

nationalgrid

HERE WITH YOU. HERE FOR YOU.

EPA AGA Renewable Natural Gas Workshop

RNG Policy, Financial Incentives and Market Forces



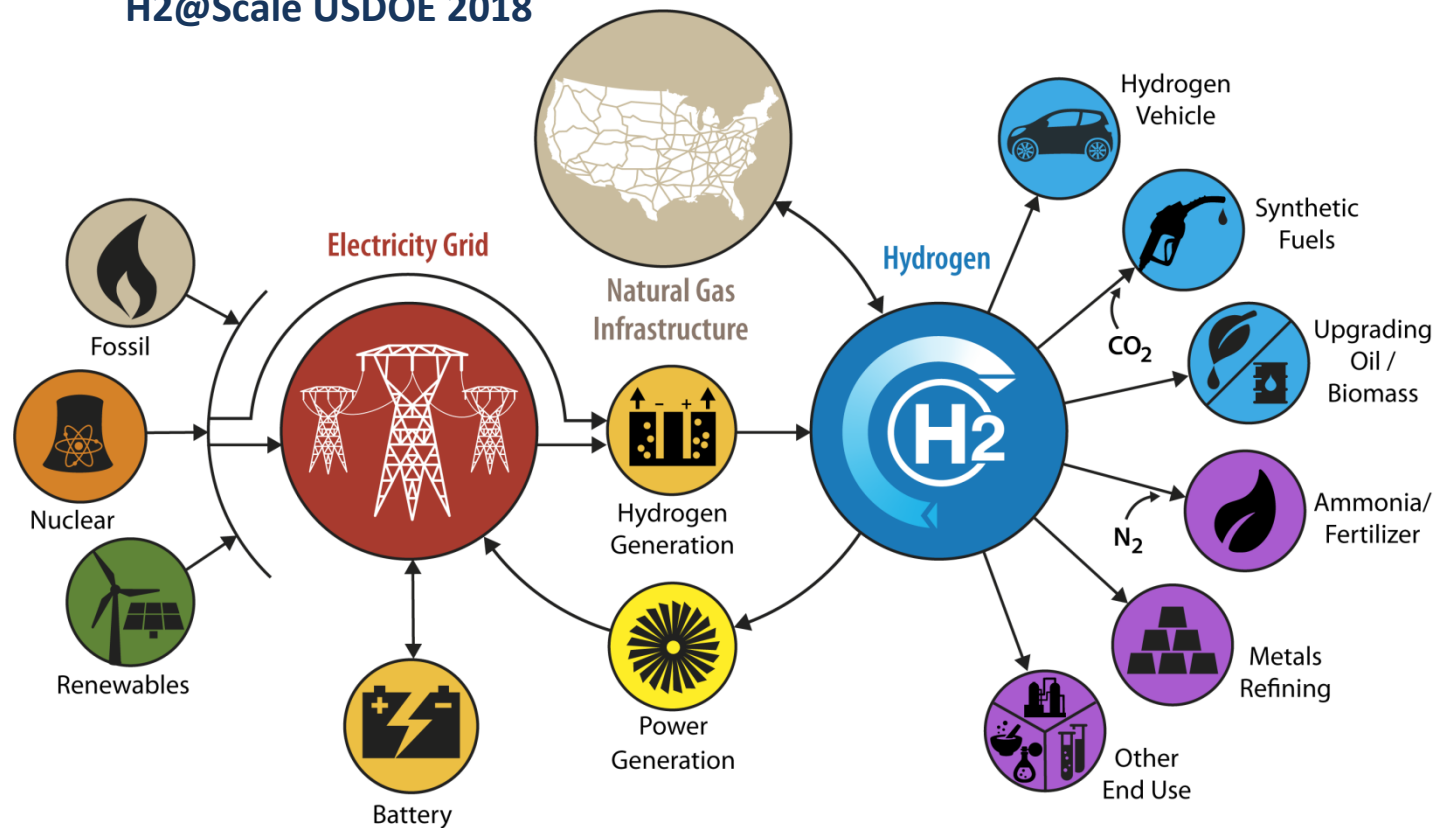
Donald Chahbazpour

October 23, 2018



- Pipeline quality gas derived from biomass that is fully interchangeable with natural gas.... BUT, this definition is being disrupted due to technology innovation: 'Power-to-Gas'

