

Southern California Edison Mainstreaming Technologies

CEE 2011 Winter Program

Presented By:

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Costa Mesa, CA

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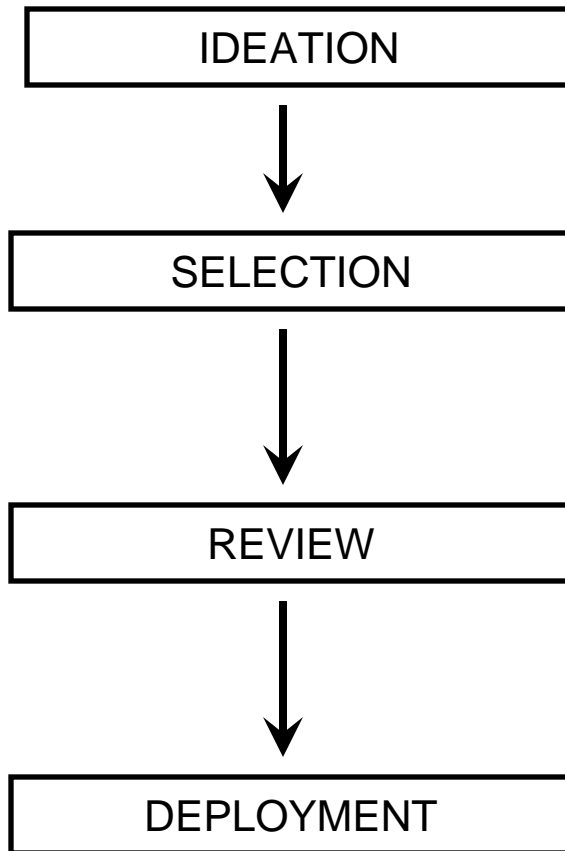
Topics of Discussion

- Process for Mainstreaming Technologies
 - Collaborate with Emerging Technologies programs & Program Operations
 - Up Front Screening
 - Clearinghouse
- Emerging Technologies Program
 - Examples of Industrial Adoptions



