IEA DSM Task 24:
Behaviour Change in DSM

Phase II
DSM – Helping the Behaviour Changers

Insights, tools and results

October 12, 2017

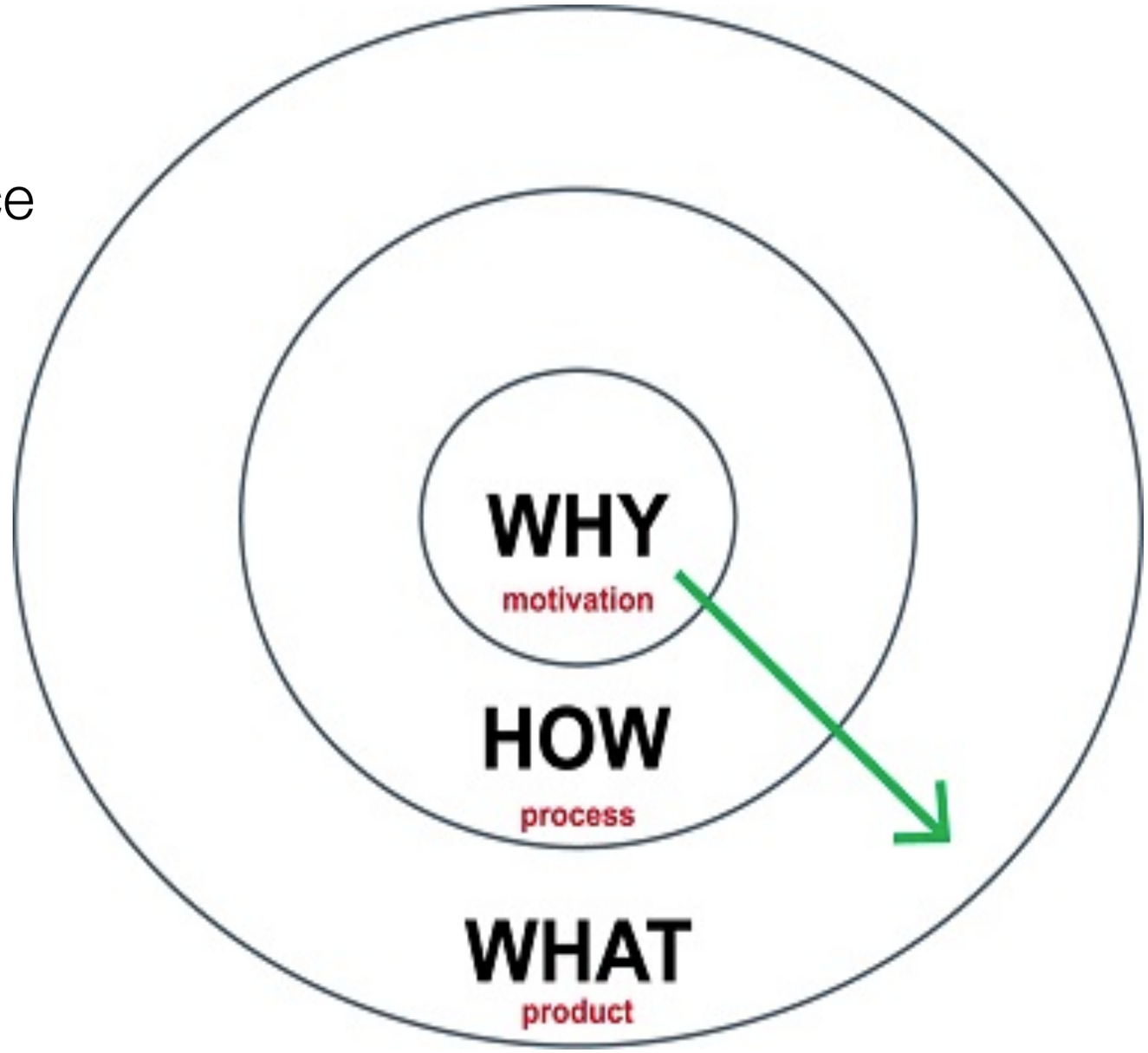
Dr Sea Rotmann, SEA –
Sustainable Energy Advice, NZ
Operating Agent, Task 24

Agenda

- *Why*
  - Focus on people
  - Connect science and practice
  - Learn and share what works
  - Serve as a global model

- *How*
  - Objectives
  - Subtasks
  - Funding & Partners

- *What*
  - Toolbox
  - Publications
  - International Comparisons
  - CHS Case Study



Simon Sinek, 2009; www.startwithwhy.com

ieadsm
energy efficiency

WHY are we doing Task 24?

1. Focus on people

"You must really continue the work you do! Going deeper into academia now I can see how much valuable work you have done with Task 24…

2. Connect science and practice

… co-creation is on everyone's lips and close to nobody understands what is needed to actually get it to work...

