SPEER Member Workshop
October 2019

Montelle Clark -
OSN Energy Policy Director
What is OSN?

• Established 1999.
• Registered 501(c)(3)
• Managed by volunteers.
• No employees, no office.
• We do have a PO box! (but we can't find the key)
• Facebook, Twitter
• New website

http://oksustainability.org
Texas vs Oklahoma - What we share.

Why do we keep letting Texas have our most exciting NBA players? It’s just wrong.
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<td>63</td>
<td>34</td>
<td>103</td>
<td>585</td>
<td>888</td>
<td>623</td>
<td>302</td>
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Can anyone tell me what this data represents?
<table>
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**Magnitude 3.0+**

"Thought our neighbor's donkey had escaped from his pen and was scratching himself on the trailer."

~ Amy
Texas & Oklahoma - Building Codes

• RESIDENTIAL -
  TX: 2015 IECC
  OK: 2009 IECC with amendments
  (OUBCC adopted 2015 IRC, but they amended the EE chapter back to 2009 standards.)

• COMMERCIAL -
  TX: 2015 IECC and 90.1-2013
  OK: 2006 IECC and 90.1-2004
Texas & Oklahoma - Building Codes

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TX: 2015 IECC
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• COMMERCIAL -

TX: 2015 IECC and 90.1-2013
OK: 2006 IECC and 90.1-2004

We don't like to get in a hurry in Oklahoma. Let 48 or 49 other states try it first.
Wind Power!

"Renewables on the Rise 2019" - Environment America, August 2019
## Wind Power!

### Table 7. Top 10 States by Wind and Solar Generation as Percentage of Electricity Consumption

<table>
<thead>
<tr>
<th>State</th>
<th>Wind and Solar Generation as Percentage of Electricity Consumption (2018)</th>
<th>Rank</th>
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<tbody>
<tr>
<td>North Dakota</td>
<td>54%</td>
<td>1</td>
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<tr>
<td>Kansas</td>
<td>47%</td>
<td>2</td>
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<tr>
<td><strong>Oklahoma</strong></td>
<td>44%</td>
<td>3</td>
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<tr>
<td>Iowa</td>
<td>43%</td>
<td>4</td>
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<tr>
<td>New Mexico</td>
<td>32%</td>
<td>5</td>
</tr>
<tr>
<td>Wyoming</td>
<td>25%</td>
<td>6</td>
</tr>
<tr>
<td>South Dakota</td>
<td>22%</td>
<td>7</td>
</tr>
<tr>
<td>Maine</td>
<td>22%</td>
<td>8</td>
</tr>
<tr>
<td>California</td>
<td>21%</td>
<td>9</td>
</tr>
<tr>
<td>Colorado</td>
<td>21%</td>
<td>10</td>
</tr>
</tbody>
</table>

"Renewables on the Rise 2019" - Environment America, August 2019
Wind Power! Two major announcements.

‘Cheaper Than a Peaker’: NextEra Inks Massive Wind+Solar+Storage Deal in Oklahoma

NextEra will build a combined 700 megawatts for an electric cooperative group in a landmark deal for the hybrid renewables sector.

JULIAN SPECTOR | JULY 25, 2019
Greentech Media

• Western Farmers Electric Cooperative (WFEC). Based in Anadarko.
  • G&T for more than 20 OK co-ops, primarily smaller towns and rural areas.
    • 200 megawatts of storage - four hours on a full charge.
    • 250 megawatts of wind capacity
    • 250 megawatts of solar power

• When completed in 2023, WFEC will produce about half of its power from RE.
Public Service Co. of Oklahoma joins sister utility to propose significant wind development across north-central Oklahoma

by JACK MONEY
The Oklahoman
Published: Tue, July 16, 2019

• OK, TX, AR, LA approval (but OK could take most of it).
• $2 billion project. 534 turbines. 1,485 MW (three facilities).
• One of the farms at 999 MW. Seriously? They couldn’t find 1 extra MW?
• 5,724 GWh/yr total - enough energy for @ 440,000 residential customers.
• Not in the panhandle, so no transmission line required.
• Wind Catcher was vigorously contested by Natural Gas interests.
• C-B analysis includes avoided carbon costs ("CO2 dispatch burden").
• OSN has entered the case.
Energy Efficiency - Jobs!

"Energy Efficiency Jobs in America" - E4TheFuture, September 2019
Energy Efficiency - Savings!

"Renewables on the Rise 2019" - Environment America, August 2019
Energy Efficiency in Oklahoma

• Where we were - 2008 •

ACEEE 2008 State Scorecard
(Utility and Public Benefits Programs and Policies)

<table>
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<tr>
<th>State</th>
<th>Program Budgets</th>
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<th>Program Budgets</th>
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<td>South Dakota</td>
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<td>0.5</td>
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</table>

Bottom of the chart. Oklahoma tied for last. Program budgets: $0
Energy Efficiency in Oklahoma

Where we are now - 2018

- @ 28th on ACEEE State Scorecard (Utility Programs and Policies)
- Total Spending: $82.3 million
- @ 18th for support of low-income EE programs.

Where we are going - 2019-2021

- New 3-year portfolios approved.
- Energy Savings @ 1% annually (AEP-PSO)
Energy Efficiency in Oklahoma - 2019-2021

• Mostly standard programs - Weatherization, New Homes, Energy Star, Commercial Custom, Demand Response, etc.

