Consumers Energy ZNE Pilot Program Update
Celia Hoag, DNV GL
Culture of innovation

New Pilots → Pilots → Specialties → Core

- Idea
- Business Case
- Client Buy In
- Workshop
- Launch Plan
Success indicators

- Customer satisfaction
- Market transformation
- Public recognition
- Savings acquisition target
- Scalable & replicable
Target customers

- Number of stories
- Building floor area
- Commitment from building owner
- Current EUI (if major renovation)
- Construction timeline
End-to-end process
Commitment from design through to verification

<table>
<thead>
<tr>
<th>Preliminary Design</th>
<th>Advanced Design</th>
<th>Construction</th>
<th>Measurement</th>
<th>Verification</th>
</tr>
</thead>
</table>
Incentivizing deliverables

**Phase 1**
**Deliverables:**
1.1 Simple box model
1.21 Charrette agenda
1.22 List of attendees
1.23 List of EEMs
1.3 Signed OPR

**Phase 2**
**Deliverables:**
2.1 Energy model
2.2 Basis of design
2.3 Cost-benefit analysis
2.4 Circuiting plan

**Phase 3**
**Deliverables:**
3.1 Meeting agenda
3.2 M&V plan
3.3 Envelope Cx
3.4 System-level Cx
3.5 Circuiting inspection

**Phase 4**
**Deliverables:**
4.1 Install monitoring equipment
4.2 Performance testing data

**Phase 5**
**Deliverables:**
5. Submit 12 months of energy use data and calibrated energy model

Based on building area or lump sum
On-call design assistance

- Benchmarking
- Renewable Energy
- Computational Fluid Dynamics
- Visual Comfort
- Daylighting Simulation
- Energy Modeling
How we are doing
Buildings of all shapes and sizes

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>Count</th>
<th>Average Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>265,340 sf</td>
<td>4 bldgs</td>
<td>66,335 sf</td>
</tr>
<tr>
<td>Mixed-Use</td>
<td>195,858 sf</td>
<td>2 bldgs</td>
<td>97,929 sf</td>
</tr>
<tr>
<td>Warehouse/Office</td>
<td>159,840 sf</td>
<td>4 bldgs</td>
<td>39,960 sf</td>
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<tr>
<td>Museum</td>
<td>125,000 sf</td>
<td>1 bldg</td>
<td>125,000 sf</td>
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<tr>
<td>Education</td>
<td>112,800 sf</td>
<td>2 bldgs</td>
<td>56,400 sf</td>
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<tr>
<td>Community Center</td>
<td>55,718 sf</td>
<td>2 bldgs</td>
<td>27,859 sf</td>
</tr>
<tr>
<td>Food Processing</td>
<td>44,000 sf</td>
<td>1 bldg</td>
<td>44,000 sf</td>
</tr>
</tbody>
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Reducing the footprint

Median EUI: 25 kBtu/ft²/year

Average reduction: 52%
Lessons learned
Not all projects are suitable for the program

*On and off boarding is offered to the Customer*
Is it really ZNE?

Due to regulatory structure two different funding sources for RE and EE

Cannot incentivize renewables as part of ZNE program
Shifting the thinking
Transforming the market
‘The ZNE Program has taken us to the next step by providing us partnerships, education and opportunities that we didn’t have in the past’

‘It’s imperative that our project uses a tool like the ZNE Program to achieve sustainability for our benefit and the benefit to the community and the tenants’

‘This pilot program is really going to launch ZNE buildings in the region’

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