3. Learn and share what works

… This is why the experimental second part of Task 24 was so valuable – [we] could really see what can work, and what definitely doesn't. Few people have such experience."

- Svetlana Gross, outgoing Swedish alternate ExCo (via email)

4. Serve as a global research model

"The edge of the DSM TCP is that it's the only one in the IEA that really focuses on the human side of the energy system. It is really important that you continue to tell this story."

- Michele de Nigri, EUWP Chair (May 2017 ExCo meeting)

WHY are we doing Task 24?

1. Focus on people
2. Connect science and practice
3. Learn and share what works
4. Serve as a global research model

WHY are we doing Task 24?

1. Focus on people → **2. Connect science and practice** → 3. Learn and share what works → 4. Serve as a global research model

Hub

- Broad and systemic perspective
- Focus on replicability and scalability
- Geographically inclusive, recognise energy access

WHY are we doing Task 24?

1. Focus on people
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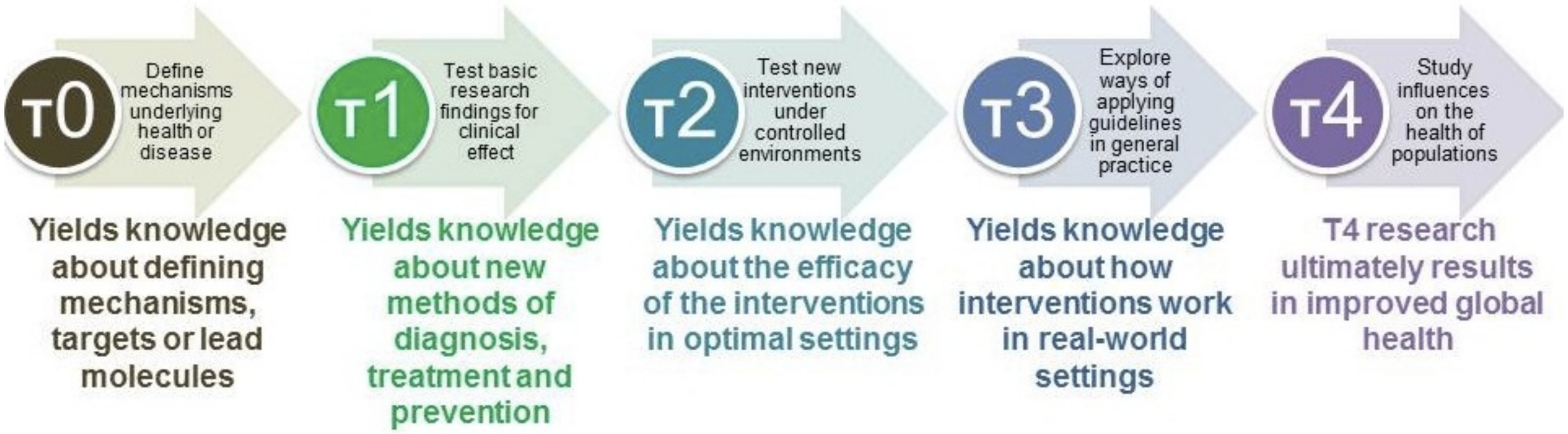
3. Learn and share what works
4. Serve as a global research model



"Research is necessary at every policy stage: to identify a problem, to design a solution, to evaluate the outcome."

- Gjulia Pizzini, Horizon 2020 Programme Officer, European Commission

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WHY are we doing Task 24?

