



# Market Update North America

DBDH Member meeting, June 14 2017



# DBDH

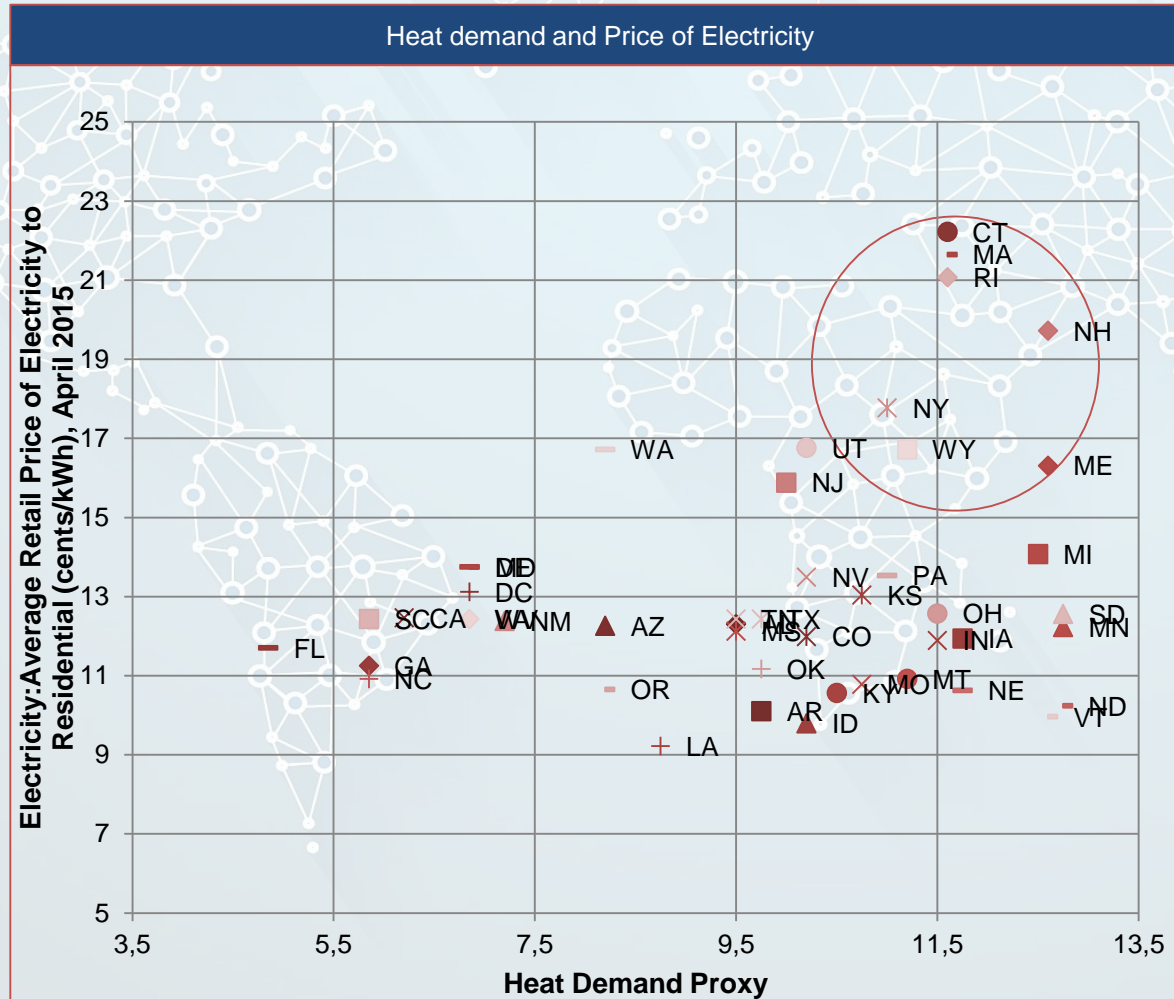


# Major External Trends

TREND	DESCRIPTION	IMPACT	IMMEDIACY
<b>Policy</b> Clean energy policy vs America First	Trump vs Trudeau. Federal, state/province, municipal Overall political drive towards reducing CO2 emissions, more RES and more EE		
<b>Economy</b> Stable growth, but low energy prices	Stable economic growth enables investments in general, although energy prices in general remain low.		
<b>Society</b> Local and decentral activism	Cities and decentral/independent actors more and more take on responsibility for sustainability		
<b>Technical</b> Lower energy demand Old infrastructure	Houses become more energy efficient and require less energy and lower temperature. Existing installations and infrastructure worn down.		
<b>Environment</b> extreme weather, focus sustainability	Weather becoming more extreme; creates higher energy demand and raises awareness on good infrastructure(resilience) and sustainability		
<b>Legal</b> CETA – Buy American	CETA trade agreement, Buy American		



