The what and why of technology transfer

Redefining success to meet today's challenges

Luke Beckett
Product Manager,
Customer Energy Solutions

Bryan Jungers
Senior Research Manager,
Customer Energy Solutions

E Source

Web conference

Agenda

- A brief history
- Late to the party?
- How technologies evolve
- Real talk on emerging tech
- Let the best ideas win
- From next to best

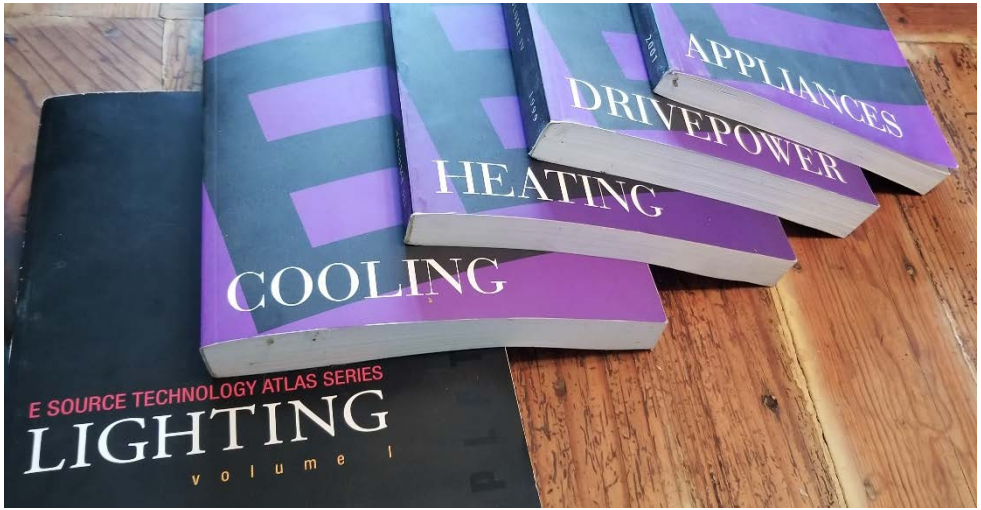
A brief history

E Source

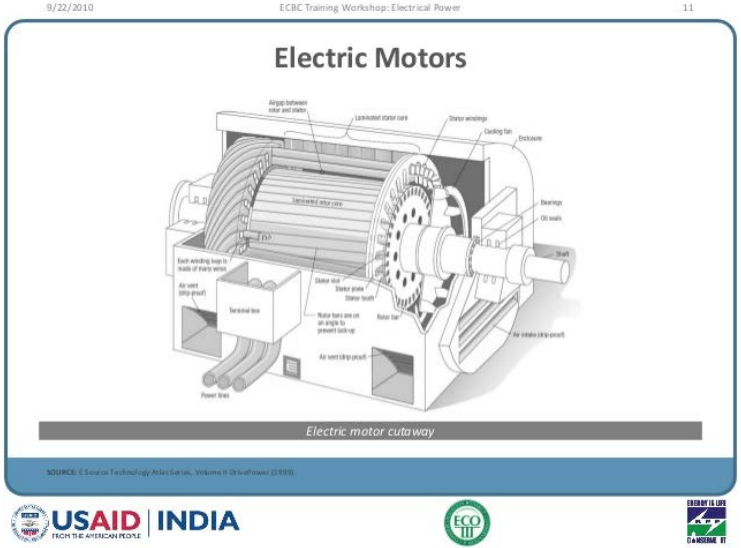
Headquartered
in Boulder, Colorado

EST.
1986

Quick math: 34 years working on tech transfer



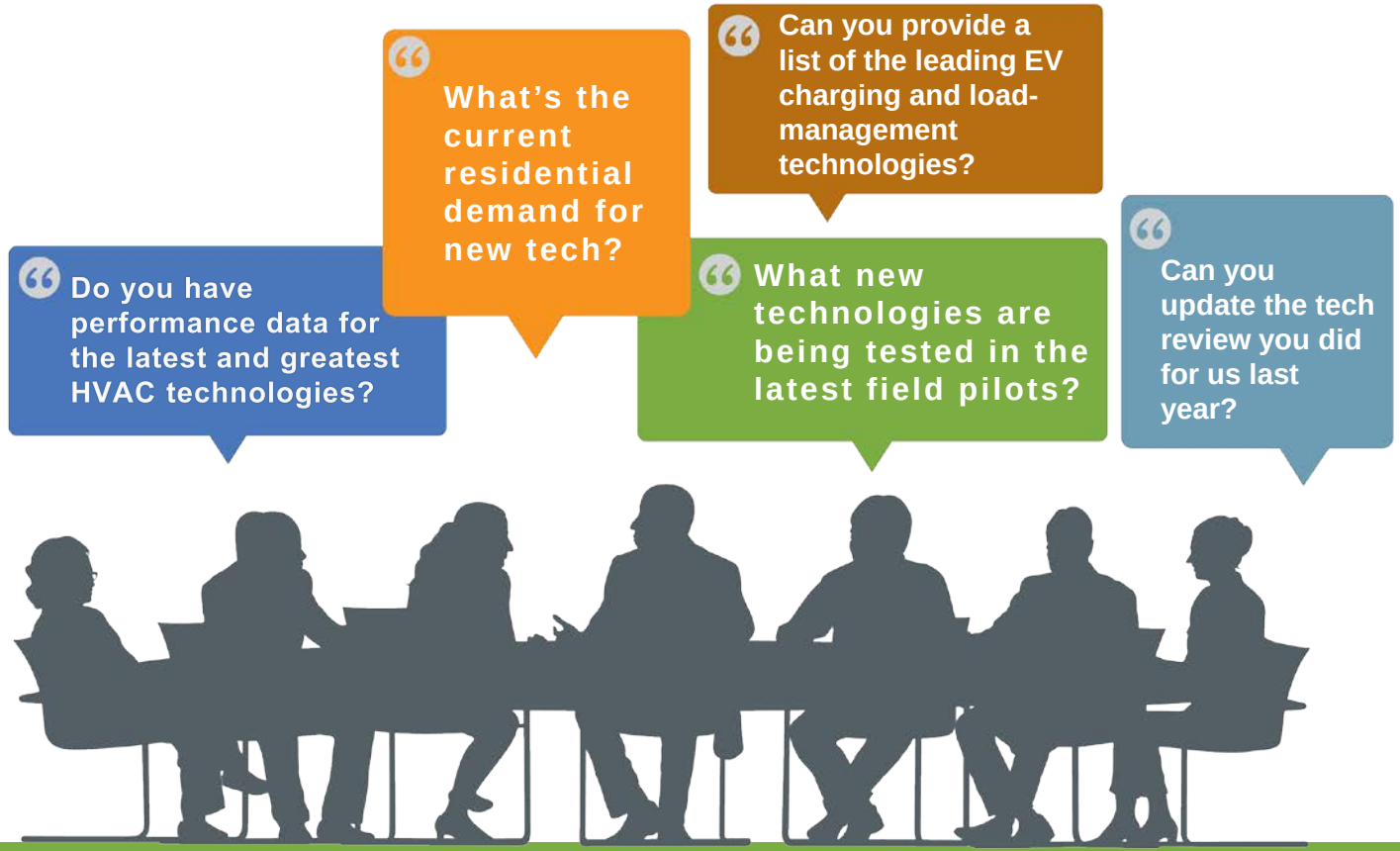
© E Source




Late to the party?

Source: iStock

The “cult of newness”