Idea Management Process

Centered on Engagement and Quality Assurance



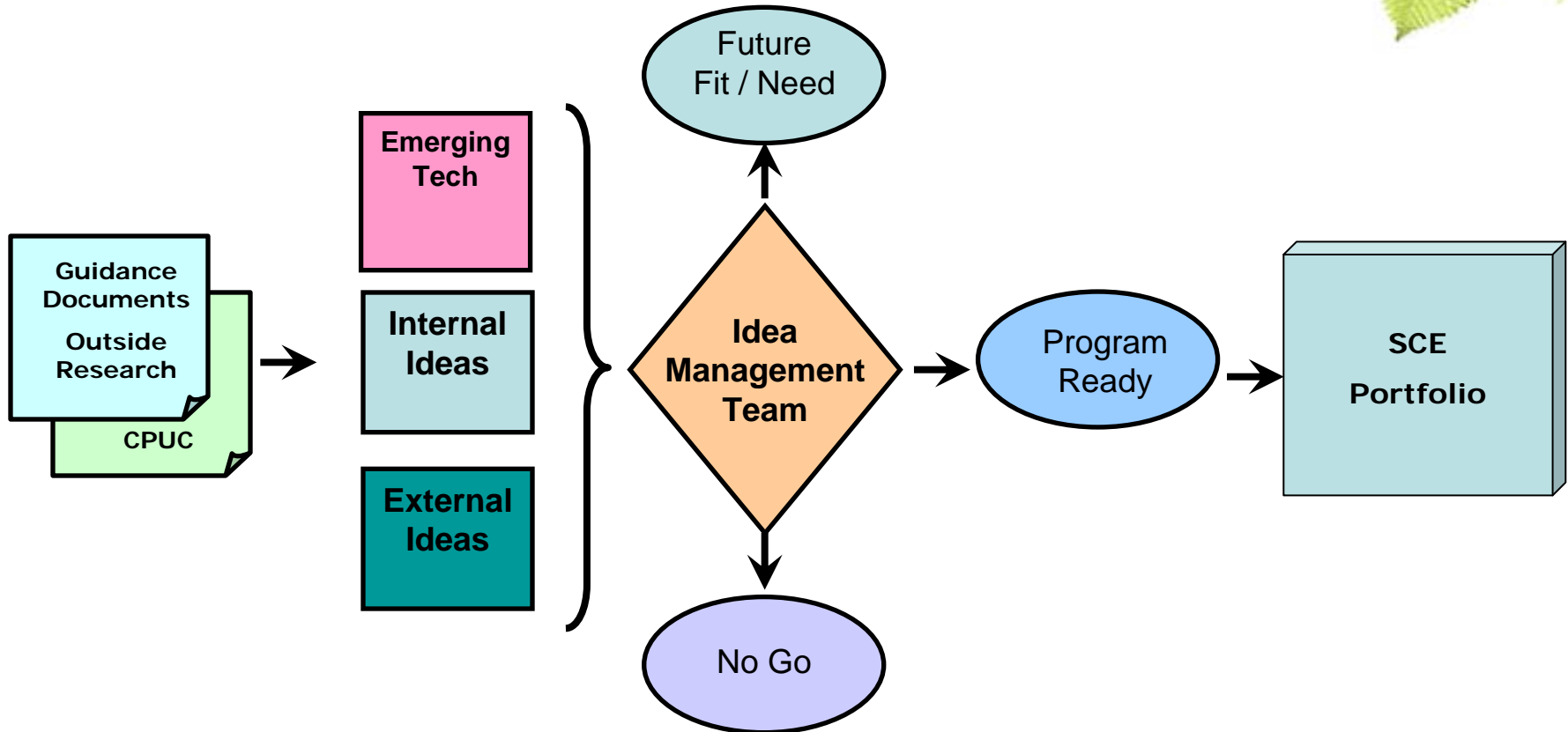
- Ideation/Concept
- Submit idea
- Feasibility Review (Go, No Go)

- Pre-Evaluation
- Prioritize activities
- Identify Sponsor
- Communicate Results

- Proposal Review
- Present Findings to Operations
- Recommendation Summary (Go, No Go)

