UNPRECEDENTED CONDITIONS AND THE SECOND WAVE OF COMPETITIVE ELECTRICITY RESTRUCTURING

UNIVERSITY OF TEXAS GAS & POWER INSTITUTE

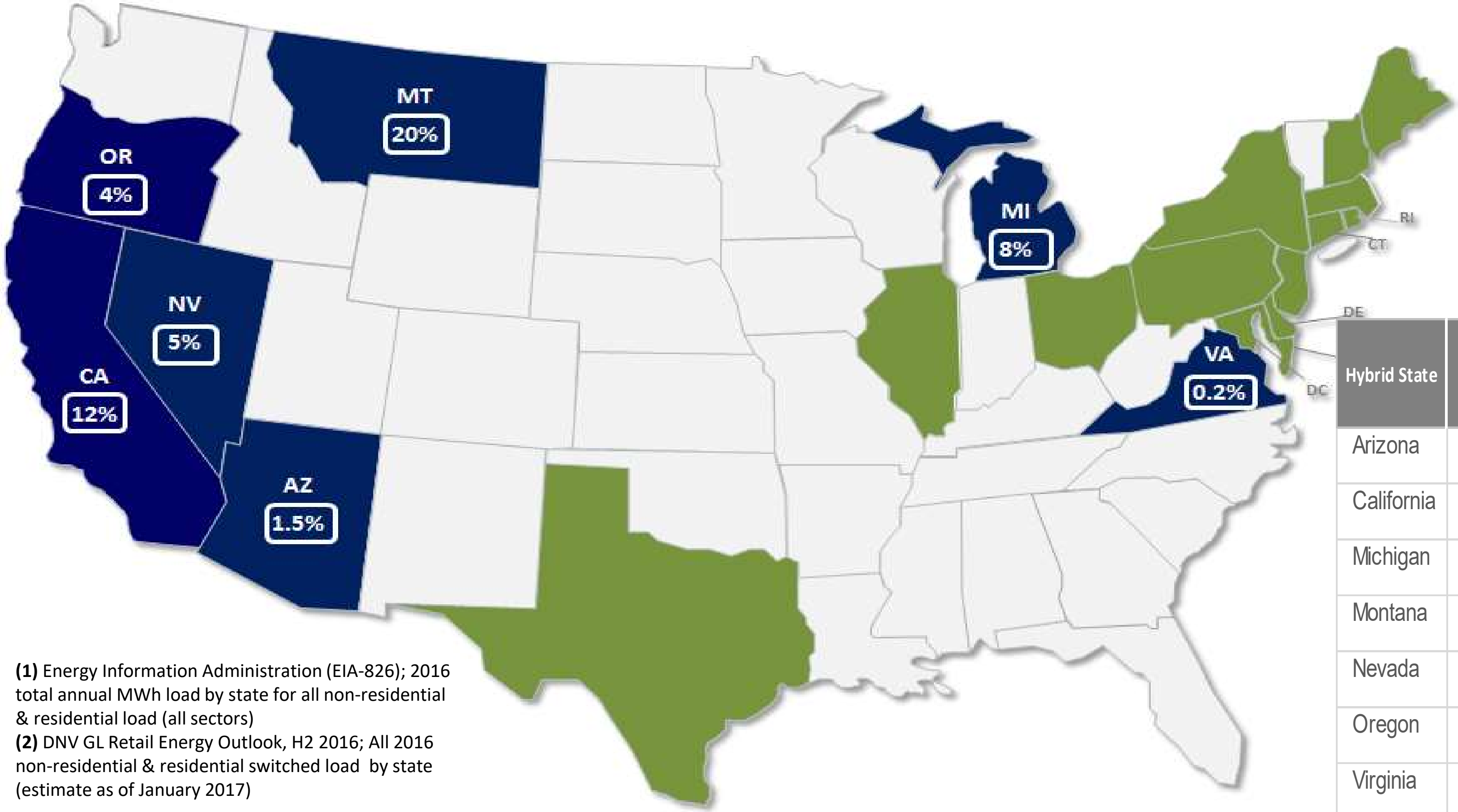
HOUSTON, TEXAS   5-6 OCTOBER 2017

Philip R. O'Connor, Ph.D.

PROactive Strategies, Inc.