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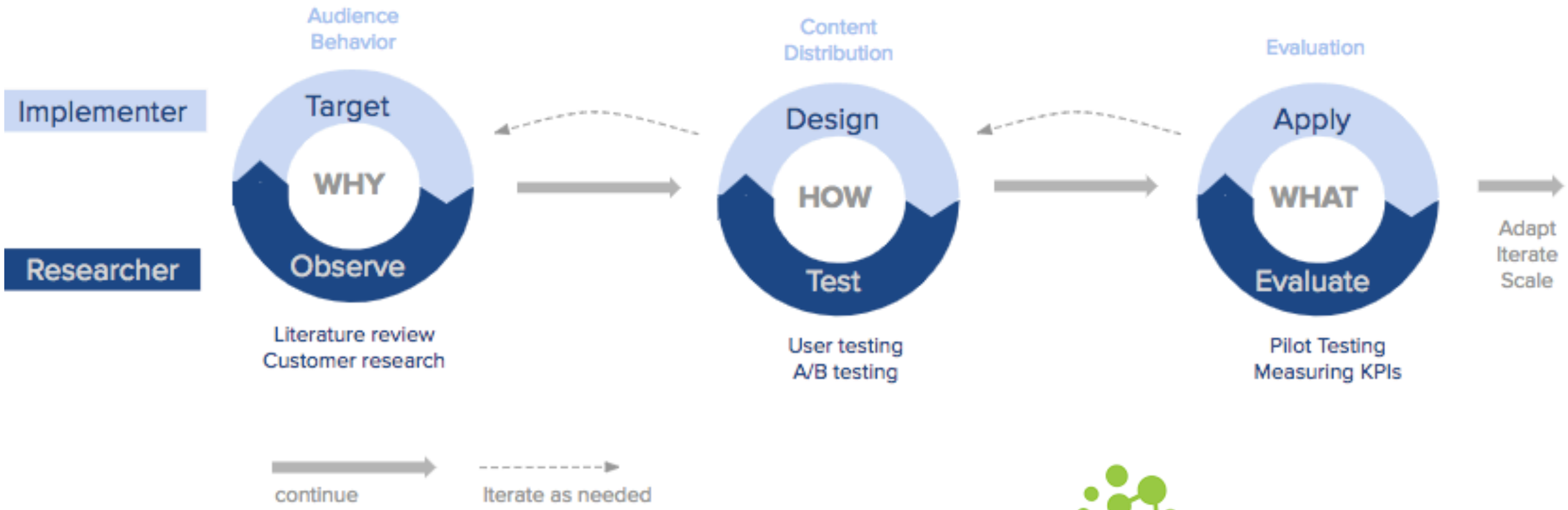

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WHY *Task 24 – Objective in a tweet (or two)*

The overarching impact of this Task is to provide a helicopter overview of best practice approaches to behaviour change interventions and practical, tailored guidelines and tools of how to best design, implement, evaluate and disseminate them in real life.

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WHO? Our audience: Behaviour Changers

Government

Industry

