Goal Setting & Clarification

City and County Solar PV Training Program

Module 1

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Learning Objectives

• Understand nuances between different types of goals
• Understand the importance of terminology when setting and announcing goals
• Understand the value of formally clarifying priorities
• Understand how priorities may impact procurement options
Goals & Targets
All goals are not created equal

- 50% renewable electricity by 2030
- 50% renewable energy by 2030
- 1,000 MW of renewable energy by 2030
- 1,000 MW of clean energy by 2030
- 50% carbon reduction by 2030
- 50% reduction in criteria pollutants by 2030
Percentage Goals

50% renewable electricity by 2020

- Percentage goals are impacted by load growth
- Electrification trends impact load
- Predicting load growth can be challenging
- Electrical demand fluctuates annually
- Efficiency measures can contribute to achieving the goal
Capacity Goals

1,000 MW of clean energy by 2030

- Load growth and efficiency measures do not impact achievement of capacity goals
- Measuring achievement is simple
- May limit environmental impact if not updated
Carbon or Broader Emissions Goals

75% carbon reduction by 2030

- Many variables to consider in road-mapping: changes in all sectors impact carbon emissions
- Biomass and landfill gas impact emissions goals differently than solar and wind technology
Terminology matters

Our city uses 100% renewable energy.

Our city uses 100% renewable electricity.

The city-owned buildings use 100% renewable electricity.

The city-owned buildings and facilities are net-zero.

“The city of Las Vegas is powered 100% by renewable energy.”

“MOSTLY TRUE”
Clarifying Definitions and Priorities

- aids the identification of appropriate options
- reduces options analysis time
- eases complex decision-making
- increases transparency
What qualifies as “renewable”?

- Define which technologies will count toward the goal.
- Some renewable technologies are not emission-free, but may reduce net emissions.

**City of Aspen’s Definition of Renewable Energy Resources as determined by City Council**

<table>
<thead>
<tr>
<th>Renewable</th>
<th>Considered on an individual project basis</th>
<th>Remaining under consideration</th>
<th>Non-renewable (not eligible to meet goal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>Biomass</td>
<td>Municipal Solid Waste-to-Energy</td>
<td>Nuclear</td>
</tr>
<tr>
<td>Wind</td>
<td>Landfill Gas</td>
<td>Coal Mine Methane</td>
<td>Natural Gas</td>
</tr>
<tr>
<td>Geothermal</td>
<td>Sewage Gas</td>
<td></td>
<td>Coal</td>
</tr>
<tr>
<td>Hydro (Small &amp; Large)</td>
<td>Directed Biogas</td>
<td></td>
<td>Oil</td>
</tr>
</tbody>
</table>
Different priorities point to different solutions & some may compete

- Cost (required ROI, at or below utility cost, price premium)
- Catalyze construction of new renewable energy projects
- Public engagement (Community solar, education, displays)
- Long-term electricity rate stability
- Use of local labor
- Back-up power at critical facilities (energy resiliency)
- Control or ownership of assets
- Use of local resources
- Nationally-sourced products
- Impact on carbon emissions reduction
- Meet renewable energy goal or target on schedule
Priorities Impact Procurement Options

Renewable Energy Certificates (RECs)
- Buy the environmental attributes associated with renewable energy generation, which are represented by the RECs, but does not buy the power.

Capital Investment
- Self-financed, self-managed renewable energy system. (Flip structure may address lack of appetite for tax credits.)

Power Purchase Agreement
- Buy power generated by a renewable energy system that is financed and maintained by a third-party.

Virtual PPA
- City guarantees the purchase of power generated by a third-party owned system at a certain rate, thus helping the project get financing. If the third-party sells the power on the market at a lower rate, you pay the difference. If it sells at a higher rate, city receives the difference. In either case, city receives the RECs.

Utility Green-Tariff
- Subscribe to an existing utility tariff or program for renewable energy
Conclusion

Critical Early Steps in Road-mapping for Renewables

- Clarify the goal
- Pay attention to terminology
- Clarify the technologies and project types that are considered eligible as “renewable”
- Clarify priorities
- Define procurement options that match priorities
- Engage stakeholders early
- Deliberately use definitions & priorities in options analysis