Phil.OConnor@PROactive-Strategies.net   312-980-4860

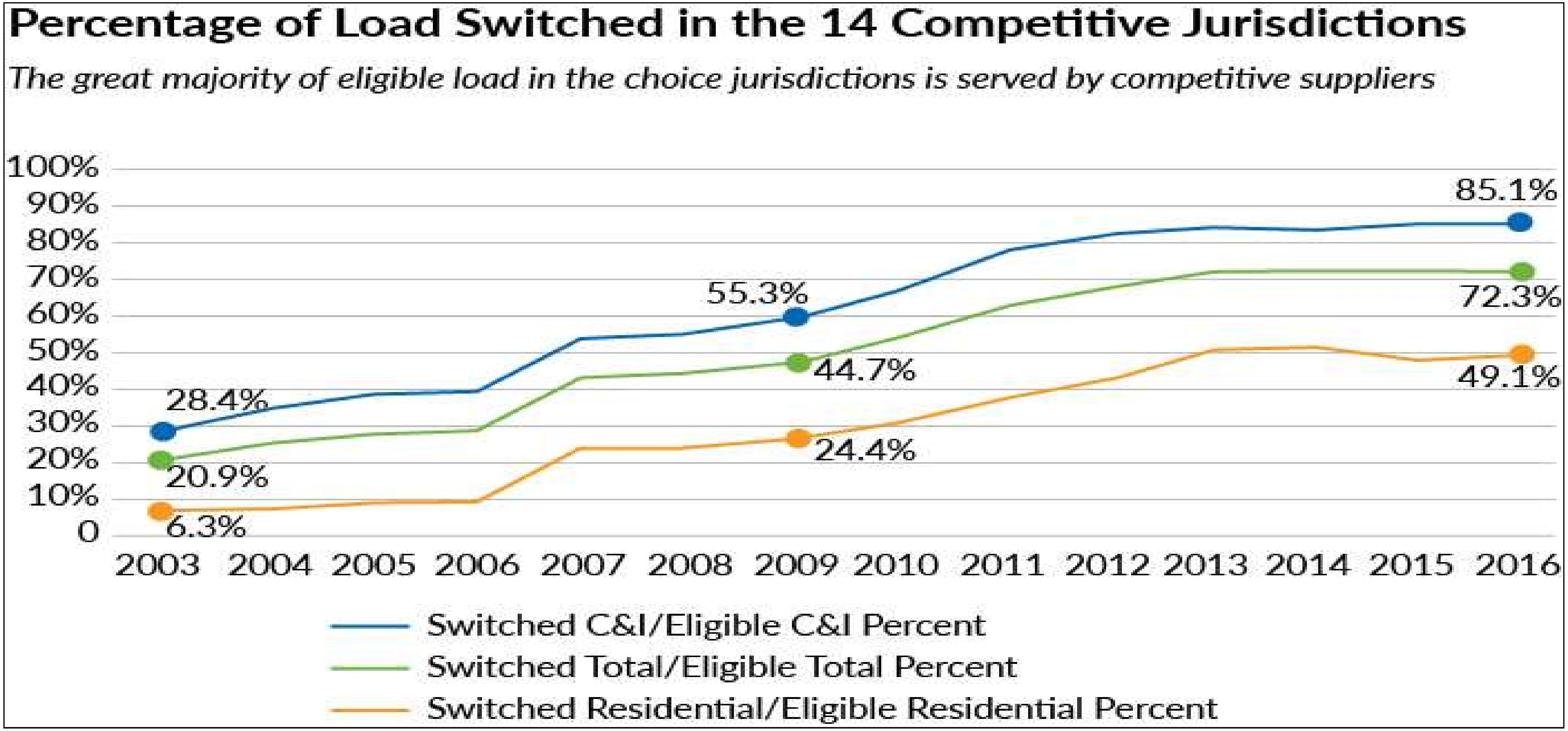
TWO DECADES OF PARALLEL REGULATORY REGIMES IN THE U.S.
13 OF 14 CHOICE JURISDICTIONS ARE IN THE NORTHEAST QUADRANT
CHOICE STATES ACCOUNT FOR ONE-THIRD OF U.S. ELECTRICITY
5 OF 7 HYBRID RESTRICTED ACCESS STATES ARE IN THE WEST



Hybrid State	Total State Load (Annual MWh) [1]	Total Competitve Load (Annual MWh) [2]	% MWh Served Competitively
Arizona	78,051,852	1,138,800	**1.5%**
California	254,436,249	30,023,054	**12%**
Michigan	103,471,903	7,930,234	**8%**
Montana	13,957,617	2,721,896	**20%**
Nevada	36,029,351	1,728,028	**5%**
Oregon	46,409,901	1,881,074	**4%**
Virginia	111,910,362	245,445	**0.2%**

(1) Energy Information Administration (EIA-826); 2016 total annual MWh load by state for all non-residential & residential load (all sectors)
(2) DNV GL Retail Energy Outlook, H2 2016; All 2016 non-residential & residential switched load by state (estimate as of January 2017)

CUSTOMERS EMBRACE CHOICE WHEN GIVEN THE OPPORTUNITY
20 MILLION NON-UTILITY CUSTOMERS IN 2016



UNPRECEDENTED CONDITIONS ARE CONVERGING TO PROPEL A SECOND WAVE OF COMPETITIVE RESTRUCTURING

- **FLAT LOAD –** Grid-served power consumption has been flat since 2007
  - Traditional monopoly regulation worked well enough when kWhs & GDP were aligned.
  - Increasing fixed costs must now be spread over a stagnant sales base.
  - In choice states, only the delivery cost component is spread by regulators over that base.
  - In traditional states, generation fixed costs, including uneconomic assets, are included.
  - Traditional regulation places generation fuel, technology, sales volume risks on customers.
- **GENERATION "DYS-ECONOMICS" –** The traditional rule of thumb that capital-intensive central station plants will have lower lifetime fuel costs no longer is generally valid.
  - Natural gas has been overtaking coal as the primary U.S. generation fuel.
  - Choice states have added substantial gas capacity in the competitive era, have a greater share of production from nuclear than traditional states and are far less reliant on coal.
  - Renewables, both utility scale and distributed are a signifcant disrupter..
- **DIGITAL CUSTOMER SOVEREIGNTY** – Traditional monopoly is incompatible with a world of digital empowerment that facilitates custom electricity transactions and innovation.

Title search: Unprecedented Conditions and the Second Wave of Competitive Electricity Restructuring

Also available as part of the eCourse
2017 Gas and Power eConference

First appeared as part of the conference materials for the
16th Annual Gas and Power Institute session
"Status, Structure, and Successes of U.S. Retail Markets"