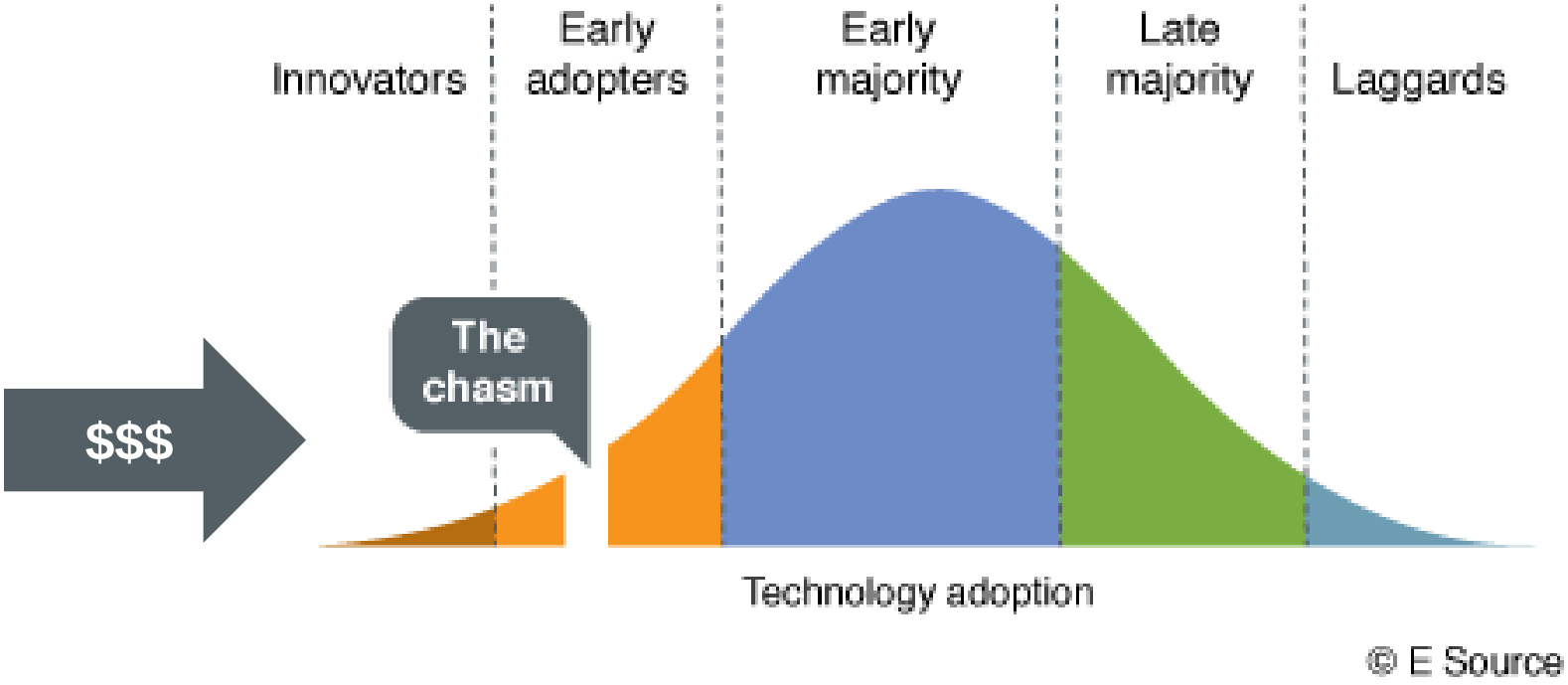


How technologies evolve

It’s easy to oversimplify tech evolution

All eyes right here!

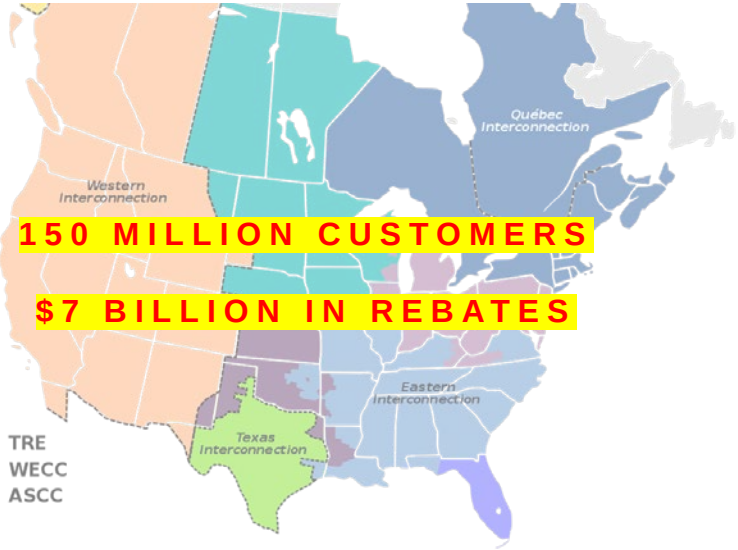
Or reduce everything to “the market”



