

What is the critical, regional obstacle blocking IoT, Technology and Innovation from expediting the achievement of Boston's 2050 clean energy commitments?

David Ruffin Funk – Enel X
Senior Manager, Business Development
Flexibility Solutions

Boston's 2050 Climate Goals

Carbon neutral by 2050

Promote healthy communities

Measure progress

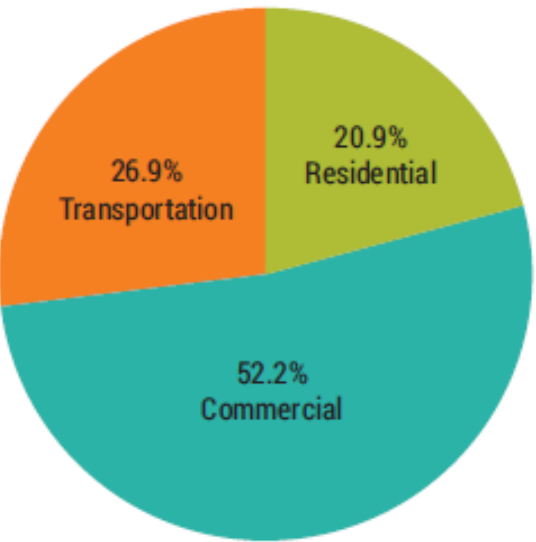
Plan and Prepare for the impacts of climate change

Increase community Engagement

Breakdown of Emissions

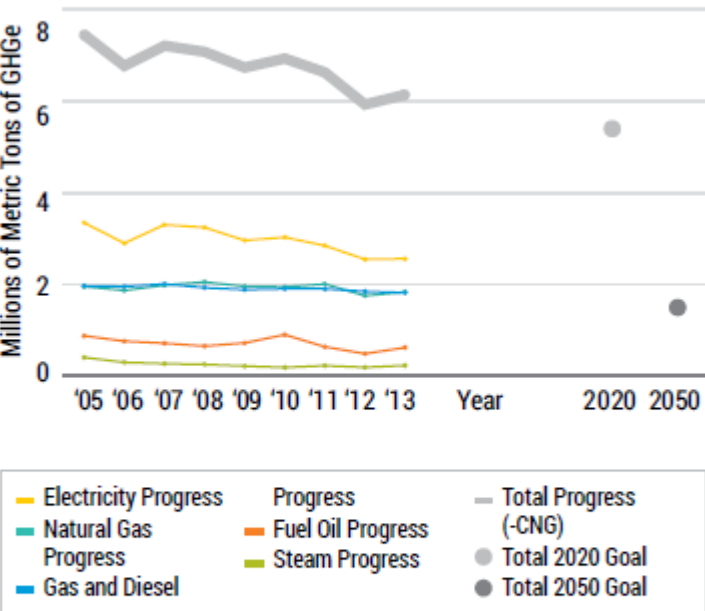


FIGURE 4: GHG Emissions by Sector, 2013



Commercial emissions account for over 50% of our GHG emissions, though because of the way data is reported, the commercial wedge usually includes emissions for large residential buildings. Transportation and residential emissions accounted for 7% and 1% of emissions, respectively.

FIGURE 8: GHG Progress and Goals by Fuel Type, 2005–2013



A cleaner electric grid and a steady shift away from oil have driven GHG reductions. Though emissions increased slightly in 2013, in part due to a colder winter, GHG emissions from heating fuels still remain substantially lower than in past years (in terms of weather, 2013 was comparable to 2007).

We have the technology today but the existing commercial structures are point solutions



Our UMass Boston project incorporates Battery Storage, PV, and EV chargers with a complex Optimization algorithm to respond to grid needs

- Prevent EV charging from contributing to system peaks
- Flatten overall demand peaks for large C&I facilities and, as a result, the grid at large
- V2G potential for future incorporation

How do we get C&I energy users to adopt the technology?



