

The Human and Technology Elements in the Energy Equation

A Panel Presentation by

Clare Butterfield, ISEIF, Moderator

Anna Markowski, Community Outreach, Elevate Energy

Sarah Moskowitz, Outreach Director, Citizens Utility Board

Rev. Brian Sauder, Executive Director, Faith in Place

Yann Kulp, VP - Residential Energy Solutions, Schneider Electric

Sara Hochman, Managing Director, Energy Foundry



Citizens Utility Board

Consumer Outreach

What does CUB do?



Represents utility ratepayers:

- ICC, IL General Assembly, Courts

Helps individuals

- 1-800-669-5556 (hotline)
- citizensutilityboard.org

Conducts Consumer Education

- Outreach events
- Media & publications

Advocates for energy efficiency and demand response programs





AMI Consumer Ed: Outreach Events

- Presentations
- Utility-Bill Clinics + Post-event follow-up
- Community Festivals & Resource Fairs





This is but ONE item in a whole universe of energy-related issues, choices, and challenges that consumers face





Efficiency Programs

Decoding Bills

Municipal Aggregation

Alternative Energy Suppliers

Natural Gas Prices



**P
h
o
n
e**

Telemarketers

“I’d like to tell you about how you can get a discount on your ComEd bill”



Door-to-door salespeople

“Let me see a copy of your light bill.”

Green Energy Options

“The electricity you buy from us is 50% renewable”

Special Promotions

“Sign this contract and we’ll give you XXX airline miles”

Knowledge Gap

- When we go to the grocery store, we know how much we're paying for a loaf of bread
- ...but we have little idea how much it costs us to turn on a light
- Understanding and gaining access to cost-cutting incentive programs is difficult without sufficient technology.



What would help?

- Trusted messengers
- Tangible programs
- Hassle-free technology





Citizens Utility Board

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ELEVATE ENERGY
Smarter energy use for all

Elevate Energy

We promote smarter energy use for all.

Our Mission

We promote smarter energy use for all.



We give people the resources they need to make informed energy choices.

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We design and implement efficiency programs that lower costs, and protect the environment.

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We design and implement efficiency programs that lower costs, and protect the environment.



We ensure the benefits of energy efficiency reach those who need them most.

House Party Model

- Based off of community organizing techniques
- Capitalizes on personal relationships & treats people like people
- Meets people where they are
- Makes science visual





*Faith in Place inspires people of diverse faiths
to care for the earth through connection,
education, and advocacy.*

*September 23, 2014 Great Lakes Smart Grid Symposium
Rev. Brian Sauder, Executive Director, Faith in Place*



0 15 30 60 Miles



Source: Faith in Place Database 2014

Created By: Carla Ramirez Hernandez, MPA

Faith in Place's Education Programs

Energy Assessments

Weatherization

Solar

Conservation

Geo-thermal

Energy

Our Grandchildren's

Water Curriculum

Butterfly Gardens

Conservation

Water



faith
in place

Gardens

CSA

Just Eating

Winter Farmers

Markets

Food & Land Use

Local Advocacy

*Springfield
Day*

Education

Public Policy

10 Tips For Your Green Team



Connect your Green Efforts to your Faith

Greening is an act of love, faithfulness and praise.

Find Allies

Do not try to do this alone. There are people around you who care deeply about these issues. Support one another as you do this important work.

Infiltrate your Congregation

Green is not just a subcommittee. It's a way of being that touches the entire congregation. You want to weave environmental consciousness into all congregational activities.

Celebrate, Celebrate, Celebrate

Don't forget to have fun! Let people rejoice together in the good work that your congregation is doing. It will encourage those involved to generate more momentum for future projects, get the larger congregation excited about greening, and make slower periods less challenging.

Don't Deflect Your Own Responsibility

Because we are religious people, our job is to fix ourselves, not fix other people, because everyone, in some way, needs fixing. No one is blameless, so there is no need for angry finger-pointing.

Educate, Challenge, Love

Keep goals in mind, but do not rush them. Work towards them with love, patience, and a teacher's spirit.

It's about People, Not Polar Bears

In order for the environmental movement to have relevance to peoples' lives, it needs a human face. Engage your congregation at the local, human level. Give it a neighbor's face. As temperatures rise and fossil fuel supplies fall, the burden of climate change and scarcity will land primarily on the poor. Connect environmental justice with social justice and human flourishing.

Be Creative

Tap into the Divine, an endless source of creativity. Some of the solutions we need have not yet been developed, so let your imagination run free.

Think Globally, Act Locally (For Starters)

If we desire a healthy and sustainable world, we must change the unsustainable systems that do not allow its realization. Public environmental advocacy and sound, sustainable public policy is critical to realizing that vision. However, wading into policy advocacy can be divisive and difficult for congregations, so do not attempt to engage your congregation on that level too early. When the congregation is ready to participate at that level, invite them to do so. But remember—keep space for loving disagreement.