Technology development is expensive

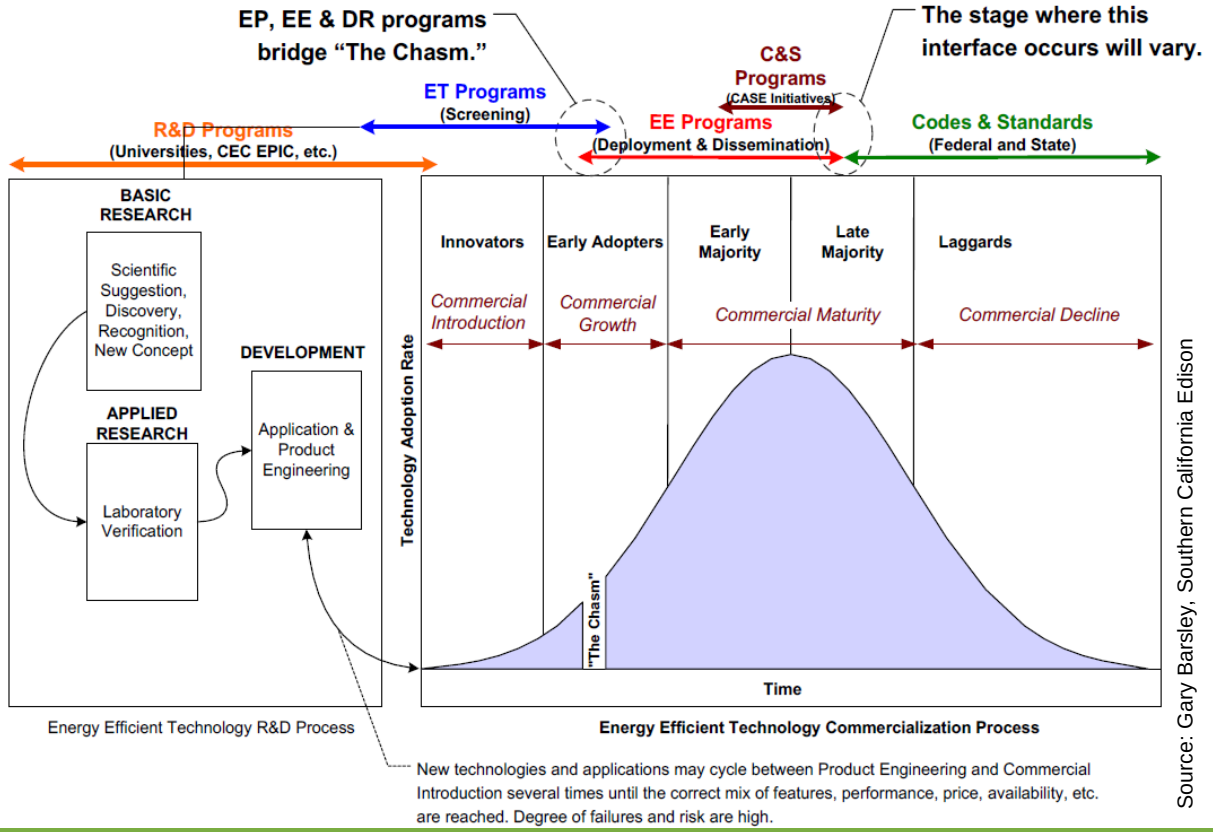
$112 billion

$4 billion



Source: Brian Barnacle, Energy Solutions

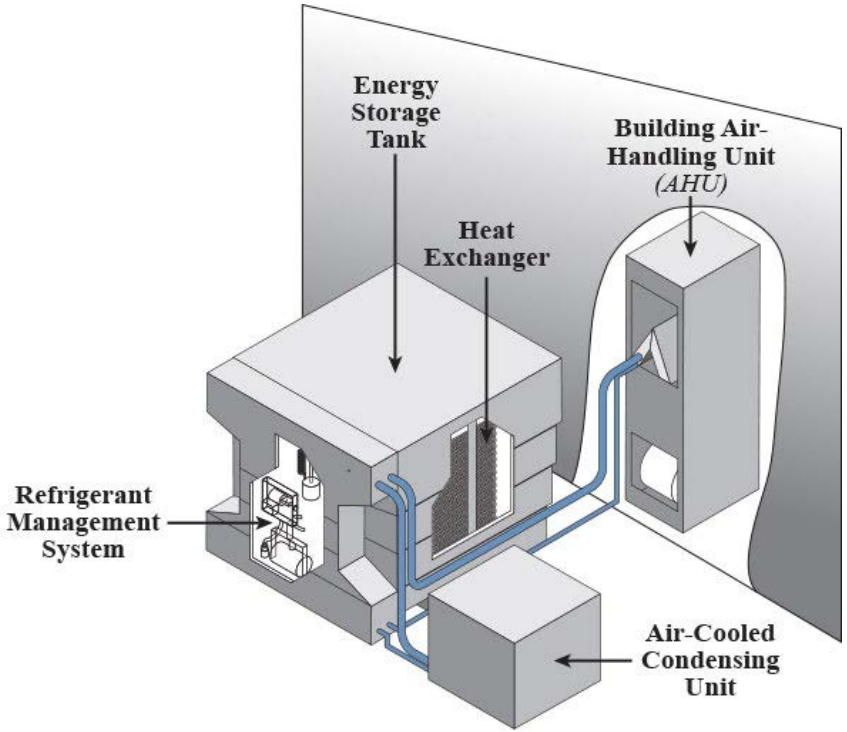
In practice, tech transfer is complex!



Source: Gary Barsley, Southern California Edison

"Degree of failures and risk are high."

Example 1: The Ice Bear



Source: U.S. Department of Energy