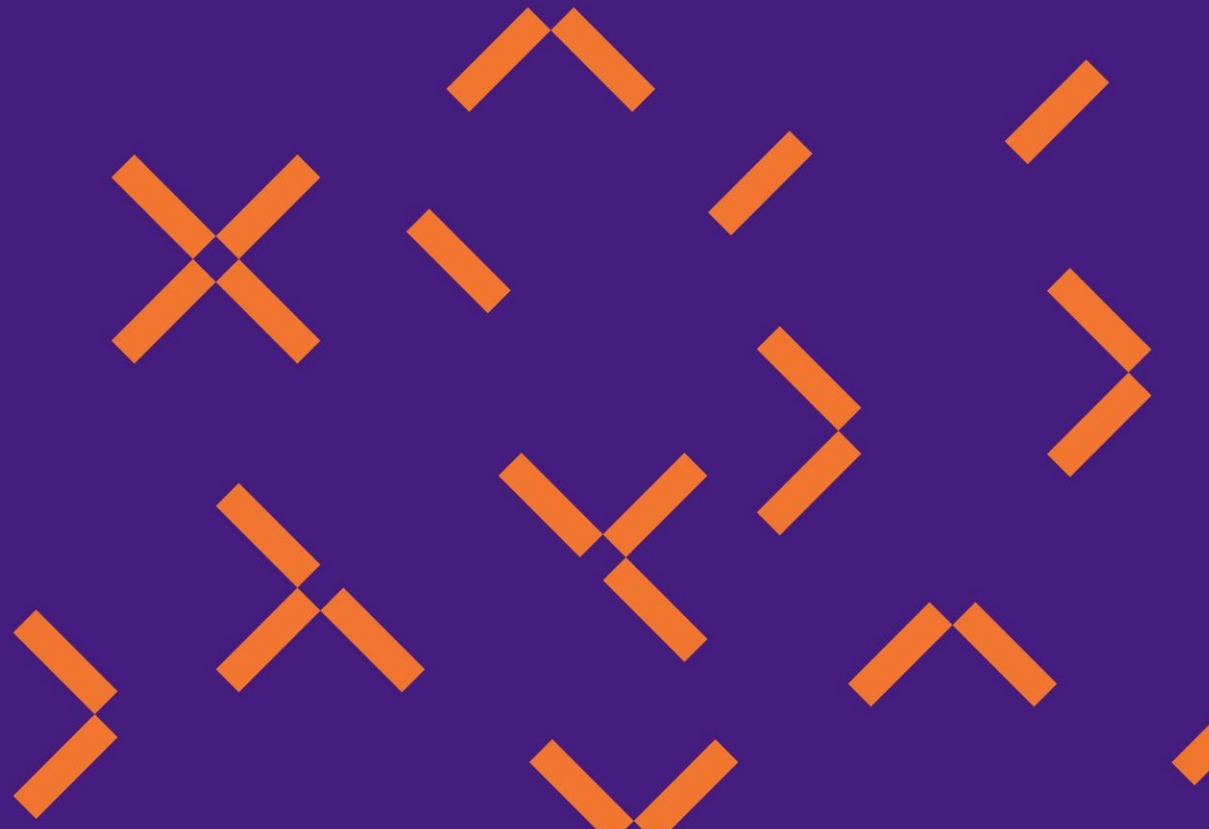
Navigating three obstacles preventing widespread adoption among C&I energy users

| Risk | Complexity | Trust |
|--|---|---|
| Create incentives to reduce risk for both energy consumers and the solutions providers that finance, install, and operate their projects | Establish standard operating procedures for interconnection issues so energy consumers can install DER and V2G projects more easily and quickly | Launch pilot programs to demonstrate to skeptical C&I energy users that these projects are real, safe, and valuable for energy users and the grid |



The critical, regional obstacle blocking IoT, Technology, and Innovation from expediting the achievement of Boston's 2050 clean energy commitments is the **lack of innovative solutions that address the complexity and the opportunity for Commercial & Industrial and Transportation sectors.**

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