Be Tenacious

Congregations can move at a glacial pace. Be patient, stick with it, and ask for help when you need it.

Faith in Place's Water Programs

*Our Grandchildren's
Water Curriculum*

Water

Butterfly Gardens

Conservation

- *Our Grandchildren's Water Curriculum*
- Native Plant Rain & Butterfly Gardens
- Rain Barrels
- Water Conservation



Faith in Place's Food & Land Use Programs



Sola Gratia Farm
is a mission-based
**Community Supported
Agriculture (CSA) Farm**

Over 10% of our
produce is shared with
Eastern Illinois Foodbank

Sola Gratia Farm
Signing up for a share means:

- Knowing your farmers!
- Receiving fresh produce weekly!
- Supporting community with farm visits & events!
- Making good food available to everyone!

Ask us how to become a shareholder today!

- Vegetable & Native Plant Gardens
- Congregationally Supported Agriculture (CSA)
- *Just Eating?* Curriculum

Gardens

CSA

Just Eating

Winter Farmers

Markets

**Food
& Land
Use**

faith
in place



Faith in Place's Public Policy Programs

- Local Advocacy
- Springfield Lobby Day
- Faithful Citizen Workshops



Faith in Place's Energy Programs

Energy Assessments

Weatherization

Solar

Conservation

Geo-thermal

Energy

- Energy Audits
- Energy Efficiency
- Renewable Energy
- Electrical Grid Education
- Advanced Meters



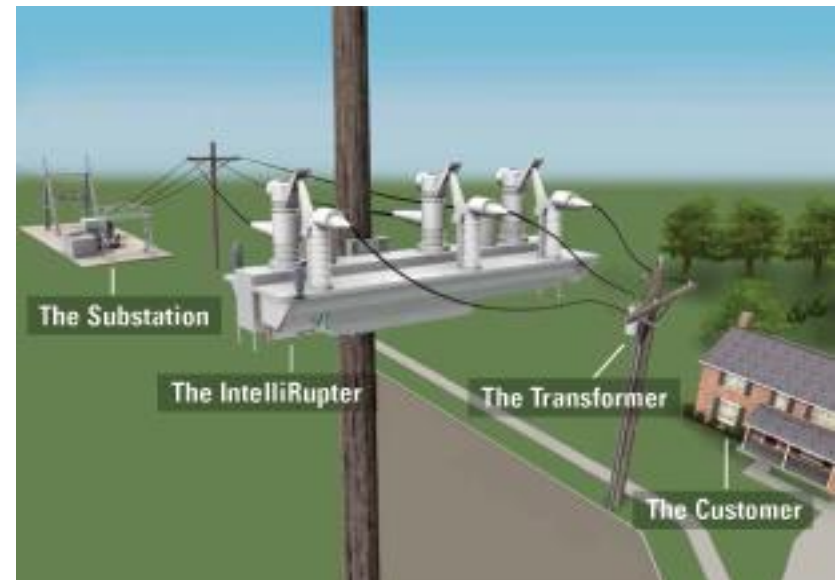
Picture source: <http://www.iitmicrogrid.net> Power & Energy Society*

Faith in Place's Broad Energy Messages

- Obligation to be educated
- And to put faith into action – behavior change
- Opportunity to be better stewards:
 - Conserve Energy
 - Reduce Carbon Footprint
 - Increase Reliability
 - Reduce Outages
 - Enhance Security

Faith in Place's Key Advanced Meter Messages

- The meters are coming
- A responsibility to learn about them
- And utilize the technology to:
 - Conserve Energy
- Why is data good?
 - More opportunity to save \$\$
 - Predictability
 - Innovation





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brian@faithinplace.org*

Bridging the Gap Between Utilities and Consumers

Residential Energy Management Qualitative Research

For: 'Human & Technology Elements in Energy Equation' panel
Great Lakes Symposium – September 2014

Yann Kulp – Schneider Electric.

Email: yann.kulp@schneider-electric.com. Mobile: 847-271-2813



Schneider Electric

Helping People make the most of their energy

Key numbers

\$30+ B sales
\$7 B in USA

150,000+ Employees in
100 countries

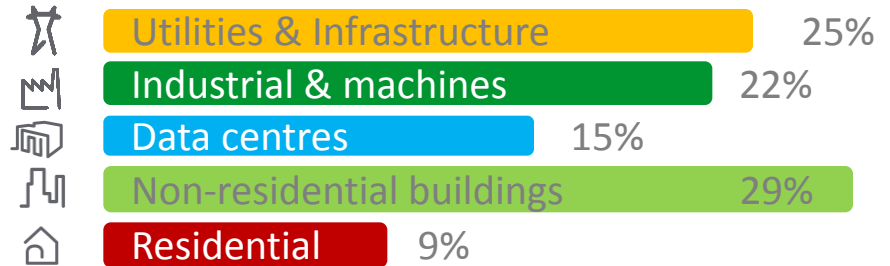
20,000 + in USA

~ 1,000 in Chicagoland

225 facilities across the US

- 40 Manufacturing facilities
- 6 Distribution centers
- 6 R&D centers
- + HQ, sales & business locations

