ADVANCED ENERGY GROUP
CHICAGO

ITRON IN SMART CITIES AT A GLANCE

200m

**COMMUNICATION
MODULES DEPLOYED**

8,000

**CUSTOMERS IN
100 COUNTRIES**

3M

**STREETLIGHTS
MANAGED GLOBALLY**

22M
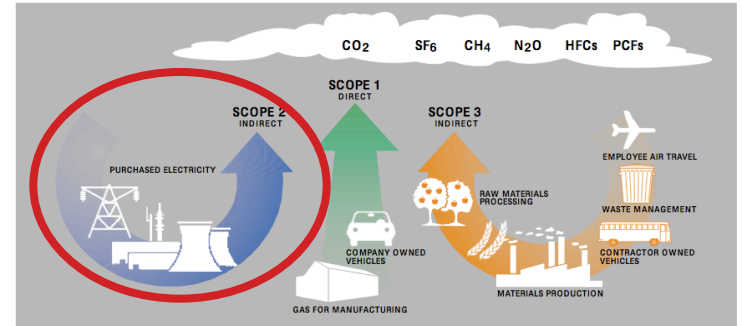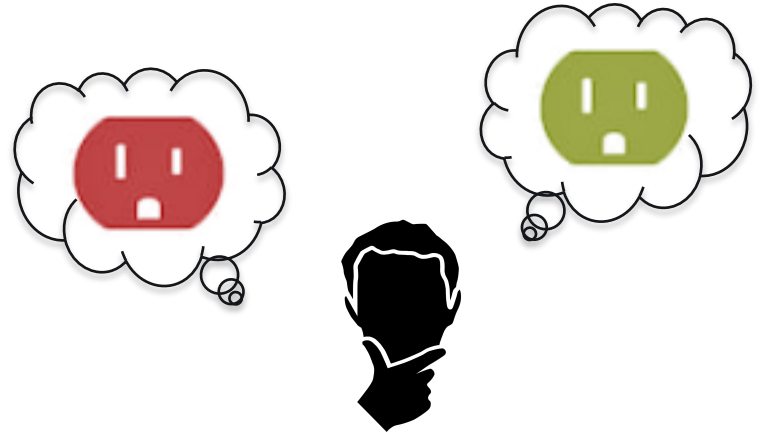
**WATER COMMUNICATION
MODULES DEPLOYED**

#1

**WORLD'S LARGEST
SMART STREETLIGHT PROVIDER**
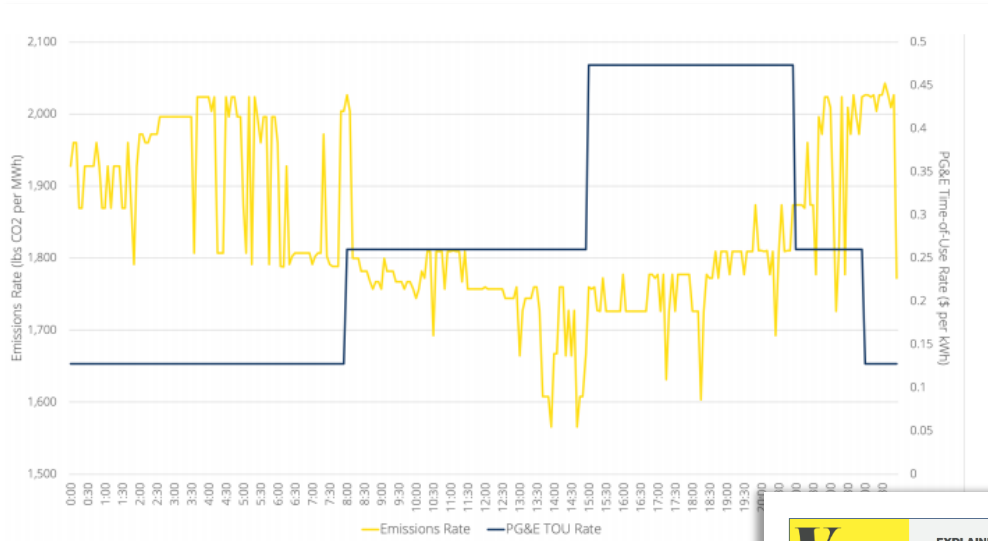
What is the problem?

More and more end customers want to reduce their carbon footprint but don't know how.

End customers only receive *indirect* information on carbon intensity of their electricity.

All MWhs are not created equal!

What is the evidence?

Emissions intensity is not ***directly*** reflected in the price of electricity

Vox

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Batteries have a dirty secret

Energy storage is considered a green technology. But it actually increases carbon emissions.

By David Roberts | @drvox | david@vox.com | Apr 27, 2018, 11:30am EDT

Important considerations

Grid emissions variability is increasing

Transportation is electrifying

Solution must align with complex grid needs and regional carbon markets

Proposed Solution

Approach:

1. Deploys a real time (5-min.) average and marginal emissions signals
2. Combines emissions data with peak event / rate information
3. Machine learning algorithms *automatically and continuously* make small adjustments to device operation without affecting customer bill, quality of service, or peak events.

Benefits:

1. Provides low-cost emissions reductions
2. Improves customer engagement by letting them directly choose cleaner energy
3. Increases DR program enrollment
4. Reduces renewables curtailment
5. Increases grid flexibility

The critical obstacle/challenge preventing IoT, Innovation and Technology from being the catalyst in supporting the achievement of Chicago's decarbonization goals is *a lack of direct customer participation!*

THANK YOU

Itron