# Geographical Segmentation

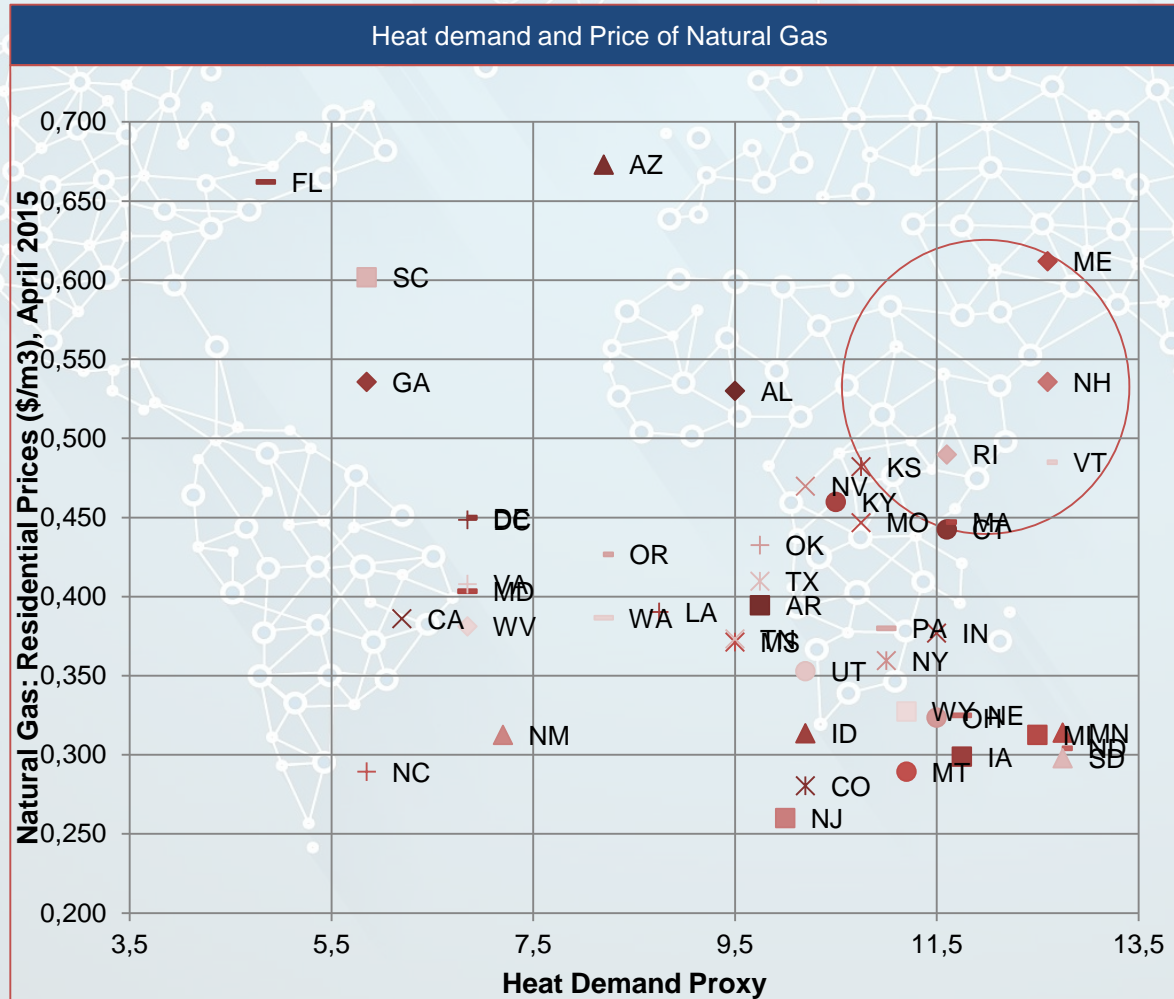


**Strategic Prioritization of New England**

- Connecticut
- Maine
- Rhode Island
- Massachusetts
- New Hampshire
- Vermont



# Geographical Segmentation



- Strategic Prioritization of New England**
- Connecticut
  - Maine
  - Rhode Island
  - Massachusetts
  - New Hampshire
  - Vermont





# Prioritization of Segments



### Strategic Prioritization of Segments

- Armed Forces
- Universities
- Developer
- Utilities

# Universities

## Strategy

Push hot-water conversions and extensions to, connect to Danish technology and promote export credits.