Diversified end markets



Great portfolio of brands



What I'm happy to share with AT&T and Google

- Where I am now
- Where I'm going
- When I'm home
- Who I am
- Who I'm calling
- Who I'm dating
- What I like
- What I'm searching
- What I'm buying
- When I'm awake
- Who's my bank

What I don't want my utility to know

When I reheated the pizza

This is what I'm using



This is what I'm getting

SUMMARY OF CHARGES
Balance due from Previous Bill
Payment on 17-07-2009 - Thank You
Outstanding Balance
Total Current Charges due on 04 Sep 2009
Please Pay by 04 Sep 2009

CURRENT MONTH CHARGES
Electricity Services
Electricity Standing taken on 17-07-2009 - \$1564
Electricity Rebate
Goods & Services Tax
Total Charges for this month

SEGA PICO MARKETING PTE LTD
RIDDY AND CPTL SINGAPORE 349265

SERVICE ADDRESS
ANY CITY USA
Address
City, State Zip

ACCOUNT NUMBER
000.0000.00

AMOUNT
\$1,564.00

SEGA PICO MARKETING PTE LTD
RIDDY AND CPTL SINGAPORE 349265

SUMMARY OF CHARGES
Balance due from Previous Bill
Payment on 02-09-2009 - Thank You
Outstanding Balance
Total Current Charges due on 29 Sep 2009
Please Pay by 29 Sep 2009

CURRENT MONTH CHARGES
Electricity Services
Electricity Standing estimated on 16-08-2009 - \$857
Electricity Rebate
Goods & Services Tax
Total Charges for this month

SEGA PICO MARKETING PTE LTD
RIDDY AND CPTL SINGAPORE 349265

SEGA PICO MARKETING PTE LTD
RIDDY AND CPTL SINGAPORE 349265

Évolution de votre consommation en kWh

Mois	Électricité (kWh)
16-07-2009	5800
16-08-2009	3916
16-09-2009	3530
16-10-2009	3710
16-11-2009	3000
16-12-2009	2900
16-01-2010	3620
16-02-2010	3410
16-03-2010	3710

Origine 2011 de l'électricité vendue par EDF
85,3 % nucléaire, 10,7 % renouvelable (3,7 % hydroélectrique, 3,4 % éolien, 1,9 % géothermal), 3,9 % gaz naturel, 1,8 % fuel, 0,3 % autres. Information d'espérance renouvelée sur www.edf.com

Montant total de votre facture T.T.C. 277,37 €

3.52
3120.96

UTILITIES point of view

- 25 interviews in 2013
- 15 person focus group
- 9 interviews in 2014

MOBILE & INTERFACES

- 25 individual interviews & user-experience tests
- NYC & Long Island
- Diverse groups with ages 28-50; various incomes, dwelling types, ethnicities and household sizes

UTILITIES & ENERGY

- 3 focus groups located in West, Northeast and South US
- Respondents self identified as likely to participate in Energy Efficiency programs
- Diverse groups with ages 28-74; income levels from \$35K-\$75K+; various ethnicities and household sizes