Timeline

1970s: Original research and development

2003: Powell Energy develops

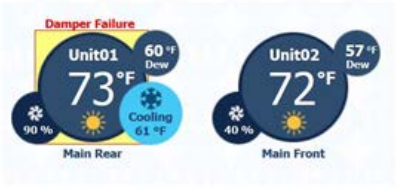
2005: Ice Energy commercializes

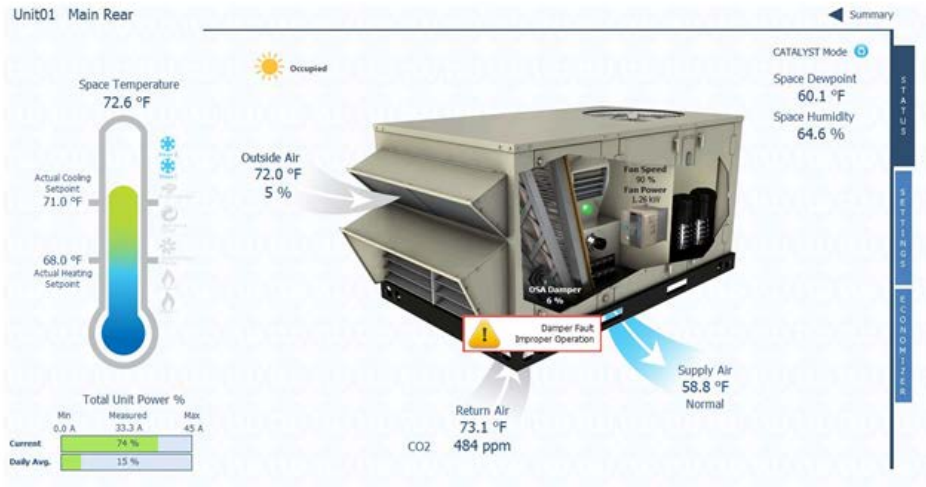
2007: Redding Electric Utility successfully pilots

2019:

- Southern California Edison deploys 100 units
- E Source identifies it as a top tech
- Ice Energy files for bankruptcy