  • *Interesting measures at PSO* -
    ➢ Green Appraiser Training
    ➢ Rebates for Level 2 Chargers and pre-wiring of new homes.*

• *Interesting R&D projects at OG&E* -
  ➢ Utility-scale battery pilot (at distribution system level).
  ➢ Managed EVSE technology pilot (TOU charging, V2G, etc.)
  ➢ Geo-targeted neighborhood behavior pilot.

* Specifically requested by OSN.
Beneficial Electrification - Rejected!

- PSO proposed R&D program for customers to switch from diesel or propane:
  - Forklifts, airport luggage tugs
  - Transport refrigeration units
  - Truck stop electrification

- Very cost-effective (due to increased revenue). 3.44 on TRC test.
- OSN supported. Attorney General opposed.
- Commission staff supported concept, but not with DSM funds.
- “Load-building.” "Fuel switching." Which brings me to . . .
Energy Efficiency in Oklahoma - 2019-2021

CHALLENGES

• Fuel switching prohibited for electric utilities (but not gas utilities).
  ➢ So no rebates for gas customers to switch to Heat Pumps.
  ➢ But, 40% of Oklahoma households rely on electricity as their primary energy source for home heating (EIA data).

• RIM test
  ➢ One of five C-E tests in CA Standard Practice Manual.
  ➢ New emphasis from OK Attorney General.
  ➢ AG doesn’t believe DSM reduces system costs.

> Therefore not cost-effective for non-participants.
CHALLENGES

• Lost Net Revenue -
  ➢ Many years of disagreement between utilities and OCC staff.
  ➢ Notoriously difficult to calculate.
  ➢ So, rulemaking opened last year.
CHALLENGES

Lost Net Revenue -

➢ Many years of disagreement between utilities and OCC staff.
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➢ So, rulemaking opened last year.

SUBCHAPTER 41. DEMAND PROGRAMS

165:35-41-1. Purpose
The purpose of this subchapter is to establish fair and reasonable rules for planning and implementation of Demand Programs that may receive cost-recovery treatment from the Commission. The rules in this Subchapter shall apply to Demand Portfolios having program years that begin on January 1, 2016 and thereafter.

165:35-41-2. Goals
(a) The goals of Demand Programs are to:
—— (1) Minimize the long-term cost of utility service;
Energy Efficiency in Oklahoma - 2019-2021

CHALLENGES

• Lost Net Revenue -
  ➢ Many years of disagreement between utilities and OCC Staff.
  ➢ Notoriously difficult to calculate.
  ➢ So, rulemaking opened last year.

➢ Meanwhile, settlements reached in utility DSM cases.
➢ PSO happy, OG&E not happy.
➢ DSM rulemaking withdrawn > but . . .
➢ OG&E wants the programs curtailed, and
➢ AG and Staff want a specific DSM rulemaking this year.
➢ Could happen.
Clean Energy in Oklahoma - OSN

Policy and OSN
How OSN tries to help

Cost-Benefit analysis:
Define, quantify, and monetize the Cost-Benefit components that are usually left out of the calculations ("externalities").

- Water savings
- Avoided emissions and Public Health benefits
- Avoided risk (e.g., stranded assets, EPA compliance, etc.)
- Discount rate and Societal Value > Societal Cost Test
- Carbon costs

Notoriously difficult to monetize.
Clean Energy in Oklahoma - OSN

Policy and OSN

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Cost-Benefit analysis:

Define, quantify, and monetize the Cost-Benefit components that are usually left out of the calculations ("externalities").

✓ Water savings
✓ Avoided emissions and Public Health benefits
✓ Avoided risk (e.g., stranded assets, EPA compliance, etc.)
✓ Discount rate and Societal Value > *Societal Cost Test*
✓ Carbon costs

Can we at least use checkboxes for bonus credit?

> *Maybe call it "qualitative consideration".*
Clean Energy in Oklahoma

Policy and EPA

Help from EPA - July 2019 report:

Clean Energy in Oklahoma

Policy and EPA

Help from EPA - July 2019 report:


- EE is valued at 2.31 - 5.23 cents/kWh (3% discount rate) in OK.
- Similar range for Renewables.
Clean Energy in Oklahoma

Policy and EPA

Help from EPA - July 2019 report:


- EE is valued at 2.31 - 5.23 cents/kWh (3% discount rate) in OK.
- Similar range for Renewables.
- Range based on low/high sensitivity of people to changes in PM2.5 levels and ozone.
Clean Energy in Oklahoma

Policy and EPA

Help from EPA - July 2019 report:


• Slightly lower for Texas: 1.58 - 3.58 cents/kWh.
Clean Energy in Oklahoma

Policy and EPA

Help from EPA - July 2019 report:


• Slightly lower for Texas: 1.58 - 3.58 cents/kWh.

➢ Does NOT include CO2 climate and welfare impacts.
➢ Also doesn't include water savings value.
Clean Energy in Oklahoma

Policy and OSN

“Your absence will be noted.”
Thank You

Montelle Clark
Oklahoma Sustainability Network
facebook.com/oksustainability
http://oksustainability.org/
Twitter: @OKsustain