

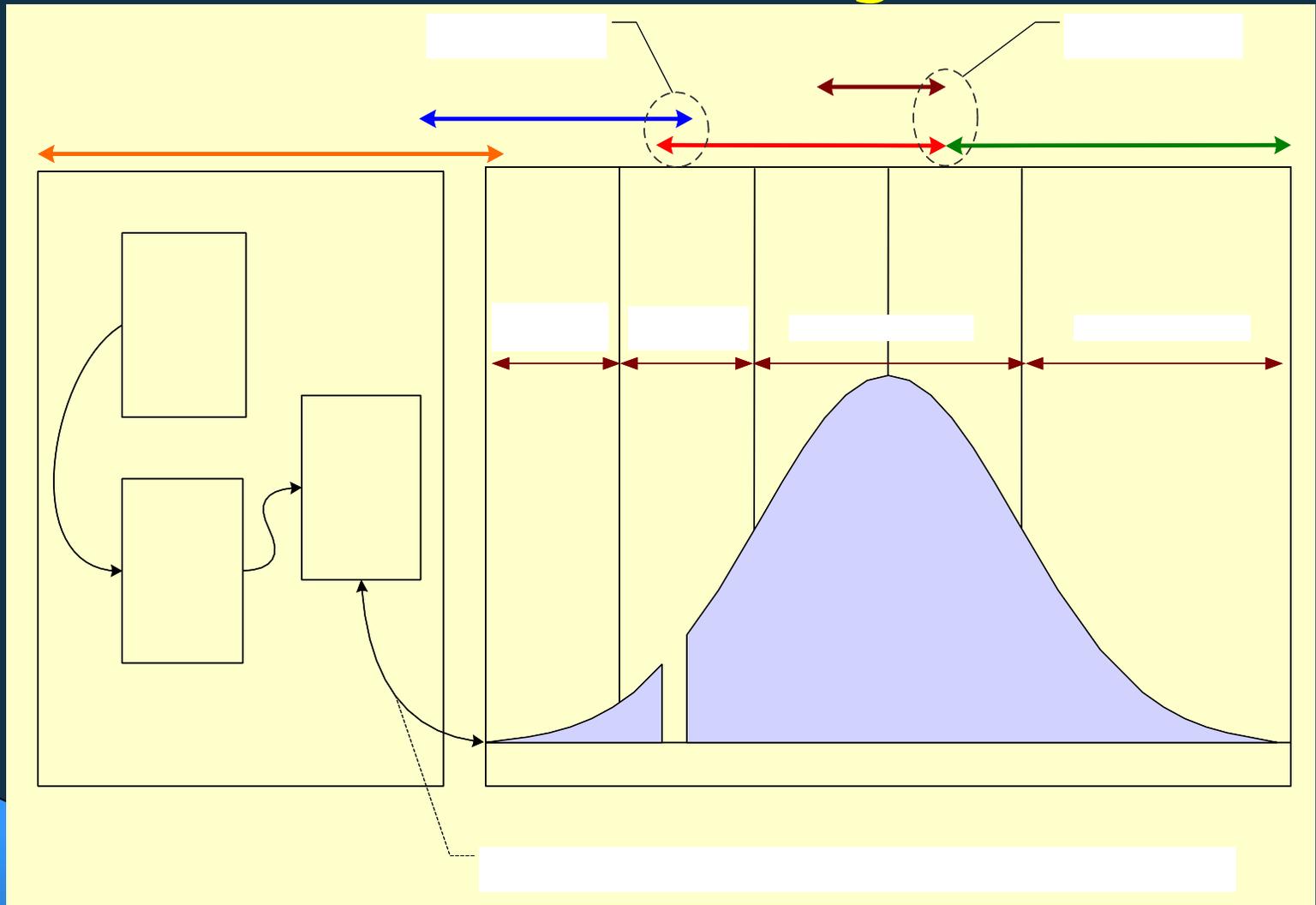
How to Catch More Flies with Honey and Vinegar:

Integrating Voluntary Programs with Codes and Standards in California

Pat Eilert,
Jon Livingston &
Peter Turnbull

ACEEE Summer Study
8-26-04

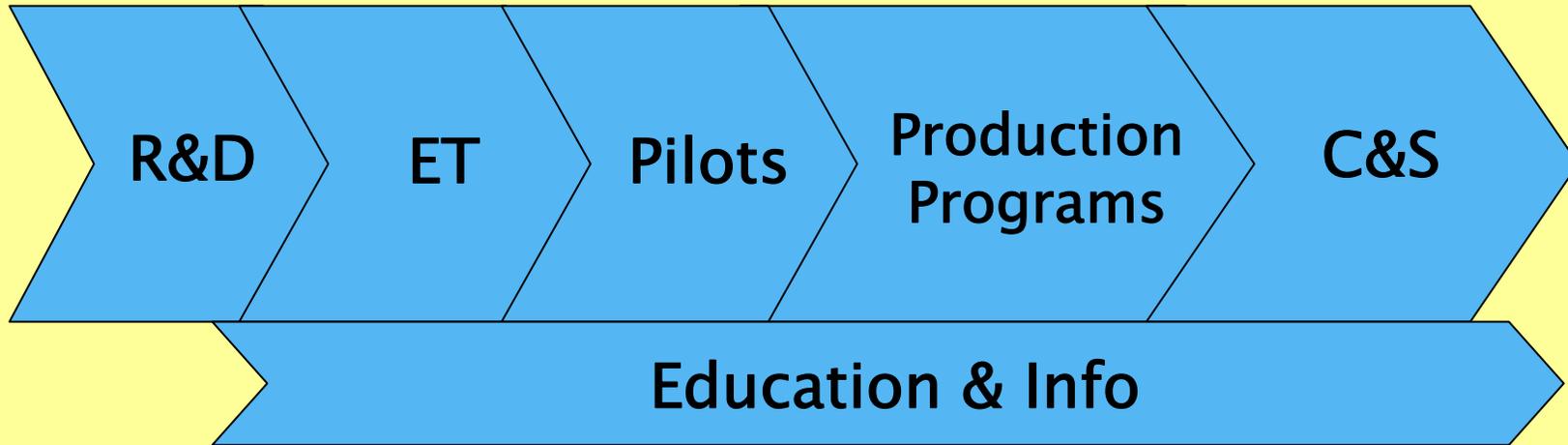
“ID” theory provides a useful model for understanding DSM



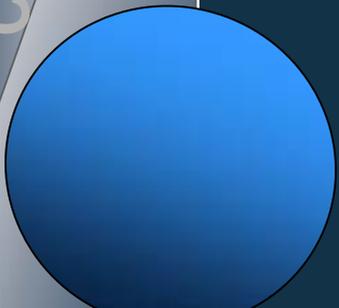
Our first step – linking production programs to Codes & Standards

- ▶ Early efforts – ad hoc IOU interventions in Title 24 proceedings (late 1980s–1990s)
- ▶ New context – the IOU Codes & Standards program (1999 on)
- ▶ Successes in 2001 and 2005 Title 24 cycles
- ▶ Next step – code adoption drives replacement of production program measures