Results of our research

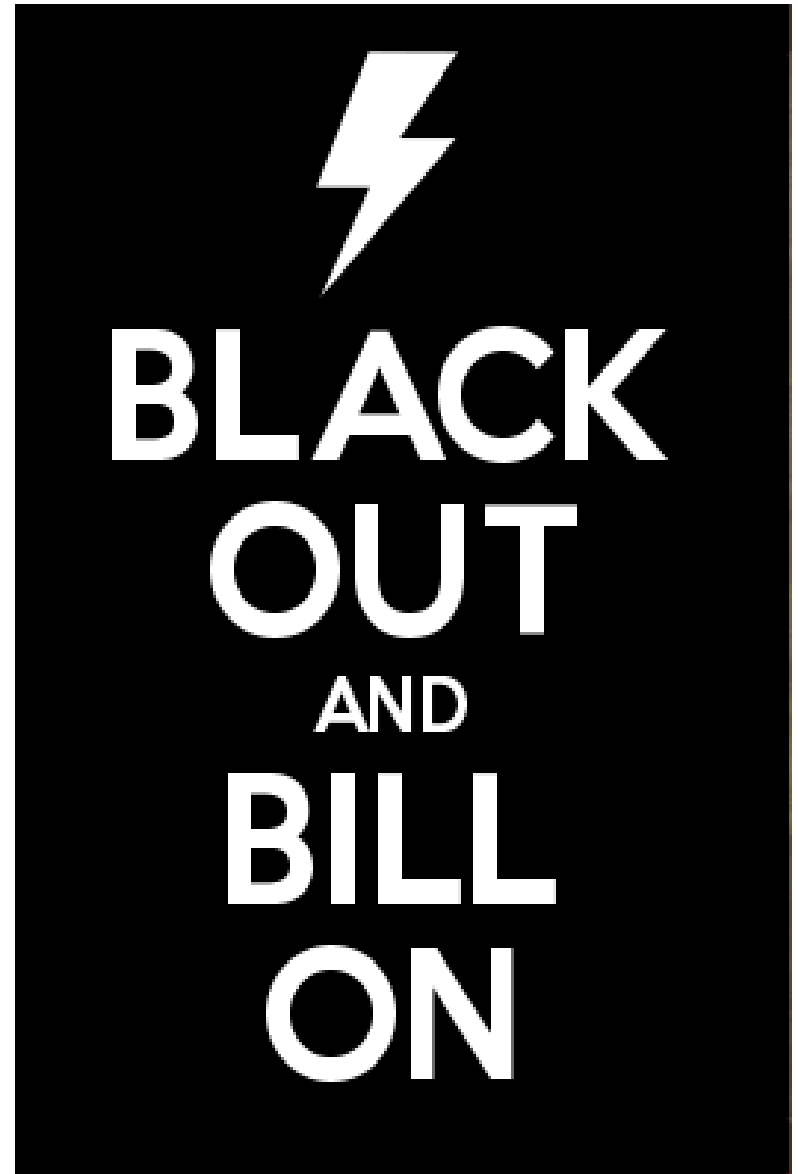
Lesson 1: The curse of 'B&B'

Utilities are **not top of mind**

This is what utilities
are communicating



But
consumers
rarely think
of them,
unless...



Lesson 2: A love / hate relationship utilities are **trusted & distrusted** at the same time

*...what's the catch ?
Because it kind of seems
like there's a catch to it.*

*Utilities can provide
appliance rebate, detailed
real-time billing, and circuit
level info.*