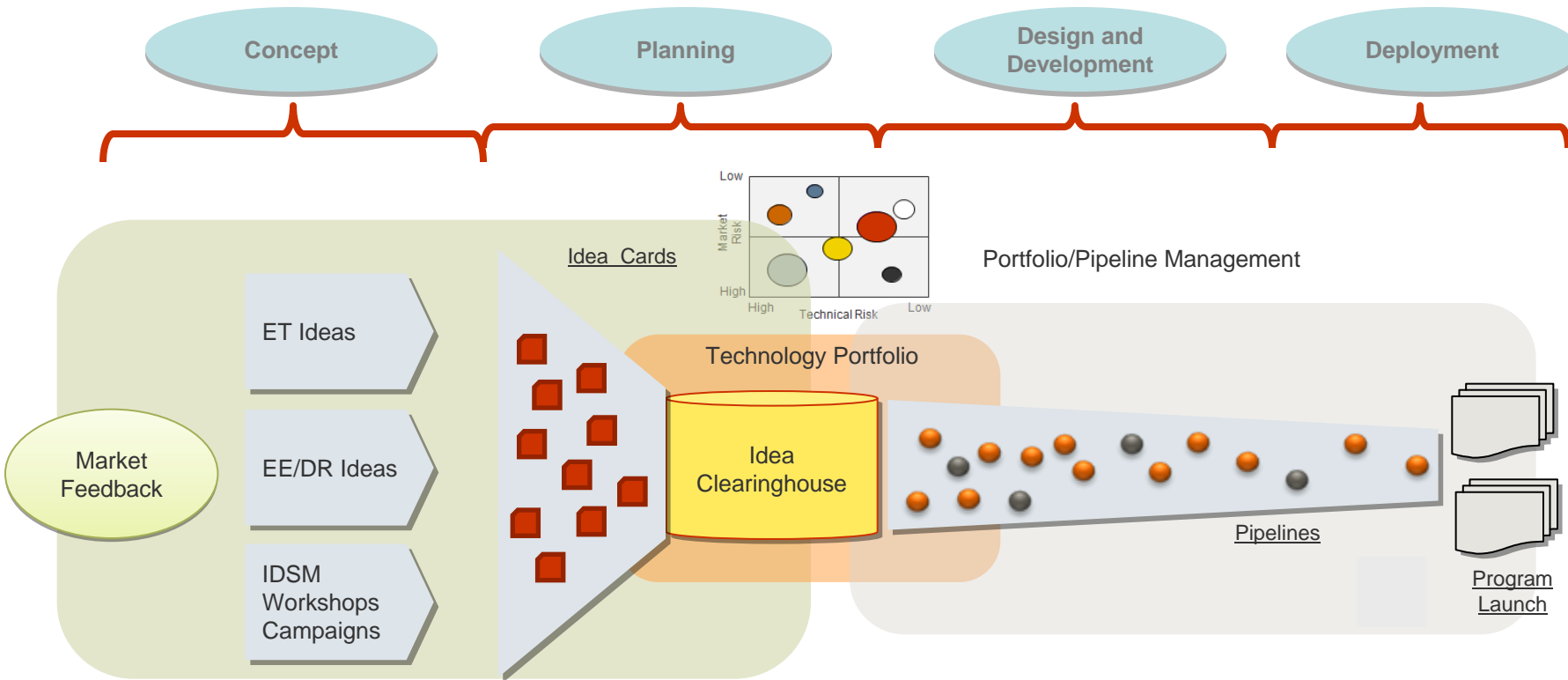
- Initiate Program Adoption
- Finalize Transfer
- Initiate Marketing Plan

Ideation Framework



- **Design and Engineering Services & others manage idea (technology) development**
- **Idea Management Team manages the process toward idea adoption**

Idea Management



The goal is to ensure a continual flow of quality ideas to replenish the portfolio.



