

## Advanced Energy Group – 20Q3 Chicago

Nipesh Patel | Enterprise Client Executive, Itron nipesh.patel@itron.com

## **Chicago Sustainability Commitments**

Chicago has committed to:

- Convert all city Transit Authority buses to electric energy by 2040 –
  - Transportation accounts for 26% of GHG Emissions in the city
- All city buildings to be powered exclusively by renewable sources by 2035
  - C&I Buildings account for 24%

HOW will Chicago meet these ambitious goals?

- Focusing on Schools, School Buses and Public Transportation
  - Bigger social impact

## Why School Buses?

- Reduce Energy costs
- Optimize operational challenges
- Improve grid resiliency and management
- Focused Approach to accelerate carbon footprint offset
- Distribution of schools in cities as new Microgrid infrastructure (~660 schools)
- Solar output can generate energy beyond need of schools and buses
- Charge Public Transportation Buses
- Enhance resiliency of schools and neighborhoods during power outages, high-demand periods



## JSTAINABLE GOALS



Problem: Restricted budgets prevent cities and schools from moving faster on beneficial electrification of school buses.

Consequently,

- Less Rapid Electrification
- Managing Renewable Energy Assets (OT) will be a challenge
- Orchestration of Distributed Energy costs become prohibitive
- Fleet Management / Charging Management Logistics will impact grid operations
- Failure to deliver on clean energy objectives



Amounts are in million metric tons carbon dioxide equivalent (MMTCO<sub>2</sub>e)

Chicago's goal is to reach an 80 percent reduction in greenhouse gas emissions from 1990 levels by 2050, with the sharpest reductions occurring over the next 12 ears, by 2020 (the use of 1990 levels follows the Kyoto Protocol). Achieving this goal will also help reduce other forms of harmful gases, such as nitrous oxide, which vill improve overall air quality. Achieving this goal will require the commitment and ollective action of individuals, businesses, government and other institutions.

Millions of metric tons (MMTCO<sub>2</sub>e) 40



Regarding IoT, Technology and Innovation, to achieve Chicago's 2050 Carbon & Equity goals, the most critical obstacle to overcome is lack of proof that orchestration of technologies justifies school bus electrification now.