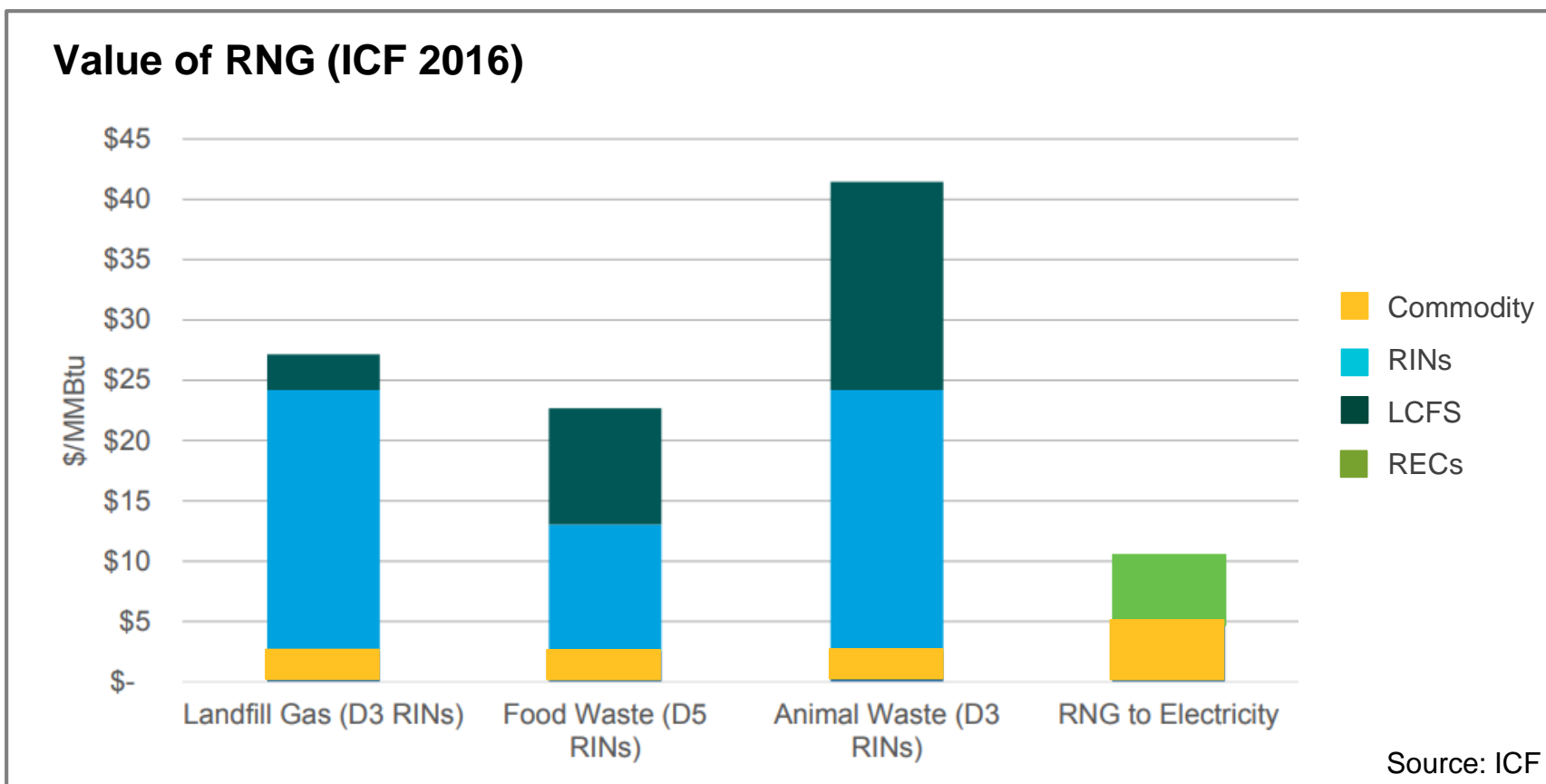
H2@Scale USDOE 2018



Source: U.S. DOE NREL

What's Driving the Market? Policies Valuing RNG Environmental Attributes

- **Heat:** No state or federal policies
- **Electricity:** Renewable Portfolio Standard (RECs)
- **Transportation:** Federal – Renewable Fuel Standard (RINs), California – Low Carbon Fuel Standard (LCFS)



1. INTERCONNECTION

“Utilities are the biggest barrier for RNG projects”

2. POLICY SUPPORT

Regulation only values RNG in transportation and power generation

3. COMMUNICATION

Educating stakeholders on opportunity for gas system to decarbonize

National Grid's Journey with Renewable Natural Gas

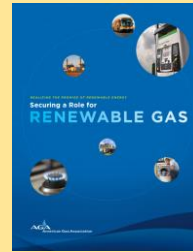
RNG RESEARCH & WHITEPAPER

Outlined the value of RNG as an alternative energy source. Analyzed the potential for RNG in NY, MA, RI & NH. Paper also provides a vision for a sustainable gas network and a roadmap on how to get there



NATIONWIDE RNG REPORT

Partnership with AGA & AGF to analyze the national potential for RNG



NEW YORK STANDARD INTERCONNECTION GUIDELINE

Collaborative effort to develop a revolutionary interconnection guideline. The purpose of this effort is to develop a guideline addressing gas quality standards and streamline the process of connecting RNG projects to the gas distribution network