Our goal: total program integration



Catch more flies with honey & vinegar



Why electronic ballasts and T8 lamps took so long

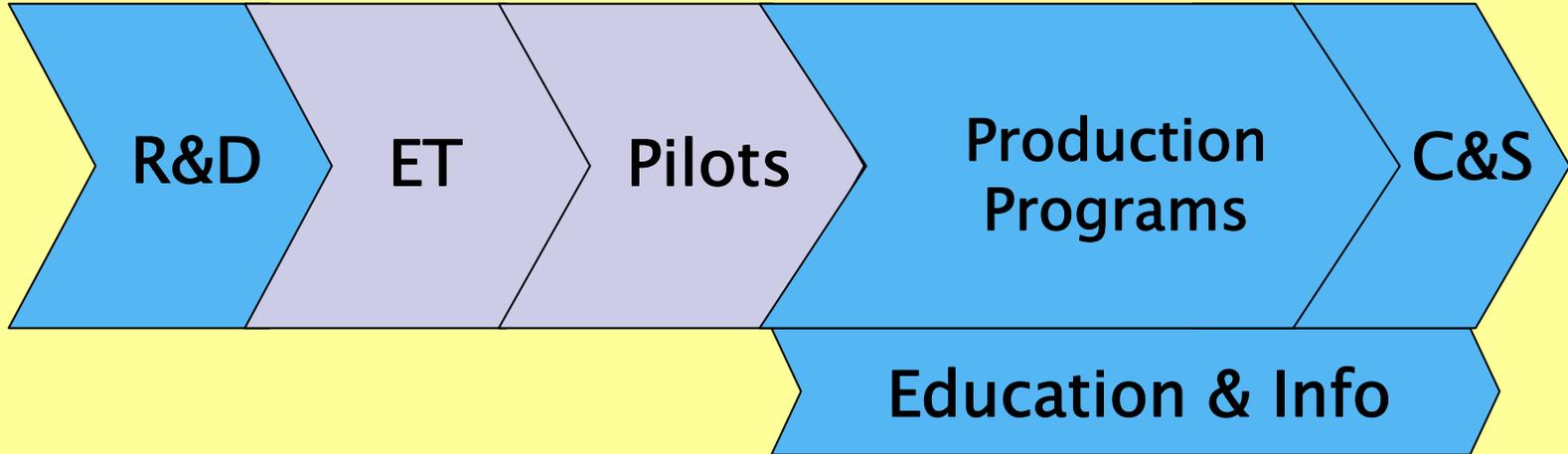
- ▶ T8 & electronic ballast introduction (early 1980s)
- ▶ First IOU production programs
Electronic ballasts develop performance problems (mid-1980s)
- ▶ Reintroduction of electronic ballasts (late 1980s)
- ▶ Design community education and production programs lead to code adoption (1998)

Cool Roofs— the second time around

- ▶ 1983–84: First production program
- ▶ Program/product introduced without industry consensus on definition and performance standards
- ▶ Product performance problems quickly surfaced
- ▶ 1990s: R&D addressed rating methods, product performance and product life
- ▶ ET demonstrations and production programs lead to 2005 code adoption for commercial buildings