Researchers

The Third Sector

Middle Actors

For more information, visit www.ieadsm.org

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HOW? Task 24 – Phase II
How it all fits together (with Phase I)

Subtask 1

Subtask 2

Subtask 4

Subtask 5

Subtask 1

Subtask 4

Subtask 3

What?
Subtask 6
'The Issues'

Who?
Subtask 7
'The People'

How?
Subtask 8
'The Tools'

Why?
Subtask 9
'The Measure'

So what?
Subtask 10
'The Story'

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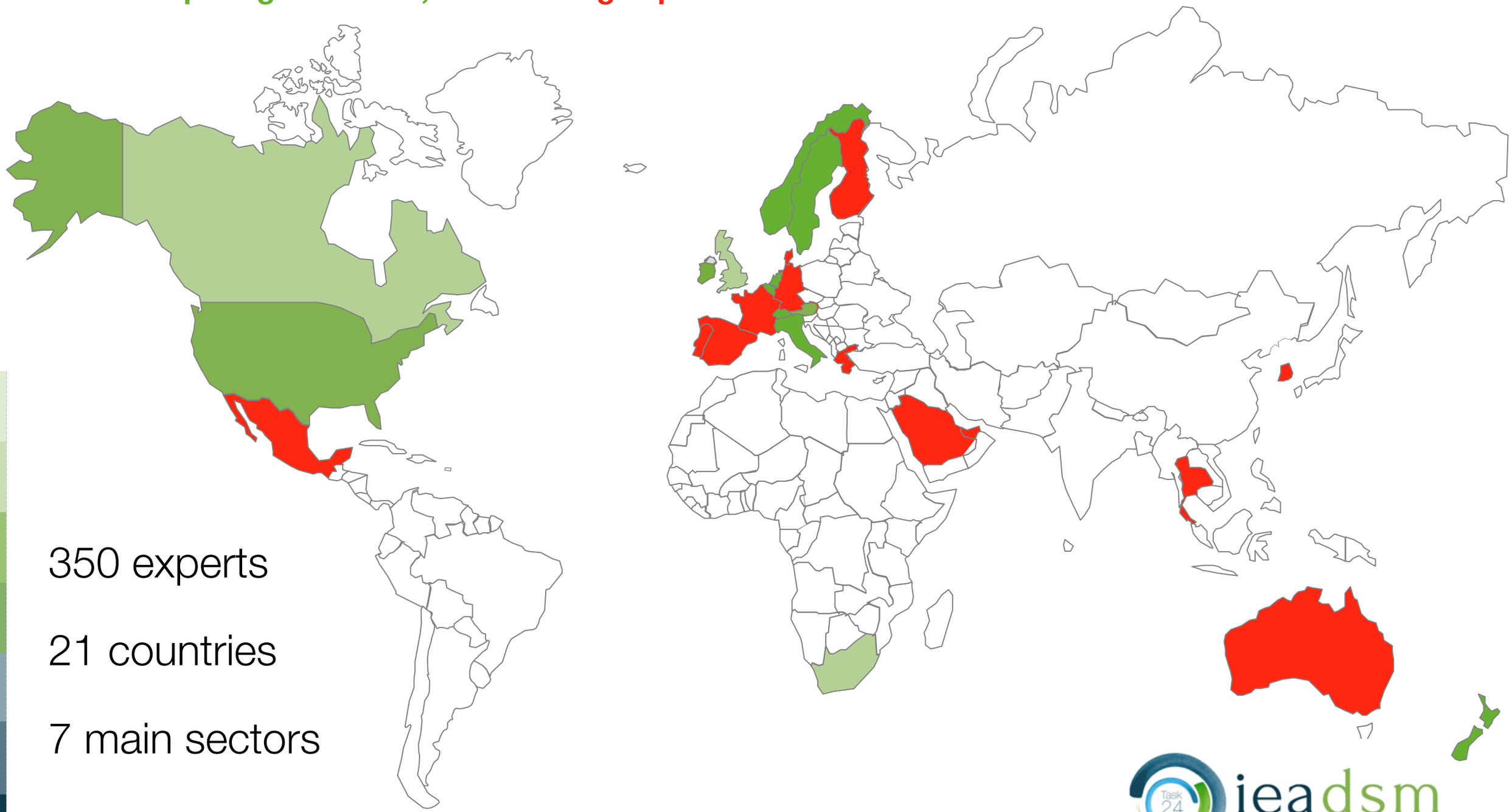
HOW: Expert Network (Subtask 5)