Example 2: The Catalyst





Source: Transformative Wave; Rooftop unit retrofit controls mature, E Source (2016)

Timeline

2010: Transformative Wave founded

2011: E Source first writes about the Catalyst

2013: E Source gives it game-changer award

2016: Emerson invests

2018: DOE names it Advanced RTU Campaign award winner

2019: Energy Manager Today names it Top Product of the Year

2020: Appears to still be going strong

Real talk on emerging tech

Luke and Bryan discuss emerging tech

Source: Cameron Freberg, Austin Energy

Let the best ideas win

Adopting a “best idea wins” mindset

Source: iStock

To get the best ideas, you need to listen

Source: iStock

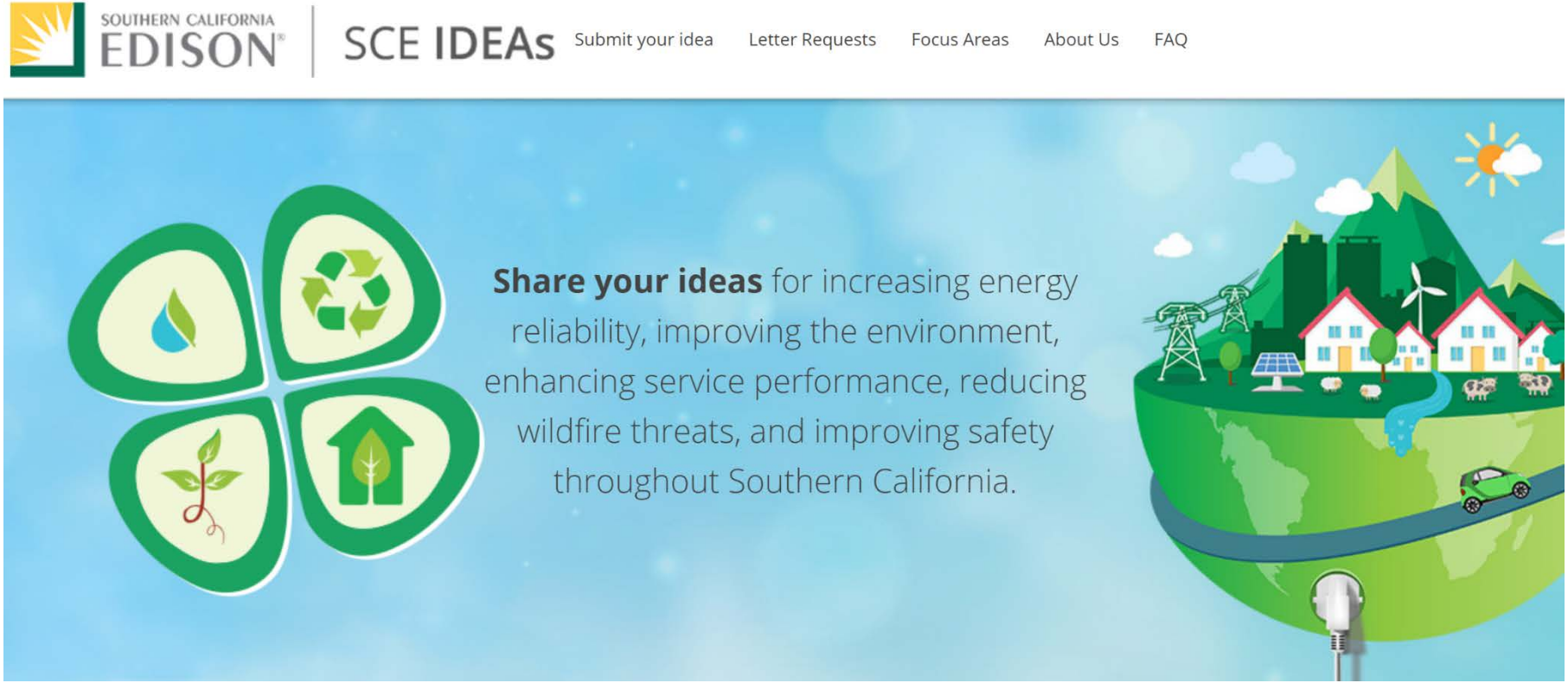
Case study 1: Duke Energy's intranet

Duke Energy Intranet

- Focus on community and collaboration
- Features guest bloggers throughout the company
- Encourages employees to suggest home page content
- Employees can submit calendar items and news