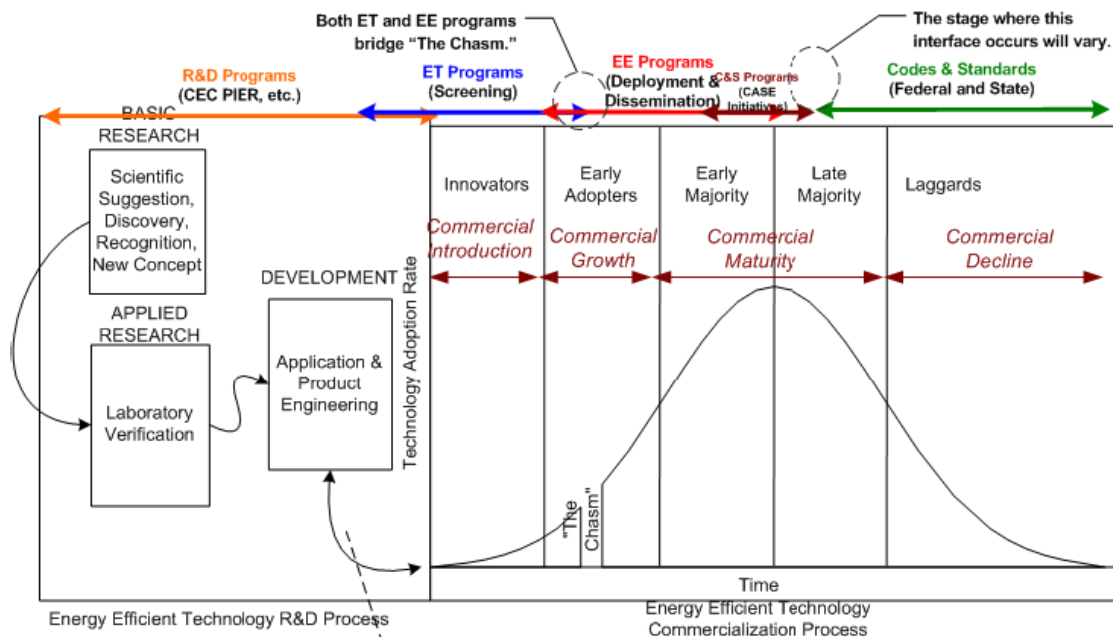
Screening Criteria

- It Saves Energy!
- Has a DSM Program Portfolio Fit
- Meets Program Requirements
- Commercially Available
- Market Barriers Addressed
- Current Market Readiness
- Need for IOU Involvement
- EM&V (achievable/defendable)
- Aligns with Long Term Strategic Objectives



Emerging Technologies Program (ETP) – Mission

Emerging Technologies Program seeks to accelerate the introduction of “near market ready” energy efficient technologies and innovations that are not widely adopted by utility customers in California.



Energy Efficient Technology R&D Process

Energy Efficient Technology Commercialization Process

--- New technologies and applications may cycle between Product Engineering and Commercial Introduction several times until the correct mix of features, performance, price, availability, etc. are reached. Degree of failures and risk are high.



Emerging Technologies Program (ETP) – *Program Objectives & Elements*

- Increase Adoptions of EE Measures (meet market demand)
 - Perform Technology Assessments
 - Conduct Scaled Field Placements
 - Develop Demonstration Showcases
 - Perform Market & Behavior Studies
- Support EE Technology Development Processes (address technology supply needs)
 - Provide Technology Development Support
 - Facilitate Technology Incubation (TRIO)
 - Technology Test Centers (incl. Res ZNE Lab)



Emerging Technologies Program (ETP) – *Technology Assessments*

- Scan/Screen to identify new technologies for all customer segments to reduce energy consumption and demand
- Conduct literature search, laboratory evaluations and field studies to assess manufacturer's claims
- Analyze and compile findings and forward recommendations for adoption
- Examples of Industrial Adoptions:
 - Heat Pump
 - Fume Hood
 - Dust Collection System
 - Low Pressure Air Blower

Heat Pump Block Heaters for Standby Diesel Generators

Savings due to augmenting resistance heater with heat pump heater for most of the year. Heater required 24/7 to keep crankcase warm enough to start immediately in the event of an emergency.

Results (for a 1.75 MW generator):

- Peak demand reduction = 3.5kW
- Electricity savings = 30,300 kWh
- Installed cost of ~\$10,000
- < 3 year payback @ \$0.11/kWh



Laboratory Fume Hood Sash Positioning Control

Savings due to variable air volume hoods (VSD fan motors) when sash is not completely open. Automatic control lowers the sash, reducing air flow to minimum safe face velocity when not in use.

Results:

- Peak demand reduction
= 3.25 kW/1000 CFM
- Electricity savings
= 24,312 kWh/1000 CFM
- Installed cost of ~\$4,500
- < 2 year payback
 - \$0.11/kWh
 - 1960 CFM



Variable Speed Dust Collection System

Savings due to use of air flow control measures and variable speed drive fan used as part of a dust control system used in manufacturing.

Results:

- Peak demand reduction
= 151 kW
- Electricity savings
= 1,330,800 kWh
- Installed project cost
= \$778,000
- ~4 year payback @\$0.08/kWh



Industrial Low Pressure Air Blower

Savings due to replacing high pressure compressed air usage, with VSD motor and low pressure blower. This replacement can be used for parts drying, cleaning and other manufacturing processes.