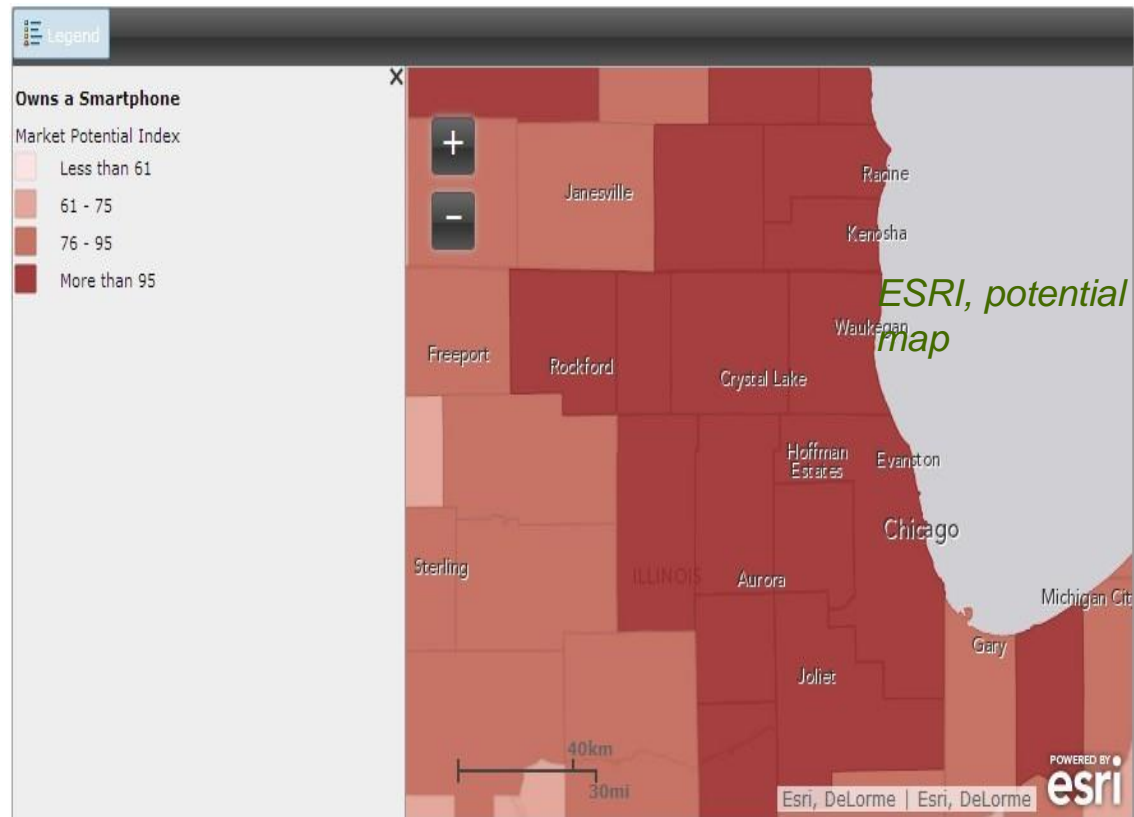
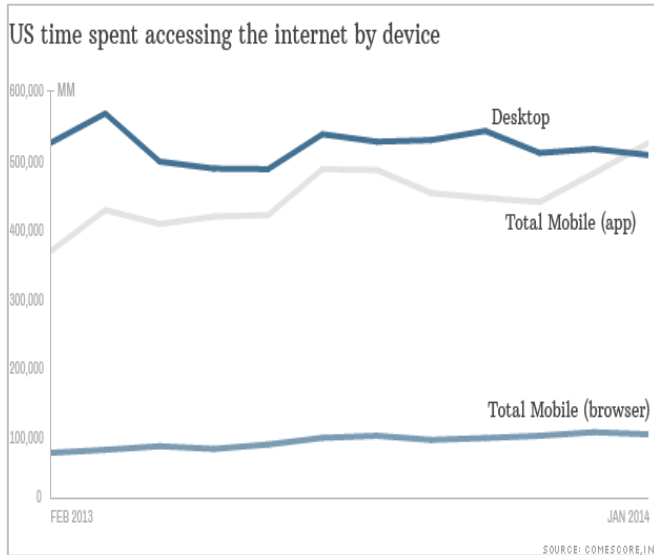
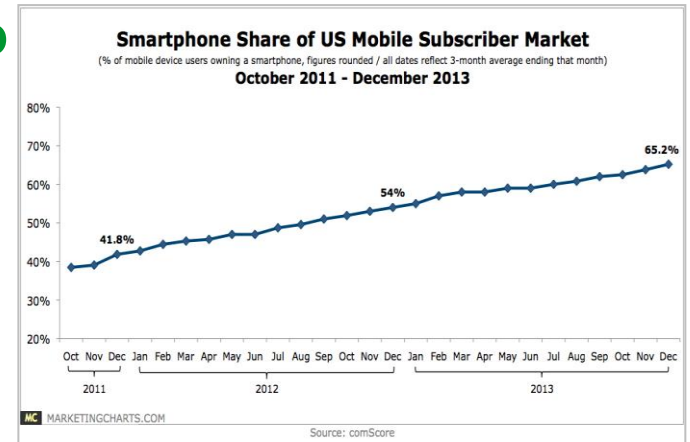
*Utilities should know
enough to help me use
less – this is their
business.*

*As a consumer we
have
no control, or choice.*

*They could do more
education, provide tips,
smart thermostats, solar and
stuff. They have ideas.*

Lesson 3: Paper, what is paper ? shift to **MOBILE**

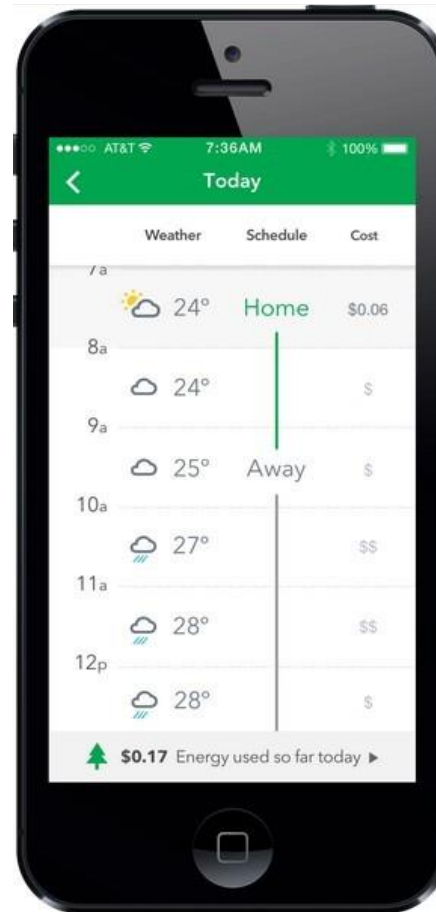
[app] would be in my palm. I know what's going on [...] But if I had this I'd know exactly what's happening. This is just me, I keep looking at my phone forever. I'd probably keep the app open.



Lesson 4: everywhere, anytime, on-time

'Information, not just one time a month when I get my bill. . . And after it is too late to do anything about it '

"It's an app that automatically tell me that, "This is what's happening in your home, this is what's consuming more energy." I can just go to the app where I can just move things around, shut things off if I want."