2018

2010

NEWTOWN CREEK DEMONSTRATION PROJECT

Partnership with NYC-DEP to convert New York City's waste water into a source of clean energy



STATEN ISLAND LANDFILL RFS PROGRAM

Educating stakeholders on EPA's Renewable Fuel Standards (RFS) program . Facilitated transactions to monetize the environmental attributes



CURRENT STAKEHOLDER ENGAGEMENT

Facilitating Customer Projects

- Working with customers, project developers, technology providers and consultants

Education & Advocacy

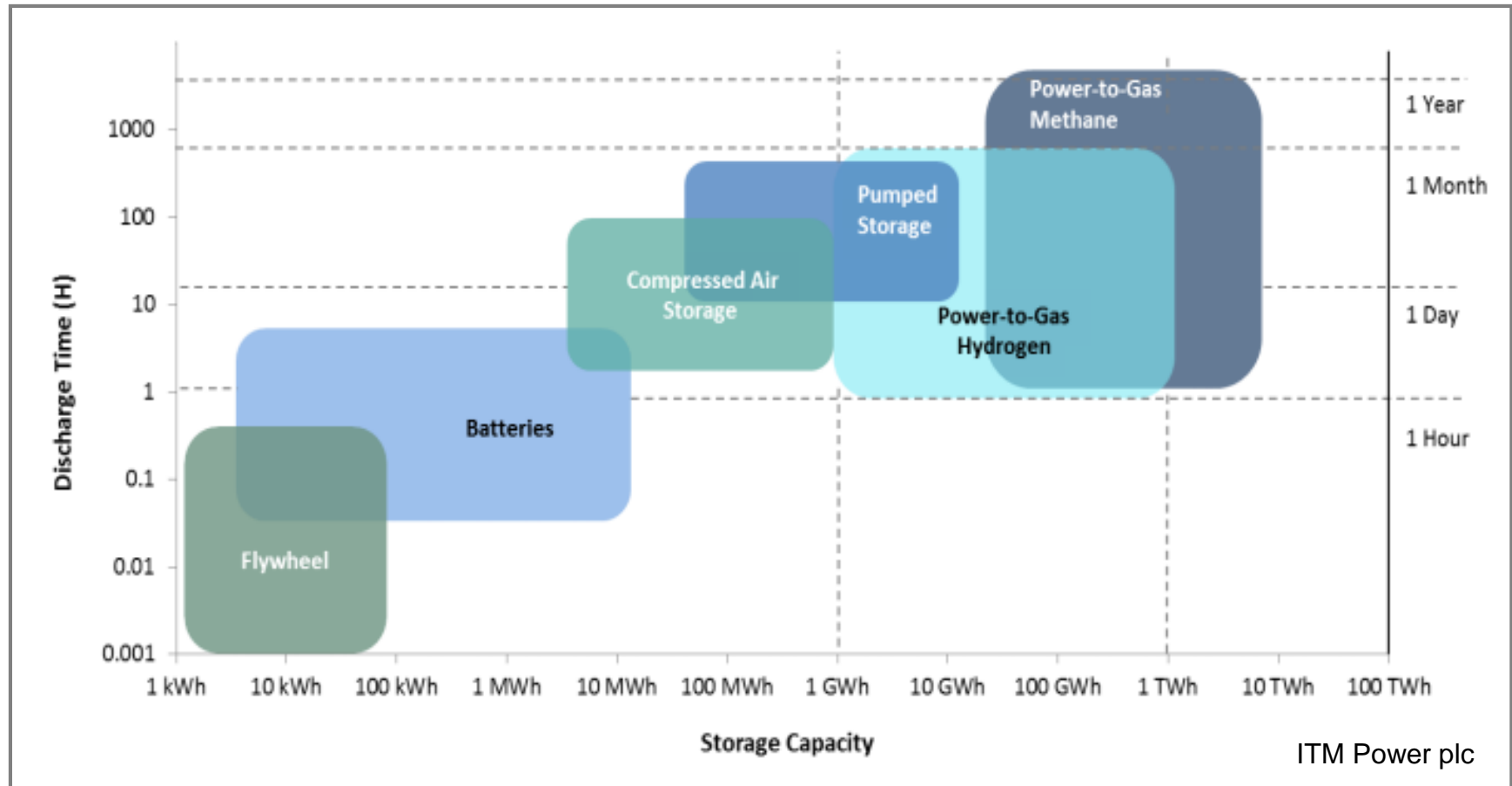
- Associations, policy makers and regulators

1. Considering new products, e.g., a 'Green Gas' offering to allow our gas customers to decarbonize heat
2. Facilitate RNG market place and connect customer driven projects
3. Grow potential for RNG through demonstration projects



Power-to-Gas a Form of Chemical Storage nationalgrid

Storage capacity of power-to-gas compared to other storage methods: **longest duration, highest capacity**



A deeply decarbonized gas & electric system is integrated & complimentary