Participating countries, contributing experts



350 experts

21 countries

7 main sectors

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HOW: Task 24 Multi-stakeholder facilitation (Subtasks 6-7)

The Five Conditions of Collective Impact

Common Agenda	All participants have a **shared vision for change** including a common understanding of the problem and a joint approach to solving it through agreed upon actions.
Shared Measurement	**Collecting data and measuring results consistently** across all participants ensures efforts remain aligned and participants hold each other accountable.
Mutually Reinforcing Activities	Participant activities must be **differentiated while still being coordinated** through a mutually reinforcing plan of action.
Continuous Communication	**Consistent and open communication** is needed across the many players to build trust, assure mutual objectives, and appreciate common motivation.
Backbone Support	Creating and managing collective impact requires a dedicated staff and a specific set of skills to **serve as the backbone for the entire initiative and coordinate participating organizations and agencies.**

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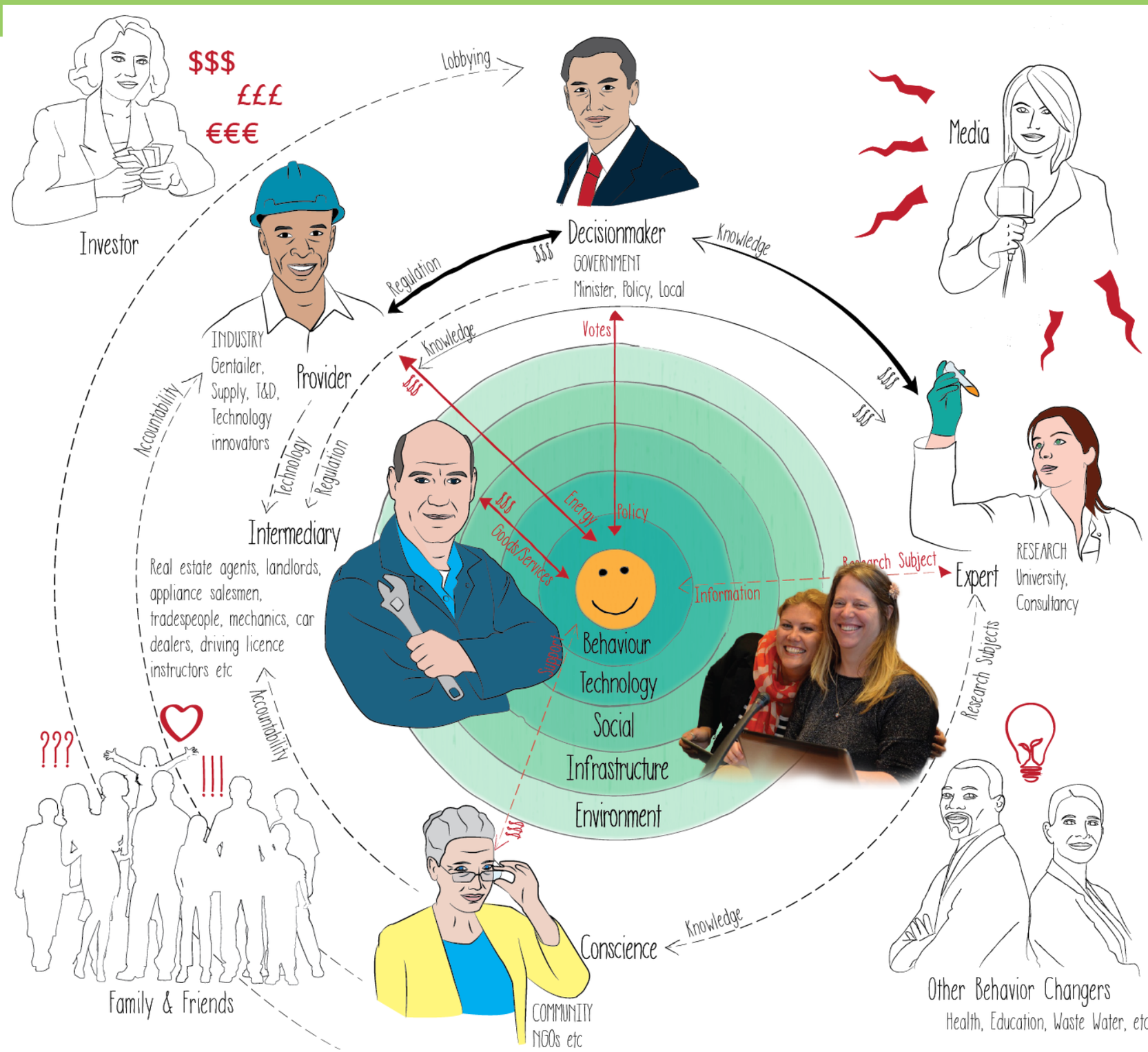
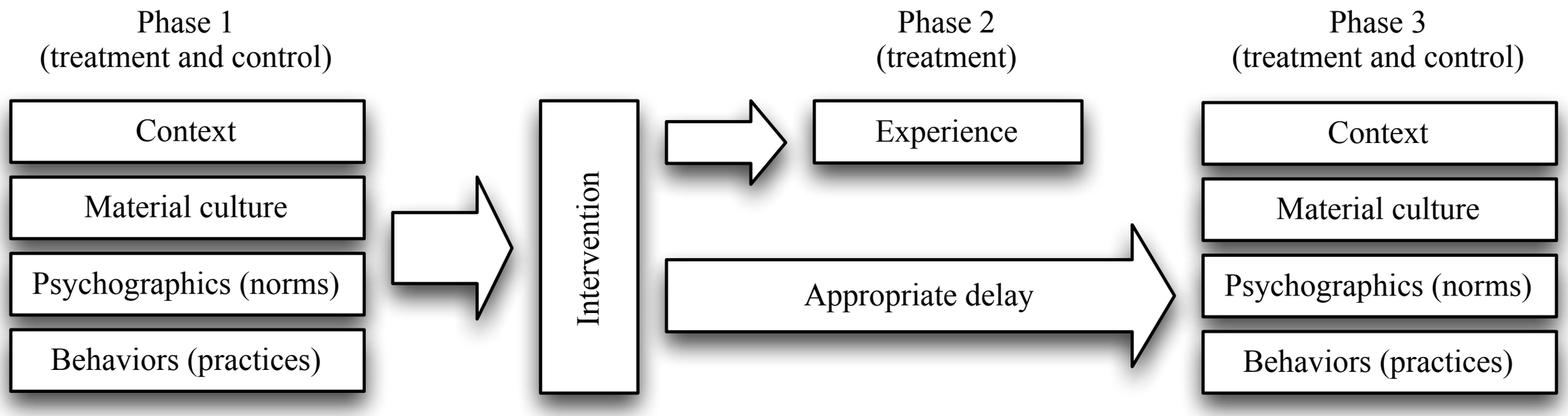
HOW: Task 24 "Magic Carpet" (Subtask 8)



HOW: Task 24 "Beyond kWh" (Subtask 9)

FIGURE 5: EVALUATION PROCESS



Karlin et al (2016): http://www.ieadsm.org/wp/files/SCE-Toolkit-Report-Final-.pdf