### Key Projects USA:

Dartmouth College, NH  
Oberlin College, OH  
University of Virginia, VA  
Princeton University, NJ  
Harvard, MA  
Duke University, NC

### Key Projects Canada

Brock University, ON  
University of Western Ontario, ON  
University of Toronto, ON  
Sheridan College, ON

# Commercial Projects / Utilities

## Strategy

Support project development and engage with owners on business models and eventually enter into consortia where relevant.

## Key Projects USA:

Burlington, VT

Juneau District Heating, AK

Pittsburgh Allegheny

County Thermal, PA

## Key Projects Canada

ENWAVE - Toronto, ON

ENMAX DE - Calgary, AB

CORIX – BC, ON



DISTRICT  
ENERGY  
ALLIANCE

## Public Supported Projects

### Strategy

Engage army & first nation stakeholders, promote district energy solutions and partner with ESCO's.

### Key Projects USA:

Heating Operation and  
Transmission District, DC

Duluth, MN

### Key Projects Canada

Federal Project - PSPC,  
Ottawa

City of Toronto



# Pipeline top 15 in North America

Title	Segment	City	State	Owner	Total Value M\$	Year
Duke University	University	Durham	NC	Duke University	30	2017
Dartmouth College	University	Hanover	NH	Dartmouth University	50	2018
Duluth City	City	Duluth	MN	Duluth	40	2017
University of Virginia	University	Charlottesville	VA	University of Virginia	30	2018
Princeton University	University	Princeton	NJ	Princeton University	100	2018
Bridgeport District heating	Commercial	Bridgeport	CT	NuPower	35	On hold
MIT West-side conversion	University	Cambridge	MA	MIT	50	2018
Sheridan College	University		ON	Sheridan College	35	2017
University of Toronto	University	Toronto	ON	University of Toronto	80	2018
ENMAX, Calgary	Utility	Calgary	AB	ENMAX	35	2017
Ottawa, Federal conversion	Federal	Ottawa	ON	PSPC	50	2019
Juneau District heating network	City	Juneau	AK	Juneau District Heating	50	2018
Zibi	Commercial	Ottawa	ON	DREAM / Windmill Developments	30	2019
HOTD	Federal	Washington	DC	General Service Administration	100	2019



# Key Barriers

## Technical

- Obsolete technical standards
- Little experience with thin walled, bonded pipes
- Units
- Piece-by-piece maintenance

## Organisational

- Few existing DH utilities
- Little knowledge with municipalities/authorities
- High risk aversion
- ESCO/project finance



# Key Opportunities

## Retrofitting

- Steam-to-hot water conversion tech-package
- Water treatment
- Metering
- Scada/Control systems
- Heat recovery/heat pumps

## New Build

- EPC/consortia
- System extensions



# DEA: Market Strategy - North America

## Lighthouse Project Development (short/medium term)

- Hot-water conversions and extensions at Universities/Utilities
  - New commercial projects with developers/utilities
  - Publicly supported projects (e.g. military, first nations)
- **Market development** (long term)
    - Support city energy planning & district energy strategies
    - Engage business and environmental organizations
    - Develop New Business models





## Platform: Danish District Energy Alliance in North America 2018

- Open platform to build understanding and presence in North America
- Burden sharing principle to establish market knowledge and connections
- Membership based platform
- 1 year of planned activities in North America
- Fixed price



# Activities: Danish District Energy Alliance in North America 2018

## Market Intelligence – twice a year

- Market update on priority Segments (Universities, Utilities/Commercial and Military)
- Access to pipeline of most progressive projects (updated twice a year)

## Technical workshops and Market Visits

- 4 Technical workshops or Market visits in NA
- 2 Academy Visits to Denmark

## Conference Package

- 3 Conferences – IDEA Campus (Feb), IDEA (June), QUEST (Nov),
- Speaking opportunities at conference seminars
- Project session on progressing project
- Networking event with industry at conferences





# DEA Calendar 2017



Status Meeting

IDEA Conference



Summer holiday



Technical Workshop, UVA



Energistyrelsen Visit



Accelerator Academy 2

Minister of Energy, Climate and Utilities Visit



Military - Energy Planning Workshop

QUEST 2017



# DEA Calendar Q1-2 2018



**JAN**

IDEA Campus  
Energy  
Conference



**FEB**



**MAR**

US Market  
Visit

CAN Tech  
Workshop



**APR**

CAN market  
visit

US Tech  
workshop



**MAY**

Accelerator  
Academy III



**JUN**

IDEA Annual  
Conference





Jakob Erik Schmidt & Jakob Bjerregaard

**THANK YOU FOR YOUR TIME**