Results (13HP compressor replaced with 2HP blower):

- Peak demand reduction = 9 kW
- Electricity savings = 52,280 kWh
- Installed project cost = \$20,000
- ~ 3 year payback @\$0.14/kWh
- Additional benefit is lower noise level for the workers





Southern California Edison's Mainstreaming Technologies

Q&A



Idea Proposals


- Submit inquiries to:
Starr Van Raalten (SCE)
DSMideas@sce.com
- Internal and external parties may submit ideas by completing required fields of idea proposal form.
- Initiates idea review, selection, prioritization, and feedback.

 SOUTHERN CALIFORNIA EDISON <small>An EDISON INTERNATIONAL Company</small>		Idea Management Team DSMideas@sce.com	
Idea Proposal			
This form is used to provide technical and market information essential for SCE's Idea Management Team to screen innovative technologies and ideas that have energy savings, demand reduction potential, address market needs in the DSM Portfolio, and/or align with the California Energy Efficiency Strategic Plan.			
REQUESTOR INFORMATION:		STATUS: (IMT Use Only)	
Date Submitted:		Project # :	
Name:		IMT Contact:	
Organization:		IMT Completion Date:	
Phone:		Submitted to: Operations <input type="checkbox"/> EE Eng <input type="checkbox"/> D&ES <input type="checkbox"/>	
E-mail:		Program Sponsor (if applicable):	
PROPOSAL ABSTRACT:			
Type: Select from List			
Market Segment: Select from List			
Market Barrier: Select from List			
Expected Outcome: Select from List			
IDEA DESCRIPTION:			
1. Briefly describe technology and how it works. What current or past technology will it replace?			
2. Specify and explain technology application(s): Select from List			
3. Market status of technology? (e.g. product development stage) Where is it available? (e.g., US, Europe, China, etc.) Who is/are the manufacturer(s) and where are they located?			
4. How is this new or different?			
5. How will this idea save energy?			
6. What are the potential challenges and complications?			



Recommendation Summary

- Feedback Mechanism
 - Email Response
- Capture
 - ET Assessment Findings
 - IMT Findings
 - Conclusions
- Identify Next Steps
 - Portfolio Adoption
 - Further Assessment
 - No Go
- Knowledge Transfer



Idea Management Team
DSMideas@sce.com

Recommendation Summary

The purpose of the Idea Management Team (IMT) Recommendation Summary is to capture the expected outcome of ready to transfer ideas. All recommendations for new and retired measures must have engineering approval.

REQUESTER INFORMATION:	STATUS: (IMT Use Only)
Date Submitted:	Project #:
Name:	D&ES Completion Date (if applicable):
Organization:	IMT Completion Date:
Phone:	Program Path Established: Yes <input type="checkbox"/> No <input type="checkbox"/>
E-mail:	Program Sponsor (if yes):

PROPOSAL ABSTRACT: (From Idea Card Proposal)

Type: Select from List

Market Segment: Select from List

Market Barrier: Select from List

Expected Outcome: Select from List

D&ES ASSESSMENT: (D&ES Use Only)

Findings:

Outcome: Adoptable Proof of Concept Name: _____ Date: _____

Recommendations:

Embed Electronic Documents: (Select Insert > Object > Create from File > Display as icon)

COMMENDATIONS: (IMT Use Only)

le Proof of Concept Name: _____ Date: _____

Program Team Use Only

nt program team determination of recommendations, sponsor, program path)

ad: Yes No Name: _____ Date: _____

omments regarding the next steps.

Cost Effective Statewide

Additional Comments and/or Documents:

IMT Coordinator sign & date upon completion of transfer and distribute to stakeholders.

Signed: _____ Date: _____

Starr Van Raalten, IMT Coordinator

Potential for Knowledge Transfer: In the event that this information can be useful to other departments within the organization, the IMT Coordinator will submit this form to any or all of the following:

- Oversight Committee: Conflicting recommendations or other policy impacts.
- TRIO Program: Potential pilots, technology information pertinent to future development.
- Regulatory: Potential impacts to cost-effectiveness or statewide coordination.
- M&E: Data may be used to initiate or impact future studies.
- Others, as needed.