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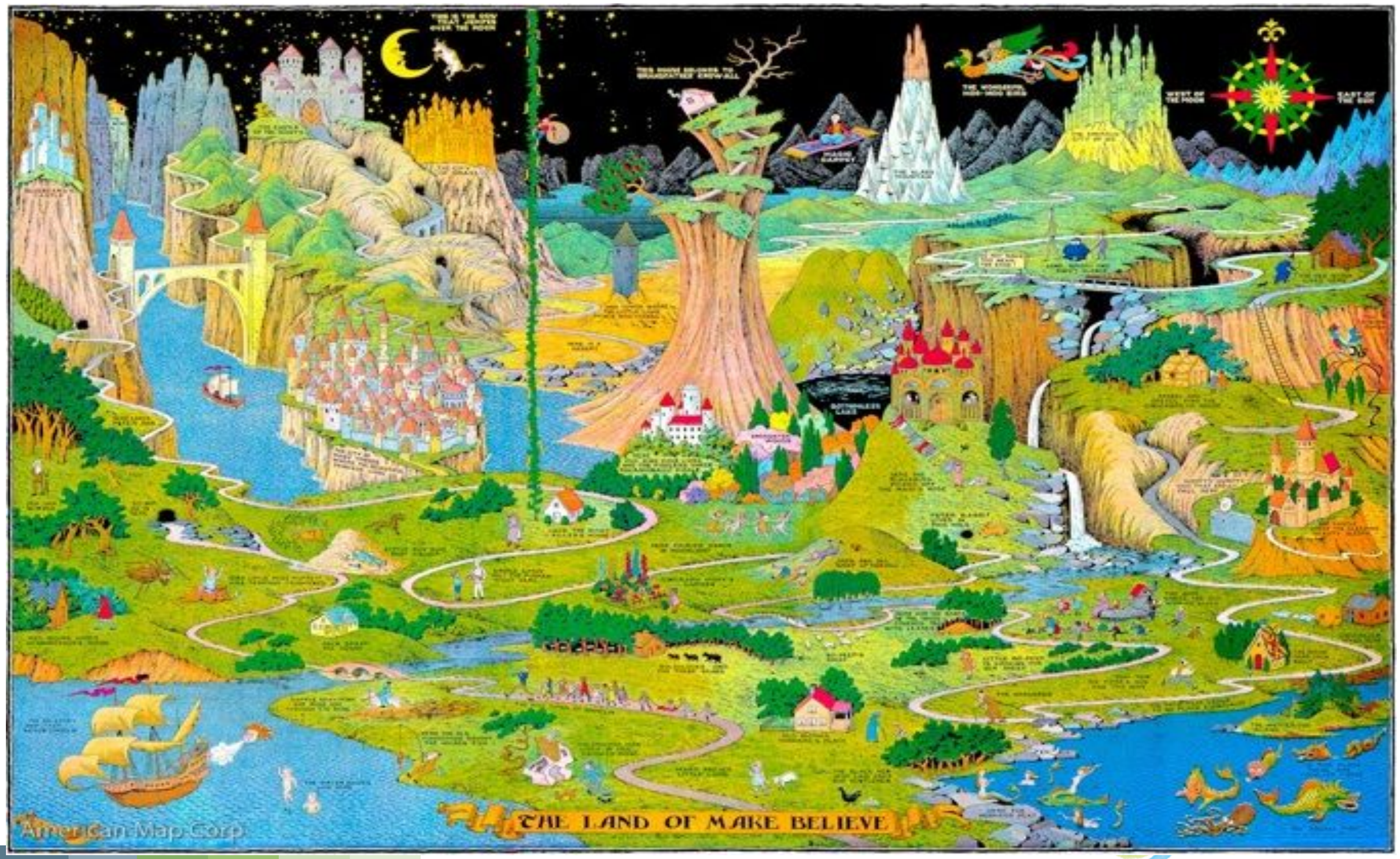
HOW: Task 24 Toolkit & Dissemination (Subtasks 8 & 10)



Energy Research & Social Science

Energy Research & Social Science
Volume 31, Pages 1-310 (September 2017)
Narratives and Storytelling in Energy and Climate Change Research
Edited by Mithra Moezzi, Kathryn Janda and Sea Rotmann

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Articles 1 - 35

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In Progress (March 2018)

Volume 34
In Progress (December 2017)

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pp. 1-310 (September 2017)
Narratives and Storytelling in Energy and Climate Change Research