Lessons Learned

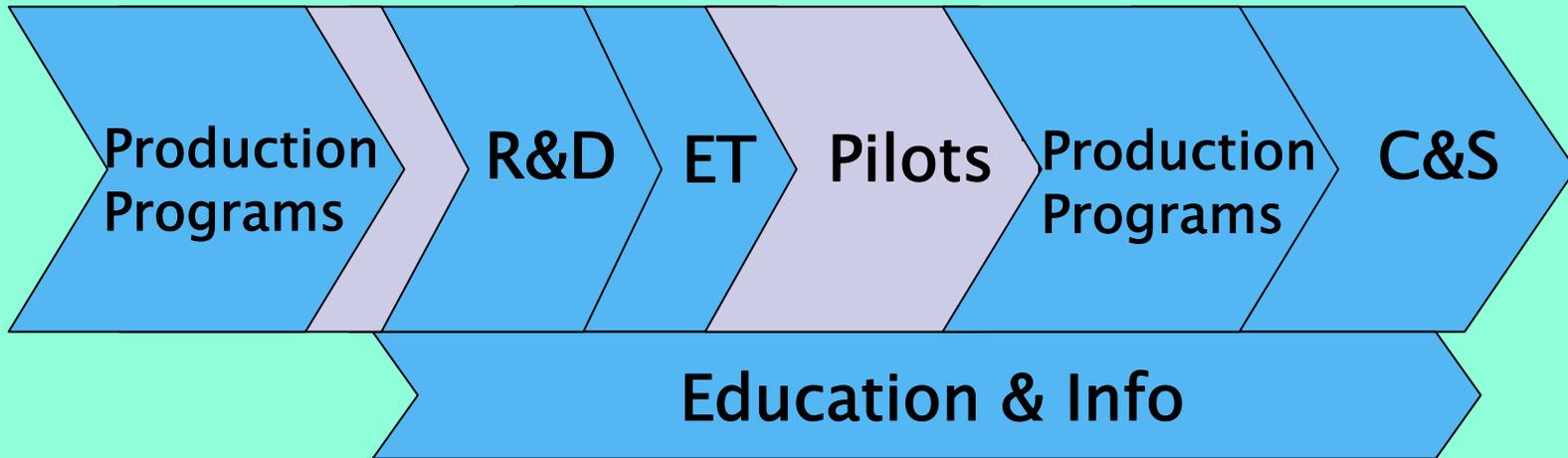
Electronic Ballasts & T8s



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Lessons Learned

Cool Roofs



Steps to Total Integration

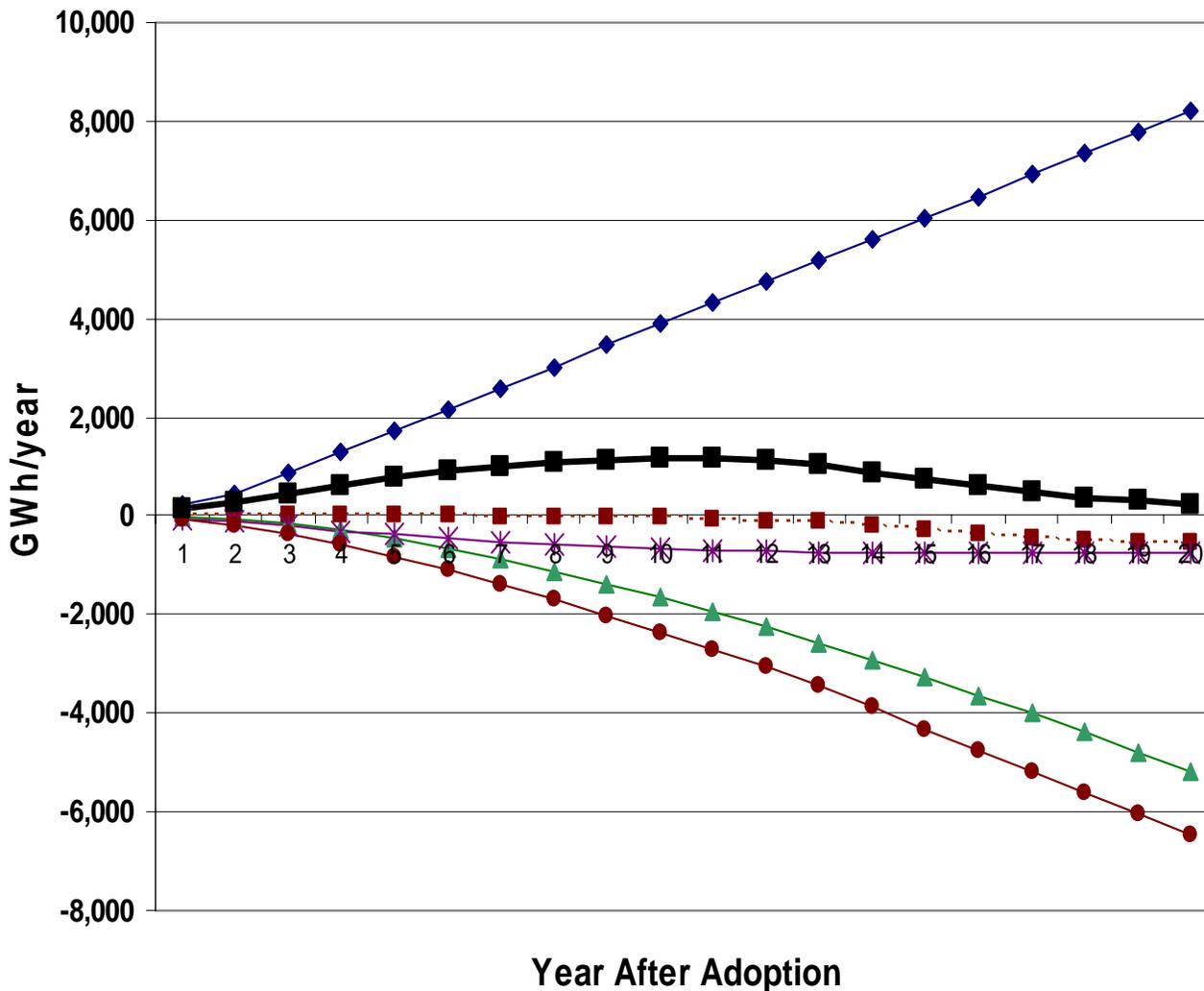
- ▶ R&D should anticipate voluntary program and C&S needs
- ▶ ET and pilots provide crucial validation and smooth transition to production programs
- ▶ Production programs should link to other programs
- ▶ Education and information support all steps of integration
- ▶ C&S should coordinate closely with voluntary programs

