Source: Committee for a Responsible Federal Budget
Note: Senate Democrats estimate that the bill will provide $369 billion in climate and energy investment. CFRB estimates the figure at $386 billion.
Additional ITC Bonuses Based on Location
Inflation Reduction Act (IRA)

Energy Communities (+10%)

Low Income Areas (+10-20%)

Retired Coal Facility Communities

Low Income & Non-Urban Areas

Legend:
- Grayed-out States
- Areas with Forested Land
- Other Land Use
- Retired Coal Facilities

Legend:
- American Indian Land
- Low Income & Non-Urban Areas

Legend:
- Census Tracks
- Census Tracts, Low Income
- Census Tracts, Retired Coal Mine
ITC Credits Stack for Significant Value
Inflation Reduction Act (IRA)

Credit Rates

<table>
<thead>
<tr>
<th>Credit</th>
<th>Base Credit</th>
<th>Full Credit: 5X Base for Prevailing Wage</th>
<th>Full + Domestic Content OR Energy Community Bonus</th>
<th>Full + Domestic Content Bonus + Energy Community Bonus</th>
<th>Full + Domestic Content Bonus + Energy Community Bonus + Low-Income Community Bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITC</td>
<td>6%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60-70%</td>
</tr>
</tbody>
</table>

LEAGUE OF CALIFORNIA CITIES WEBINAR | FUNDING & EXPEDITING CITYWIDE: INFRASTRUCTURE RENEWAL WITH ENERGY UPGRADES | 10
About ENGIE

Delivering comprehensive, integrated services across the entire energy value chain. A preferred provider to cities, counties, universities, school districts, healthcare providers, and other social infrastructure organizations.

Clean Energy Leader

49 Years’ Experience
in the U.S. researching, designing, operating, and investing in a wide range of energy solutions

Access to Intelligence
from ENGIE’s $230 million annual R&D investment globally

1,740 Public Serving Organizations
served in the U.S. (municipalities, universities, schools, and hospitals)

38 gw
of renewable energy capacity worldwide in 2022

26 Mt
of CO2eq emissions avoided globally by ENGIE projects with customers
ENGIE’s Comprehensive Design-Build Approach

ENGIE is with you every step of the way providing detailed infrastructure audits, financing solutions, project management, and stakeholder engagement.

- **Planning**
  - Infrastructure & inventory assessment: state of current equipment and operations (needs assessment)
  - Solution integration: technology options and configurations (sensors, controls, other peripheral smart technology)
  - Financial analysis: cost and savings estimates, incentives, financing and ownership structures
  - Stakeholder engagement: communications, outreach and approvals

- **Implementation**
  - Site design: engineering, mechanical and electrical design
  - Incentive applications: filing and compliance support
  - Procurement: energy system equipment, luminaires, nodes, controls, poles, wires, peripheral smart technology (cameras, sensors, data, etc.)
  - Installation: construction, testing and commissioning

- **Operation**
  - Operations & maintenance: preventive maintenance and repairs
  - Energy management: IOT platform (automatic/remote controls, outage detection, repair dispatch)
  - Measurement & verification: report on performance and savings
  - Community engagement: programming and project impact
ENGIE smart infrastructure programs provide city leaders with an opportunity to advance their local economies and partner with industry on academic and career development initiatives.

**STEM Education Programs**
Connect data and technology from real-world energy projects to engage local students in STEM education programs supported by ENGIE.

**Public Communications**
ENGIE supports public information staff to get the word out and keep local communities informed.

**Internships**
Smart infrastructure programs can offer unique opportunities to sponsor paid internships in relevant fields of study and work.

**Local Job Creation**
ENGIE supports and prioritizes sustainable job creation – hiring local vendors when possible.
City of Milpitas
Smart City Infrastructure Program

Opportunity
The City of Milpitas is a Silicon Valley community of about 84,000 residents. As part of an ongoing effort to maintain and improve public services, City leadership solicited innovative ways to improve public facilities and infrastructure, reduce operating costs, and positively impact the local environment.