Lesson 5: saving **MONEY** is #1, but communicate **comfort**

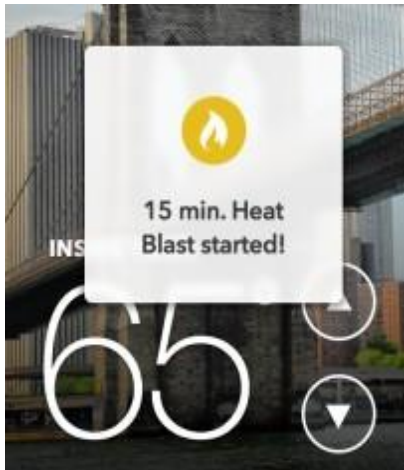
Other benefits include impact the environment, control my home & life, social & community good

But **COMFORT** is a **BIG** value-add

Provide solutions to achieve **immediate comfort**.

Weather conditions are valued as much as home temperature.

Users want to know up to date weather information on their mobile app.

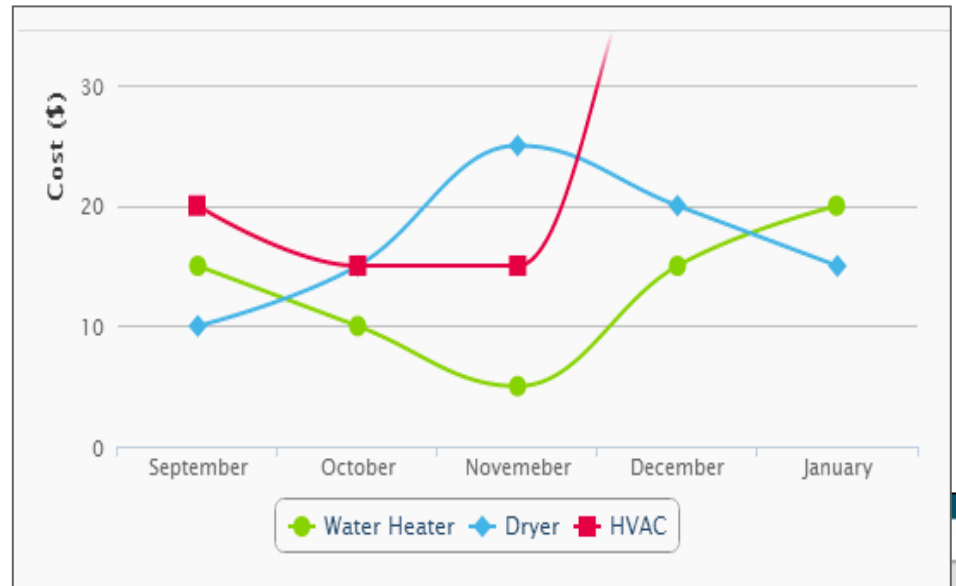


Lesson 6: Tell me more ! crave for information.

“Itemize what I’m consuming, or even a daily (graph) on the Internet for where you can see what you used that day so that maybe you can make that judgment. Then you can maybe think of what you used and actually be a smarter consumer then.”

Need for **CONFIDENCE**
Help users make
informed decisions

If the utility company can tell me what section of the house is consuming more energy: “Hey, this section of the house is using a lot of energy,” The plasma TV is using more energy. I can replace it with an LED.



A screenshot of a utility company's customer portal dashboard. The dashboard is divided into several sections: 'My Savings Plan' with a 'YOU HAVE SAVINGS OPPORTUNITIES' banner and a 'Go to Savings Plan' button; 'My Rate Options' showing 'My current rate plan: E1 - Standard Residential' and a 'See Rate Options' button; 'My Connection' showing 'Thermostat Setting: 73°' and 'Set up your equipment' options; 'Social Media' with a tweet from @mceCleanEnergy; 'My Actions' with 'Top 3 actions to complete next: Install low flow shower heads'; and 'Get Assistance' with 'Take the next steps: Find the right equipment.' The dashboard also features a 'My Bill and Usage' section with a table showing previous, current, and projected bills.

Month	Previous (\$)	Current (\$)	Projected (\$)
Mar	\$250	\$210	\$300

Lesson 7: it's all about me. the customized experience

“segments of one”

MY home, MY location, MY usage

- Personalized advice on actions
- Personalized advice on products
- Notifications when I'm using more energy than expected.

My utility has something monthly, so you can see on the graph what energy is used, compared to the previous month, and it's kind of fun, like a game to use less.

Personalized
messages show that you care.