Source: Duke Energy

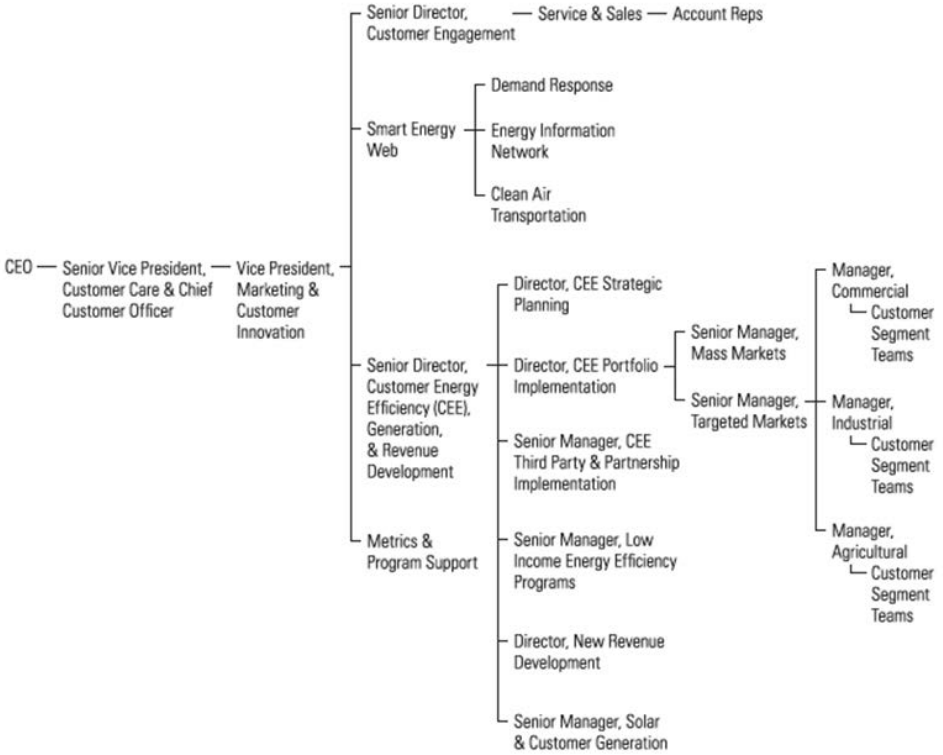
Case study 2: SCE's IDEAs portal



Source: Southern California Edison


From next to best

The old utility silo problem



Note: This chart is not intended to be a representation of the utility's complete organization structure—many departments have been omitted.

© E SOURCE; data from PG&E

- Classic DSM org structure (like this one from Pacific Gas and Electric Co.)
- No connection to research and development
- No emerging-tech function
- Outsourced engineering services
- Fully siloed with separate budgets and goals