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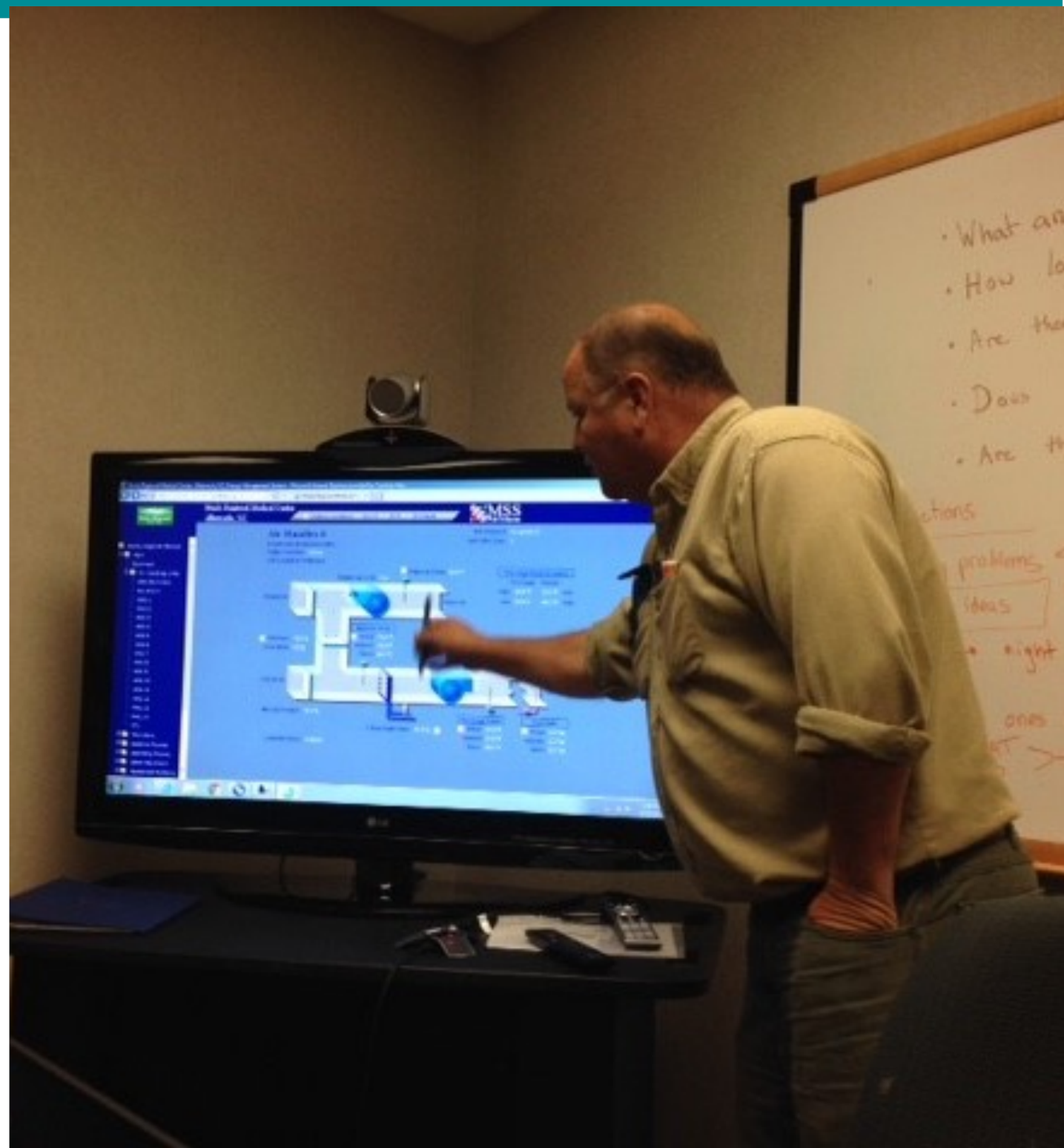
Carolinas HealthCare System

Subtask 11: Designing Energy Behaviour

Leading Change in Carolinas HealthCare System

Carolinas HealthCare System

- 940 care locations
- 62,000+ staff
- 7500 beds
- 17.5 M ft2
- 12.5 M patient encounters/year
- Utilities $37M
- Energy Management born in 2012



ENERGY CONNECT

Why Hospitals?

Energy Connect will help link human actions to energy savings, natural resource conservation and patient experience.