Lesson 8: Do it for me

Ease of use & automation of efficiency

at home
at work
on the go



Recap

1. Curse of B&B
2. Love / hate
3. All Mobile
4. Everywhere, anytime
5. Money talks, comfort matters
6. Crave for information
7. Customized experience
8. Easy & automated

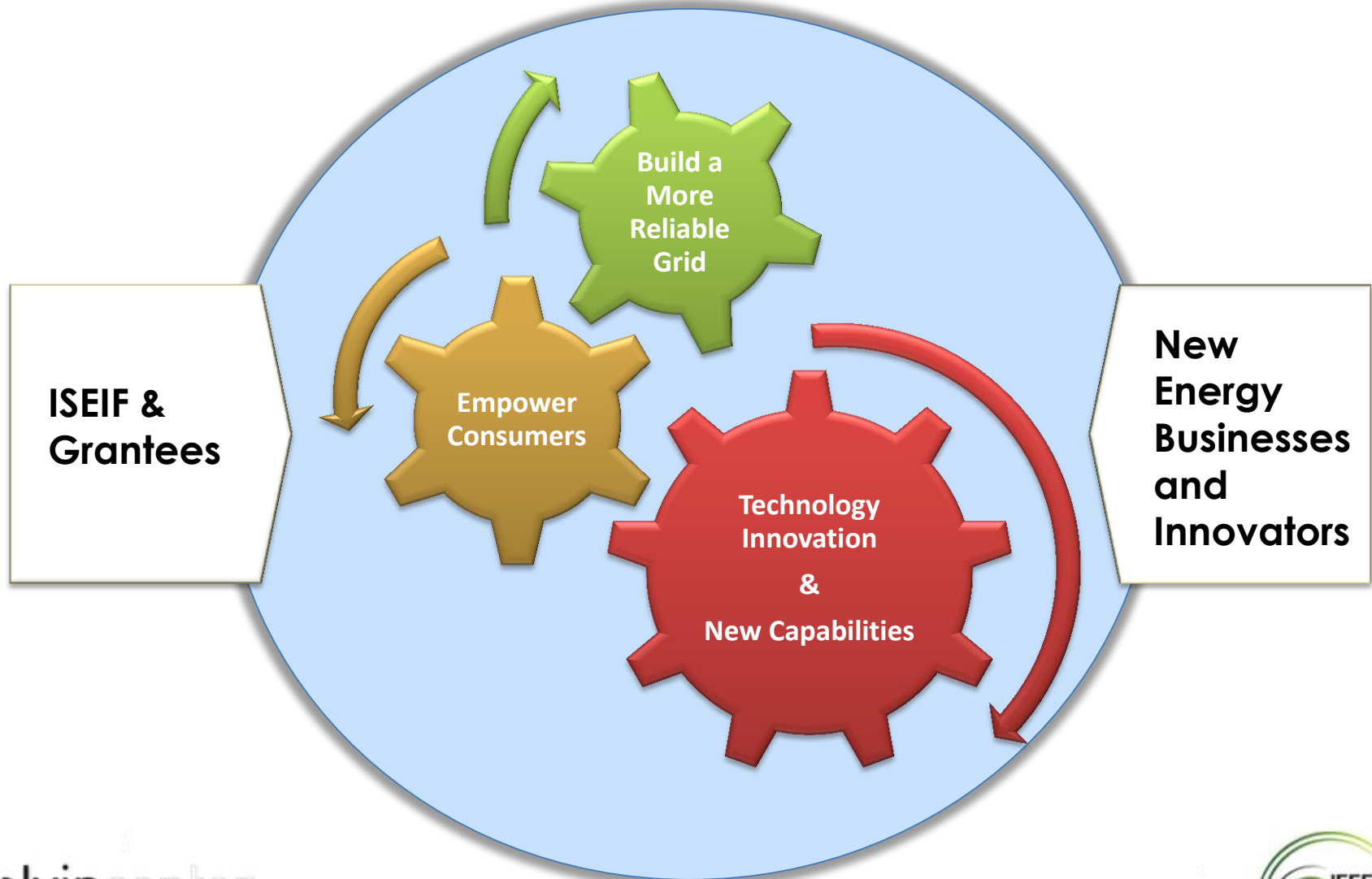
The Path from Technology Invention to Consumer Adoption

Sara Hochman

Managing Director

Energy Foundry

New innovations are important for the Smart Grid



The local innovator ecosystem has gained momentum

Illinois & the Midwest have the foundation for success....



