



# **Using ‘Design Thinking’ in the Development of Engagement Strategies for Sustainability**

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November 12, 2012  
BECC, Sacramento, CA



# Why 'Social Design'?

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- Sustainability in Organizations – Big Goals / Narrow Methods
- Need for **social system** transformation
- Limitations of science & practice
- Serendipity / BECC



# Definitions of Design

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- **Webster's:**  
“to create, fashion, execute, or construct according to plan”
- **Wikipedia:**  
“methods and processes for investigating ill-defined problems, acquiring information, analyzing knowledge, and positing solutions”
- **Tim Brown:** Inspiration, ideation, implementation



# Some Attributes

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## Design Thinking

- Solution focus
- Synthesis
- Spiral path
- Ill defined, 'wicked'
- Aesthetic criterion
  - 'aha'

## Scientific Thinking

- Problem focus
- Analysis
- Linear
- Well defined
- Optimized solution



# Social Systems: A Unique Context for Design


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## **Social System**

- Dynamic
- Self-interactive / Emergent
- Open system
- Responsive

## **Product / Program**

- Static
- Passive
- Closed system
- Fixed



# Case Study 1: **Community Sustainability**

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## **Brief:**

- Rural Iowa community of 10,000
- Agriculture & manufacturing
- Small core (5-6) of passionate citizens – carbon neutral goal
- Core strengths:
  - Sympathetic, effective Mayor
  - Islands of expertise
  - Grant writing expertise

# Case Study 1: **Community Sustainability**

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## **Design**

- Create Strategic Plan for Sustainability
- Branding Workshop / Stories
- Early wins
  - Great Places Award
  - City energy efficiency
  - CDP pilot



# Case Study 1:

## Community Sustainability

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### Outcomes

- Multiple city energy efficiency projects
- Rapidly growing local food economy
- 1<sup>st</sup> net zero company in Iowa
- 1<sup>st</sup> solar powered radio station
- State leader in sustainability
- Frequent citizen workshops
- City sustainability office







# Principle 1. Focus on Whole System

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- Include all major stakeholders.
- Leverage 'islands of excellence'.
- Look for synergies and system interactions.



## Principle 2. Build on Strengths

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- Ready for action.
- Path of least resistance.
- Build confidence & resilience.



## Case Study 2: **Diffusing Sustainability in Organizations**

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**Design Challenge:** Embed sustainability in organizations throughout a region

### **Brief**

- SME focus, but all sizes & legal structures
- 1<sup>st</sup> launch, but also support existing efforts
- Across industry groups
- Core strengths – Drivers
  - Resource price volatility, reputational risks
  - Consumer & employee expectations
  - Supply chain requirement
  - Individual passion



## Case Study 2: **Diffusing Sustainability in Organizations**

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### **Design**

- Sustainability Circles
  - 8 organizations
  - Curriculum, 1 day/month, 6 months
  - Structured exercises
  - Coaching
  - Peer, expert, & service provider networks
  - On-site engagement
  - Prototypes in 3 states
  - Sustainability Action Plan



## Case Study 2:

# **Diffusing Sustainability in Organizations**

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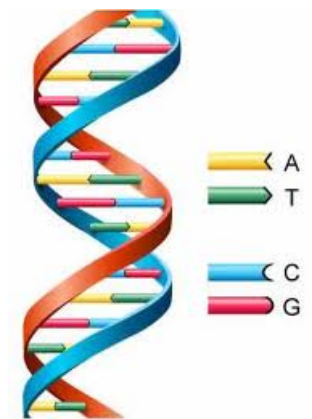
### **Outcomes**

- Changed 'lens' about business
- Green teams formed
- Successful initial projects
- Strong collaboration across companies, & with government / region

## Principle 3. Embed at the Core

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- Highest first – incorporate into mission, vision, & business model
- Organizations are 'self-referral', self-regulating systems.
- Engenders 'flourishing'.





## Principle 4. Integrated System Design

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- Use a nonlinear, spiral design approach.
- Look for and leverage system interactions (e.g., multiple benefits from single actions).



## Case Study 3: **Manufacturer**

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### **Design Challenge:**

Employee Engagement in Sustainability

### **Brief**

- Manufacturer of airplane de-icer
- Rural city
- Drivers: Cost reductions
- Constraints: Mild interest, low information




# Case Study 3: **Manufacturer**

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## **Design**

- Sustainability Circle
- Fun exercise –  
Plug Load Scavenger Hunt





# Case Study 3: **Manufacturer**

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## **Outcomes**

- Immediate & enduring 50% reduction in electricity
- Strong employee engagement



# Principle 5.

## Design for the Whole Person

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- Integrate cognitive, affective, and environmental components into the design solution (e.g., 'Switch').
- Make it fun & impactful.

# Principle 6. Tunnel Through the Cost Barrier

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- Create expanding returns, not diminishing returns.





# Case Study 4. University Wellness

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## **Design Challenge**

Incentives for wellness participation.

## **Brief**

- Midwestern university of 5,000 employees
- Aging population, increasing health care costs
- Core strengths:
  - Abundant, free expertise
  - Beautiful, large grounds
  - Extensive facilities
  - Islands of excellence



# Case Study 4. University Wellness

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## Design

- Use whole system design:
  - Food, fitness, health management
  - Personal well being, social well being
  - Quality of work life, built & natural environment
  
- Engage all employees, all campuses
  - Online survey
  - Town Halls
  
- Conduct collaborative design with major stakeholders – design charrette.



# Case Study 4. University Wellness

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## **Outcomes**

- Strong staff engagement
- Detailed, integrated plan
- Strong collaboration



## **Principle 7. Set big, inspiring goals.**

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- Transformational, not incremental.
- Creates energy & innovation.
- Increases awareness.



# Principle 8. Start Bottom Up

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- Rich source of ideas.
- Bakes in 'buy in'.
- Builds capacity.





## Other Principles to Explore

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- Janine Benyus, Biomimicry
  - Nature recycles everything.
  - Nature rewards cooperation.
  - Nature demands local expertise.
  
- Donald Norman, Human centered design
  - Make things visible
  - Simplify tasks



# Summary

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- **Key Principles**

- Whole system
- Whole person
- Embed at the core
- Build on strengths

- **Methods**

- Briefs
- Design Charrette
- Strategic planning (AI version)



# Summary

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- **Next Steps**

- Refine / develop metrics
- Fully integrate with analytic methods
- Build bridge to institutionalized systems (eg, HR)
- Build out toolbox