Solution
ENGIE proposed a comprehensive smart city program with a portfolio of sustainable infrastructure upgrades including:

- **200 kW solar PV system**: resilient microgrid solution for the city’s senior and community centers; electric vehicle charging stations
- **15,600 advanced metering infrastructure (AMI) water meters** with leak detection; water, wastewater, and stormwater management automation; touchless efficient water fixtures
- **2,185 LED streetlight retrofits; 4,453 streetlight controls** upgrades with outage detection; City wide LED lighting upgrades in parks, sports fields, City buildings, and community facilities
- Integrated **community impact program**: O&M and performance guarantees

Benefits
- **$50M in net savings** over the life of the program
- Improves city services and infrastructure for residents and businesses
- Energy resiliency (back up power) for community centers
- Addresses safety, efficiency and climate action goals
- Provides workforce and education opportunities
West County Wastewater District (WCWD) Comprehensive Infrastructure Project

Need for Comprehensive Energy, Infrastructure, and Process Improvement
West County Wastewater District, located in Richmond, California, needed comprehensive energy, infrastructure, and process improvement programs designed to significantly reduce the organization’s carbon footprint and greenhouse gas emissions.

Solution
By partnering with ENGIE, WCWD will move toward a cleaner future, by:
- Implementing renewable energy generation: 1.1 MW solar PV, LED lighting, and EV charging stations
- Upgrading the wastewater treatment plant
- Implementing a 450 kW cogeneration system powered by biogas
- Generating Class A biosolid for agricultural and reclamation uses

Benefits
- **4.2 million kWh** energy use reduction per year
- **93%** greenhouse gas reduction over program life
- **$83 million** net program life savings
- Significantly improve process control over wastewater treatment and digestion
- Reduce disposal costs of organic material destined to landfills
- Includes robust community impact program with internship opportunities and career paths for high school and college students
City of Tulare
The City of Tulare is situated in the Central San Joaquin Valley along Highway 99, 45 miles south of Fresno and 60 miles north of Bakersfield. It was founded in 1872 by the Southern Pacific Railroad to serve as its San Joaquin Valley headquarters. The City was incorporated in 1888.

**Agriculture**

is the lifeblood of the local economy with some of the most productive farmland in the world.

69,462 residents within 22 square miles (2022)

**Full-Service City**

water and wastewater utilities, police, fire, and airport

2023 General Fund $55,841,187

Fund Balance $182,982,670
Total Assets $656,000,000
Goals of Citywide Infrastructure Upgrade

- Implement solutions quickly
- Finance through energy savings without impacting the General Fund
- Require minimal staff time
- Deliver through design-build process with guaranteed savings to minimize ongoing performance issues

- Address aging infrastructure, equipment, and facilities
- Respond to resident’s concerns about inadequate park and streetlighting
- Address council priorities
Why ENGIE?

- **Reputation**
  - Checked references

- **Local experience**
  - Over $300 million of successful projects in the Central Valley
  - Tulare County (3 projects), Tulare Joint UHSD, Tulare Local Healthcare District

- **Size of company**
  - 100,000 employees
  - $100 billion annual revenue

- **Track record**
  - Company in existence for 200 years
  - US legacy of 50 years

- **Deep bench of expertise**
  - Solar, HVAC, lighting, water & wastewater, utility rates

- **Guaranteed performance**

- **No upfront cost**

- **Experienced project team**

- **Practical recommendations**

- **Expedited construction schedule**
Scope of the Project

- Building LED Lighting: 10 facilities
- Parks LED Lighting: 17 parks
- Sports Field LED Lighting: 6 parks/sports complex
- HVAC Units Replacement: 9 facilities
- Solar Projects: 4 facilities
- EV Chargers: 1 facility

Existing RES-BCT Solar Project Reallocation Savings: $78,000 annually
Utility Bill Rate Change Savings: $52,000 annually
WWTP Bill Totalization Savings: Over $800,000 annually
Financial Considerations

- Inflation Reduction Act elective payment
- Net Energy Metering 2.0 grandfathering
- Tax-exempt lease purchase negotiated sole source
- Expedited close of financing to counter inflation
- Project cost – $12.8 million
- Project net savings – $9 million+ over the life of the project
Questions?

Ashu Jain, P.E.
Senior Manager,
ENGIE North America
ashu.jain@engie.com
714.473.7837

Marc Mondell, ICMA-CM, AICP
City Manager,
City of Tulare
mmondell@tulare.ca.gov

For questions related to your infrastructure needs, email info@es.engie-na.com