Strategies for improving tech transfer

The long handoff

Overlapping emerging-tech and energy-efficiency programs

Cross-functional teams

Hard skills, soft skills, shared goals

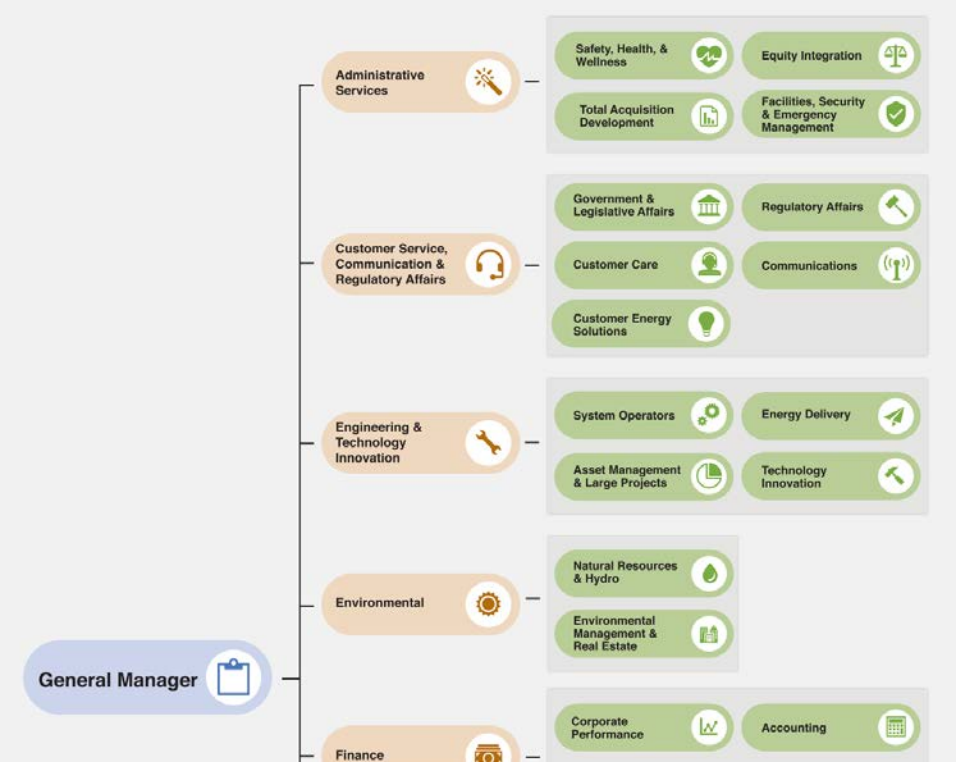
Accelerators and incubators

Beyond go/no-go options

Design thinking

Problems, partnerships, and programs

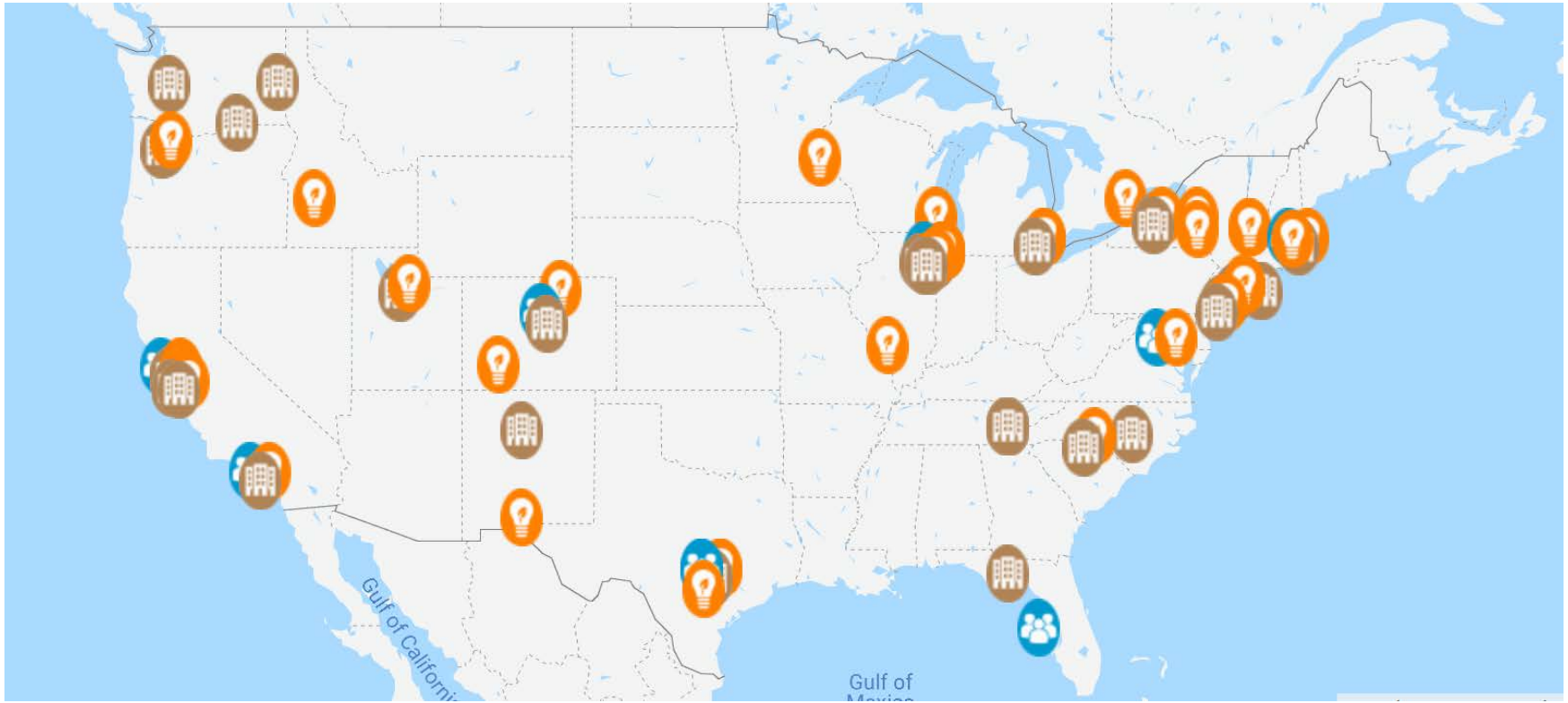
Restructure to form customer energy solutions teams



- Modernized structure (like Seattle City Light)
- In-house research labs
- Integrated engineering and emerging tech
- Report to same executive
- Cross functional with aligned budgets and goals

© E Source; How DSM departments are evolving into customer energy solutions teams