World Class R&D



Great Business Minds



Manufacturing



Growing Number of Entrepreneurs



\$3.2B Market Driver

Market Opportunity

Missing Capital & Support

... unique assets have filled key market gaps and created nodes of activity



COALITION

Energy Co-Working



U LABS

New Initiatives in Core Competencies

Testbeds

Commercialization & Validation Resources

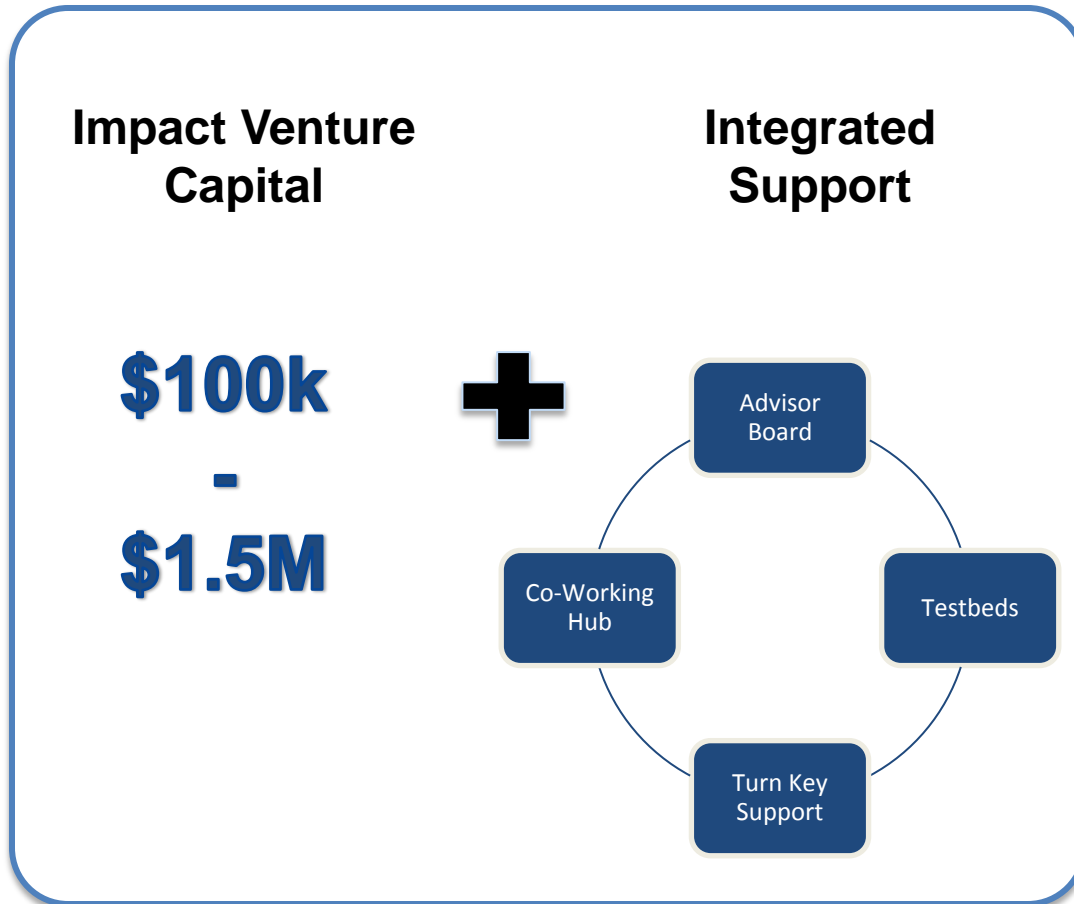


ENERGY
FOUNDRY

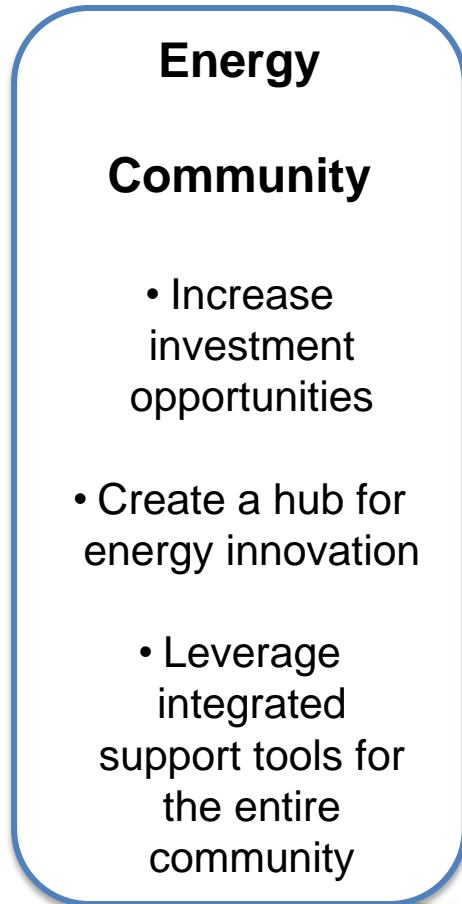
Early Stage Capital

Energy Foundry takes an integrated investment approach to help ideas become businesses

Forging transformative energy and grid businesses



Building community



There is a robust and diverse pipeline of innovative ideas and businesses

200+ companies across a wide variety of technologies

