$95k CEC Grant Approved Nov. 2012
HVAC Retrofit Market Dynamics

- **$10B Annual Market By 2020**

**Energy Consumption by Building Age**

- **Prior to 1980**
- **1980 - 2000**
- **After 2000**

- **19% of U.S. Consumption from Comm. Buildings**
- **90% Consumption From <Y2000 Buildings**
- **32% Building Consumption by HVAC**

*Source: DOE CBECS*
Breaking Adoption Barrier

Problem
- Invasive
- Payback
- Static
Breaking Adoption Barrier

Problem
- Invasive
- Payback
- Static

Solution
- Wireless
- Efficient
- Continuous Commission

Bonus
- Demand Response
- Diagnostics
- Increased Comfort
HVAC on Cruise Control:
Breaking and Accelerating Simultaneously
Status Quo

Zone 1  Zone 2  Zone 3

Sensor

Dampers used to stop excess air flow

Slice Energy—Dave Watson
Wireless real-time fan control with information.
Control System

Control Box

Algorithm

Duct Static Pressure Sensors
"We run better than 99.99% data reliability from the Arctic Circle to the Saudi desert."

Kris Pister, Founder
"It all comes down to cost. We don’t make investments in cool technology"
Use Case

Slice Energy — Dave Watson

Current Energy Costs
(100,000-ft² * $2 / sq. ft) $200,000

* 15% Ventilation $30,000

Total Installation Costs $25,000

Annual Savings (40% Ventilation) $12,000

Slice Payback

2 Years @ ~ 1.7¢/kWh saved
Target Market

Annual Ventilation Energy: $542M
Potential Energy Saving: $162M
Total Available Market: $468M

Source: Rockefeller EE Report
Emerging Market: Demand Response

- Sustained Growth

- New Competitive Advantage for Fast Demand Response

![Bar chart showing installed MW from 2011 to 2015 in the North East region.]

Slice Energy—Dave Watson
Comfort, Efficiency, and Demand Response

Fan Power (kW) vs. Time

- Status quo
- Fast DR signal
- Building code minimum

Slice Energy—Dave Watson
Emerging Market: Demand Response

Available Revenues from Slice Energy with DR
(100,000 square feet building)

- Frequency regulation markets
- Begins to participate

Slice Energy—Dave Watson
The Promise of Slice

Slice Energy

Demand Response

Wireless Maintenance

Reliable Energy Efficiency

Slice Energy—Dave Watson
Partners to Market

Pilot Stage → Relationship Sales → Market Entry → Scale

Measurement and Verification (M&V)

Slice Energy—Dave Watson
Pilot Goals:
Minimize Costs and Maximize Efficiency

\[ \text{Total Costs ($/sqft)} \]

- 20%: $0.23
- 25%: $0.27
- 30%: $0.32
- 35%: $0.36
- 40%: $0.41
- 45%: $0.45
- 50%: 
- 55%: 

Slice Energy—Dave Watson

- \[ \leq 3 \text{ years Payback} \& \ 2.7\epsilon/kWh \]
- \[ \geq 3 \text{ years Payback} \& \ 2.7\epsilon/kWh \]
Funding

Government Grants
- Non-dilutive

Public Sector Sponsorship
- Less risky Relationships

Customer Revenue
- Non-dilutive financing
- Mutual commitment

Strategic Partnership
- Established firms
- Integrated service delivery

1-2 Year

3-5 Year
Thank you…

Slice Energy—Dave Watson

**Business Model**

**Technology**
- Fast Payback
- Ease-of-Install
- Smart Grid Connectivity

**Channels**
- Public sector
- ESCOS
- Utilities

**Production Costs**
- Out-the-box components
- OEM partnerships
- Economies of scale

**Funding**
- Grants
- Sponsorship
- Sales
Appendix: Positioning

- **Slice Energy**
  - Software Apps
  - Air Balancing
  - Leakage Repair

- **Heat Recovery**
  - Trim & Respond

- **Recommission**
  - Insulation
  - Windows

- **Long Payback**
- **Fast Payback**

- **Return on Investment**

- **Ease of Install**
  - Less Invasive
  - More Invasive

---

Slice Energy—Dave Watson
### Appendix: A familiar parallel

<table>
<thead>
<tr>
<th>Description</th>
<th>Slice Energy</th>
<th>Mckinsey</th>
<th>DOE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upfront Cost</strong></td>
<td>$0.90 - $1.20 / sq. ft. (EPA)</td>
<td>$0.25 - $0.50 / sq. ft</td>
<td>$0.25 - $0.50 / sq. ft</td>
</tr>
<tr>
<td><strong>Payback Period</strong></td>
<td>1-3 years (DOE)</td>
<td>2 years</td>
<td>2 years</td>
</tr>
<tr>
<td><strong>$ / kWh Saved</strong></td>
<td>$0.03 - $0.04 / kWh (Mckinsey)</td>
<td>$0.02 / kWh</td>
<td>$0.02 / kWh</td>
</tr>
<tr>
<td><strong>Ease of Install</strong></td>
<td>Simple install, Large # of Lights</td>
<td>Simple Install Small # of Units</td>
<td>Simple Install Small # of Units</td>
</tr>
</tbody>
</table>