

# Creating Additionality in City-Driven Renewable Energy Pledges

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# City Energy Pledges

- Federal government steps out
  - > Statement of intent to withdraw from Paris Agreement spurred action at the global, regional, state, and local level
- Cities step in and up
  - > Variety of alliances and collaborations
  - > U.S. Conference of Mayors

# Pledges, Actions, and Organizations

**WE ARE  
STILL IN**



# Importance of Cities

- Global energy consumption
  - > 67-76% of all global energy
- GHG emissions
  - > 70% of all GHG emissions
- Population growth
  - > 2.5 billion more urban residents by 2050
- Urbanization rate
  - > 54.5% of global population in 2015
  - > 82% of North American population in 2016

# What are Cities Doing?

- Pledge Types
  - > Renewable electricity
  - > Renewable energy
- Pledge Goals
  - > By 2036
  - > By 2050
- Pledge Scope
  - > Municipal operations
  - > City-wide energy usage

# The Future is Coming

- U.S. Conference of Mayors' survey
  - > Renewable energy purchasing habits
    - 65% of cities are currently purchasing renewable energy
    - 26% of cities are considering purchasing renewable energy
  - > Cities purchasing renewable energy
    - Less than 20% consume more than 30% renewable energy
    - More than 45% consume less than 10% renewable energy

# Pledge Options

- ◉ Project development
- ◉ Power Purchase Agreements
- ◉ Renewable Energy Credits
- ◉ Community Choice Aggregation
- ◉ Green tariffs

# Additionality

- “a quality criterion for GHG emission reduction (carbon offset) projects stipulating that the project would not have been implemented in a baseline or ‘business as usual scenario.’”
- Contributing to overall reduction of GHG emissions
  - Not just redistributing existing emission reductions



# Burlington, VT

- ◉ Biomass - McNeil Generating Station – Wood-fired biomass plant
- ◉ Wind – Georgia Mountain and Sheffield Wind
- ◉ Solar – Burlington Airport
- ◉ Hydropower – Winooski One
- ◉ Have not raised electricity rates in 8 years

# Burlington, VT

- Actual energy consumed

- > Wind – 0.0%
- > Biomass – 0.0%
- > Methane – 0.2%
- > Solar – 0.3%
- > Hydro – 22.7%
- > REC Purchase – 76.7%

# REC Markets

- REC Arbitrage
  - > Financial transaction leveraging price differences in voluntary REC Markets and compliance REC Markets
- New England Compliance Markets
  - > Massachusetts Solar RECs - \$316.5/MWh
  - > Massachusetts Wind RECs - \$66/MWh
  - > New England Class II RECS - \$10/MWh, \$27/MWh, \$31/MWh
- Voluntary Compliance Markets
  - > Texas Wind RECs - >\$1/MWh

# Climate Claims and Climate Benefits

- Differentiate between cities bringing new resources onto grid and cities re-ordering credits for renewable generation
  - > Clarity in pledges – Make additionality the standard
  - > FTC Green Marketing Guides
  - > “Truth in Advertising” laws
  - > Integrate city reporting requirements into regional and state level mitigation efforts