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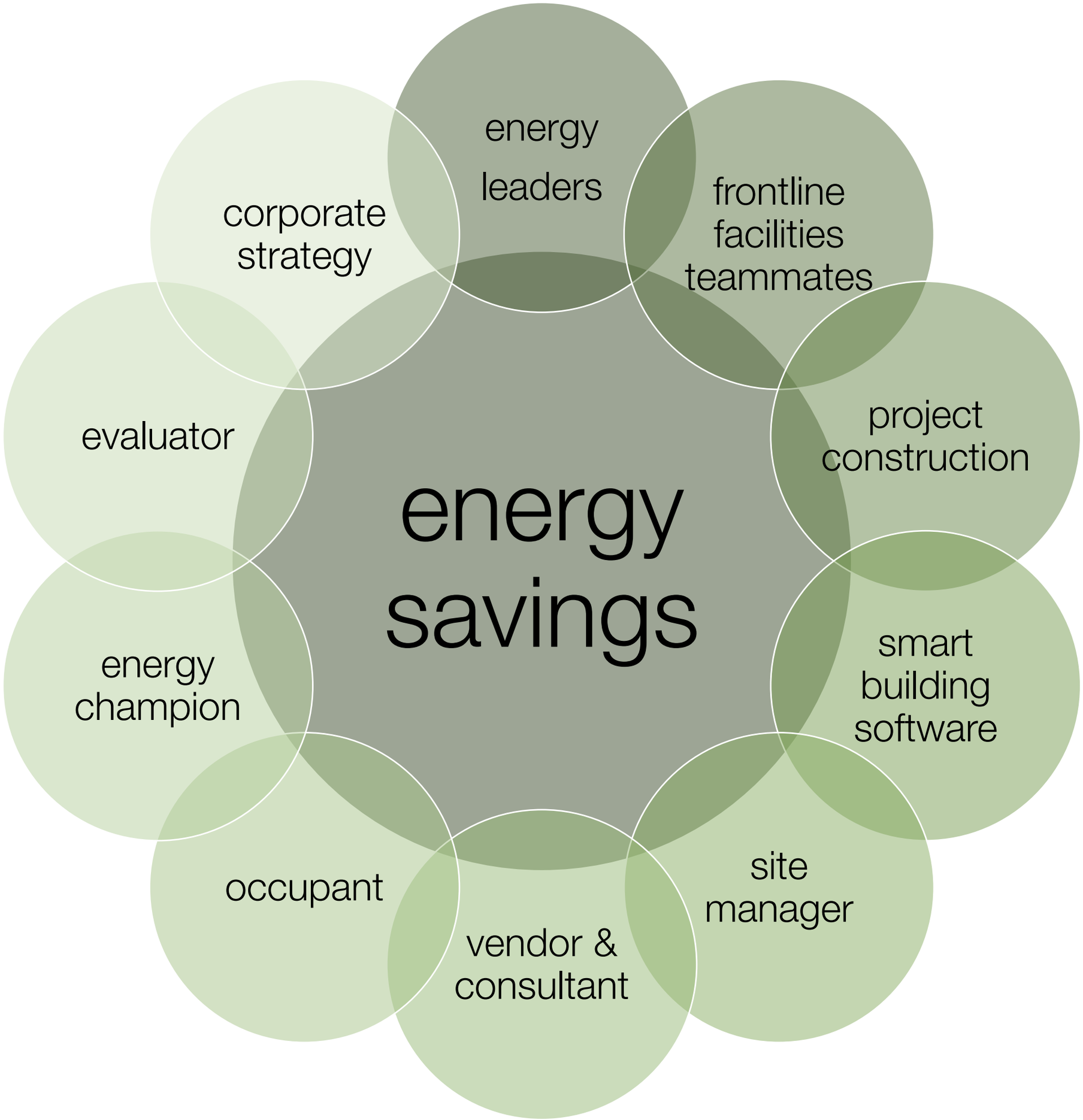
Carolinas HealthCare System

Actors in the CHS Energy Ecosystem



Thinking In Systems

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Carolinas HealthCare System

Insights

- Hierarchical culture
  - "Building Operators are not part of corporate decision making"
- Extreme operational demands
  - "Sometimes, 24/7 operations used an excuse to delay action"
- Highly regulated sector
  - "Safety comes first at any cost"
- Willingness to fix problems is much stronger than willingness to get it right from the start
  - "We can only consider first, costs, and if the payback is less than five years, it can't be done"
- We don't value the skills required to run the buildings
  - "We don't hire technically skilled people to run the complex systems installed"
- High tolerance for short-term solutions
  - "We are always putting out fires and juggling grenades"

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Brief History of Energy Connect

Participatory Research

- Surveys
- Focus Groups
- Interviews
- Workshop
- Summit

Training

Grant 2016-2018

DOE building re-tuning

Revised Curriculum

Design Team

Test locations

Interventions

Baseline

Evaluation and proof

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Energy Connect for Building Mechanics

First 5 interventions:

1. Make data visible
2. Select and support a site-based Energy Champion
3. Develop a hot/cold call response process flow
4. Document adjustments in the BAS
5. Promote conversation between occupants and facilities with regard to energy savings

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Medical Center Plaza Case Study 2017

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2016 Energy and Dollar Trajectory at MCP

2016	Energy Trend	Dollar Trend
January to May	8% ↓	$6,812 ↓
June to December	15% ↑	$24,023 ↑
Summary January to December	6% ↑	$17,212 ↑

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2017 Energy and Dollar Trajectory at MCP

2017	Energy Trend	Dollar Trend
January to June	4%	$3,691
Projected: July to December	17%	$29,000
Projected: January to December	11%	$38,973

ENERGY CONNECT

Carolinas HealthCare System

Energy Stories... Bring Energy to Life

Everyone has a role to play…

Once upon a time... there was a pediatric building that was always cold during the winter months.

Every day... the peds nurse would set the thermostat to 90F and over all this time, the suite temperature never increased and always stayed freezing.

But, one day... the engineer took a look at the discharge air temperature from the vents and found that the temperature was very cold even though the thermostat was set high. He then checked the attic and found that outside air dampers were left open! He fixed the dampers to operate properly and closed them to the minimum level.

Because of that... the building site began to warm up and make all the nurses and children happy.

Until finally... the engineer and his team now check the dampers every day during the winter.

And ever since then... everyone is warm and happy and thankful to the smart engineer. **The end.**

Thank you for your consideration!
Questions? Comments?

Dr. Sea Rotmann

drsea@orcon.net.nz

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