Conclusions

- ▶ Innovation diffusion provides a model for DSM market transformation and highlights the need for program integration
- ▶ Integration can reduce market failures, cut costs, and speed adoption
- ▶ Necessary elements for integration are in place
- ▶ Successful program integration will require regulatory recognition and support

The Latest from California

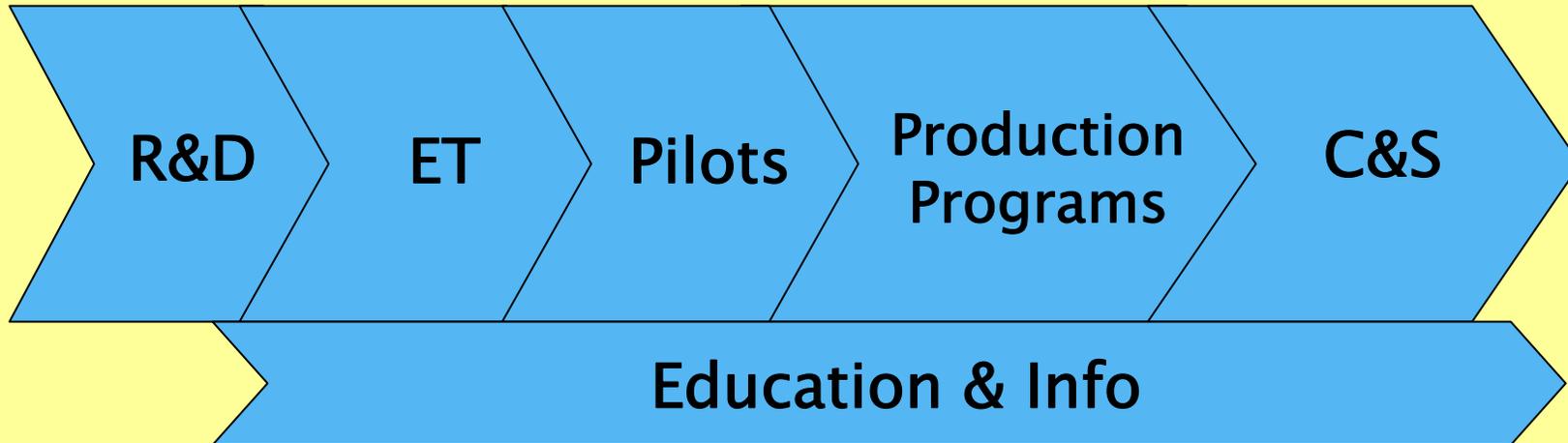
2006/2007 Appliance Standards
Gross and Program Net Energy Savings Estimates



- ◆ Statewide Gross Energy Savings (GWh/yr)
- ▲ Naturally-Occurring Market Adoption
- Normally-Occurring Standards Adoption
- * Non-Compliance Adjustment
- Total Adjustments (subtract from program savings)
- Program Net Energy Savings (GWh/yr)

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Your Questions



*Pacific Gas and
Electric Company*