RE-AMP Network Lunch & Learn Webinar

City Gas Infrastructure & Policy

September 25, 2019

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Network Updates

➢ Steering Committee Meeting: Oct. 15

➢ RE-AMP Lunch & Learn Webinar: Oct. 31 (EE Access/Energy Bill Parity)

➢ Equitably Decarbonizing Utilities Summit: November 14th & 15th

➢ Level Two and Three Action Team Applications Due: Nov. 29th
  ○ Rolling applications for Level One Action Teams

➢ Network Thinking Academies: December 3rd & 4th
Today’s Conversation

12:00  Welcome, Updates, & Context
12:10  Gas Regulation Basics
12:20  Cities and Gas
12:30  Economics of Gas
12:40  Policy Solutions
12:50  Question and answer
RE-AMP Action Teams

RE-AMP Action Teams are how members connect regionally to co-create the best strategies for moving us forward on our Equitable Deep Decarbonization pathway:

“Include everyone, electrify everything and decarbonize electricity.”

<table>
<thead>
<tr>
<th>7</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Action Teams</td>
<td>Organizations in Action</td>
</tr>
</tbody>
</table>

Think Systemically, Act Collaboratively
Powerful Cities: Regulatory Tools for Reducing Dependence on Gas

Karl R. Rábago
Rábago Energy LLC
Baseline Knowledge

• Natural gas is very unregulated—production, pipelines, compression, storage, and delivery.

• Cities are served by LDCs—local distribution companies.
  
  • **Local distribution company (LDC):** A legal entity engaged primarily in the retail sale and/or delivery of natural gas through a distribution system that includes main lines (that is, pipelines designed to carry large volumes of gas, usually located under roads or other major right-of-ways) and laterals (that is, pipelines of smaller diameter that connect the end user to the mainline). Since there structuring of the gas industry, the sale of gas and/or delivery arrangements may be handled by other agents, such as producers, brokers, and marketers that are referred to as "non-LDC."

• Gas is delivered and priced “at the Citygate”
  
  • **Citygate:** A point or measuring station at which a distributing gas utility receives gas from a natural gas pipeline company or transmission system.

• Great Resource for sorting the gobblygook: EIA Glossary
  
  • [https://www.eia.gov/tools/glossary/](https://www.eia.gov/tools/glossary/)
Estimated U.S. Energy Consumption in 2018: 101.2 Quads

Think Systemically, Act Collaboratively
How Much Climate Pollution?

<table>
<thead>
<tr>
<th>Btus</th>
<th>Pounds</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>31,000,000,000,000,000,000</td>
<td>3,627,000,000,000,000</td>
<td>1,813,500,000,000</td>
</tr>
<tr>
<td>5,150,000,000,000,000,000</td>
<td>602,550,000,000,000</td>
<td>301,275,000,000</td>
</tr>
<tr>
<td>3,610,000,000,000,000,000</td>
<td>422,370,000,000,000</td>
<td>211,185,000,000</td>
</tr>
</tbody>
</table>

each year.
## How Much Infrastructure?

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Miles - Main</th>
<th>Total Miles - Services</th>
<th>Total Number - Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>1,307,648</td>
<td>930,850</td>
<td>69,343,726</td>
</tr>
</tbody>
</table>

Who Regulates Gas Distribution?

- Cities
  - Franchise rights
  - Right of way (local equivalent of siting)
  - Safety
  - Building codes
  - Environment & climate

- States
  - Regulated monopoly services & rates
  - Siting
  - Investment

- Federal government
  - Transmission
  - Siting

Think Systemically, Act Collaboratively
City Tools for Decarbonization

- Franchise agreements
- Rights of way
- Direct regulation
- Municipalization
- Building Codes
- Stretch Codes
- Carbon utilities
- Development offsets
- Tax & other incentives
- Suasion

Think Systemically, Act Collaboratively
Thanks!

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MIDWEST ELECTRICITY IS CLEANER
GAS IS THE STICKY PROBLEM

“Minneapolis has a stubborn foe as it strives to curb greenhouse gases and fight climate change: natural gas.”

August 28, 2019
MIDWEST CITIES FACING AN EMISSIONS FLIP

City of Minneapolis, MN
WHAT CAN CITIES DO?
RAISE PERMIT FEES


ADVOCATE FOR RESIDENTS AND BUSINESSES
ADVOCATE

Unfair Fuel Price Risk Sharing

If the utility forecast is wrong, CUSTOMERS HOLD ALL OF THE RISK

Utility Fuel Price Forecast

Monthly and annual average natural gas spot price at Henry Hub (1997–2016) dollars per million British thermal unit
Shareholders hold a portion of risk for serious underestimates.

Customers still hold risk for significant fuel price fluctuation.

Original fuel price forecast:
- $0.00 in 2020
- $4.00 in 2023
- $8.00 in 2026
- $12.00 in 2029
- $16.00 in 2032
- $20.00 in 2035

Doubled fuel price forecast:
- $0.00 in 2020
- $4.00 in 2023
- $8.00 in 2026
- $12.00 in 2029
- $16.00 in 2032
- $20.00 in 2035
THANK YOU!

ILLUSTRATING THE VISION

PROVIDING TOOLS

CHANGING THE RULES

100% RENEWABLE LOCAL ECONOMY

HUMAN SCALE

LOCAL OWNERSHIP

DEMOCRATIC AUTHORITY

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ENERGY DEMOCRACY INITIATIVE
TOOLS FROM THE INSTITUTE FOR LOCAL SELF-RELIANCE

POWER UP MY CITY

Cities have enormous power to promote a local, clean energy economy. Click a button to see and hear stories of action U.S. cities — large and small — have taken.

Use the orange arrows to navigate within sections, the back button to return to the previous page, and the home button to return here.

https://ilsr.org/community-power-power-interactive-toolkit/
Think Systemically, Act Collaboratively