Work with accelerators and incubators

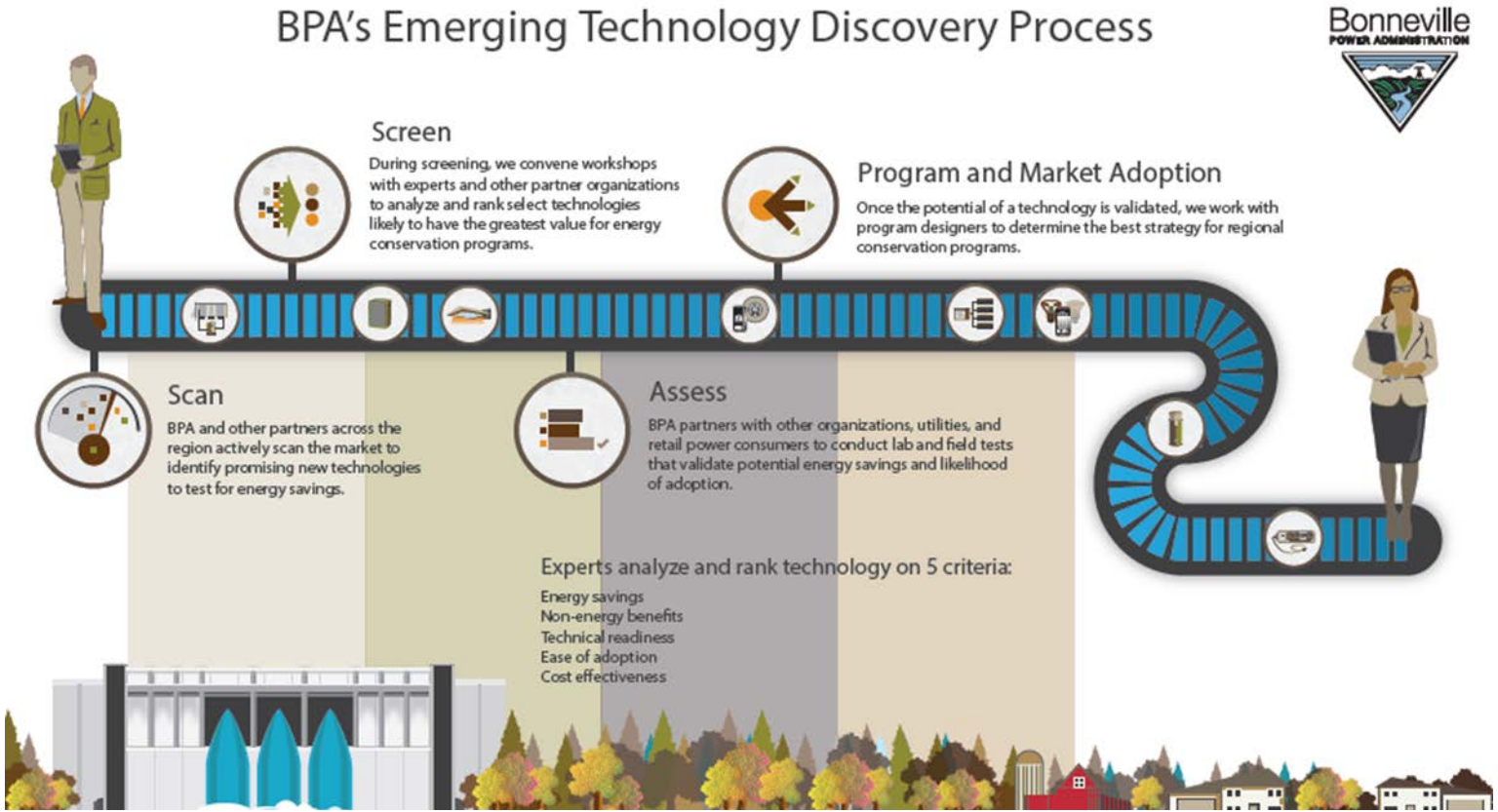


Source: Electric Power Research Institute (www.incubatenergy.com)

Apply design thinking like BC Hydro

Source: BC Hydro

Let us help you with tech roadmapping!



Source: Bonneville Power Administration

Where we go from here

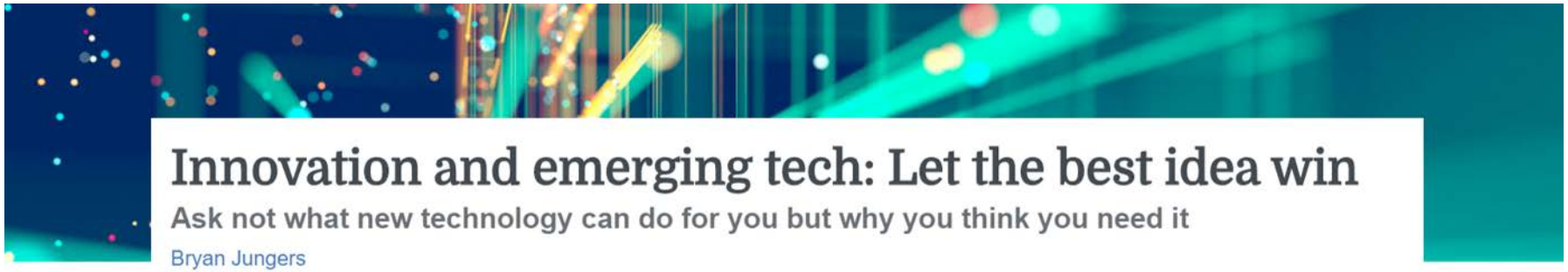
Key takeaways

- Tech evolution is messy, complex, and takes time
- Closed, siloed organizations don’t foster innovation
- Cooperation, “soft skills,” and empathy are key

Next steps

- Reevaluate your organization’s goals and structure
- Collaborate with incubators and accelerators (and others!)
- Look to E Source for help with tech assessment, design thinking, and roadmapping

Fostering an innovative environment



Read the blog post

E Source offers emerging-tech teams strategic technology roadmapping, assessment, and design-thinking help to keep your initiatives impactful

E Source tech-transfer content

- Emerging technology resource center
- Innovation and emerging tech: Let the best idea win
- Why tech-transfer efforts aren’t working, and what to do about it
- Tech-transfer success stories (coming soon)

Customer Energy Solutions

Luke Beckett

Product Manager, Technology Assessment Service,
E Source

303-345-9176

luke_beckett@esource.com

Bryan Jungers

Senior Manager, Customer Energy Solutions

E Source

303-345-9211

bryan_jungers@esource.com