

# CHP IN NYS: PAST, PRESENT, AND FUTURE CONFERENCE

June 9 - 11, 2008

New York Marriott at the Brooklyn Bridge Hotel



Over 50 NYSERDA-funded CHP projects situated throughout NYS are currently operational. Another 50 are in various stages of design, construction, and commissioning. This conference will highlight lessons learned from this large portfolio.



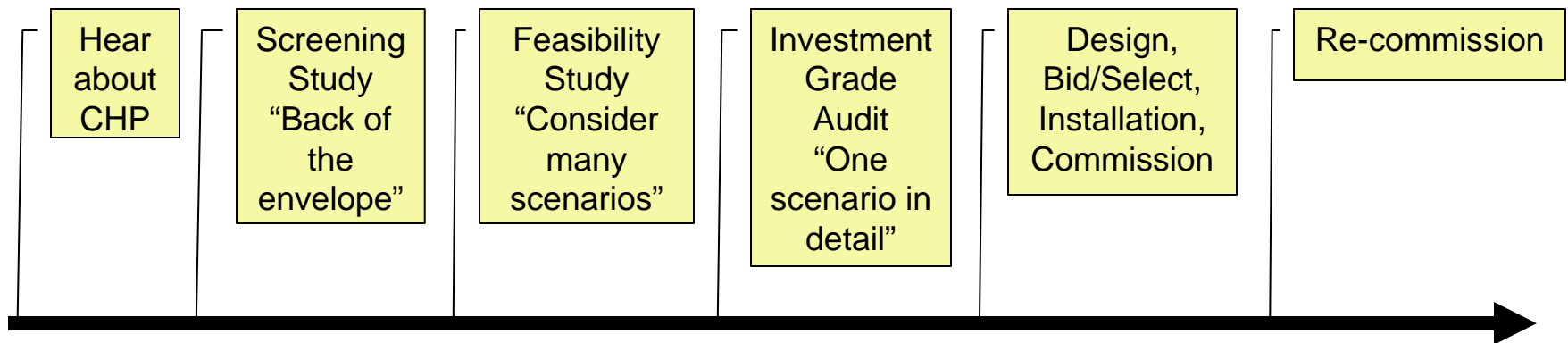
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## Demand (Customer Perspective)

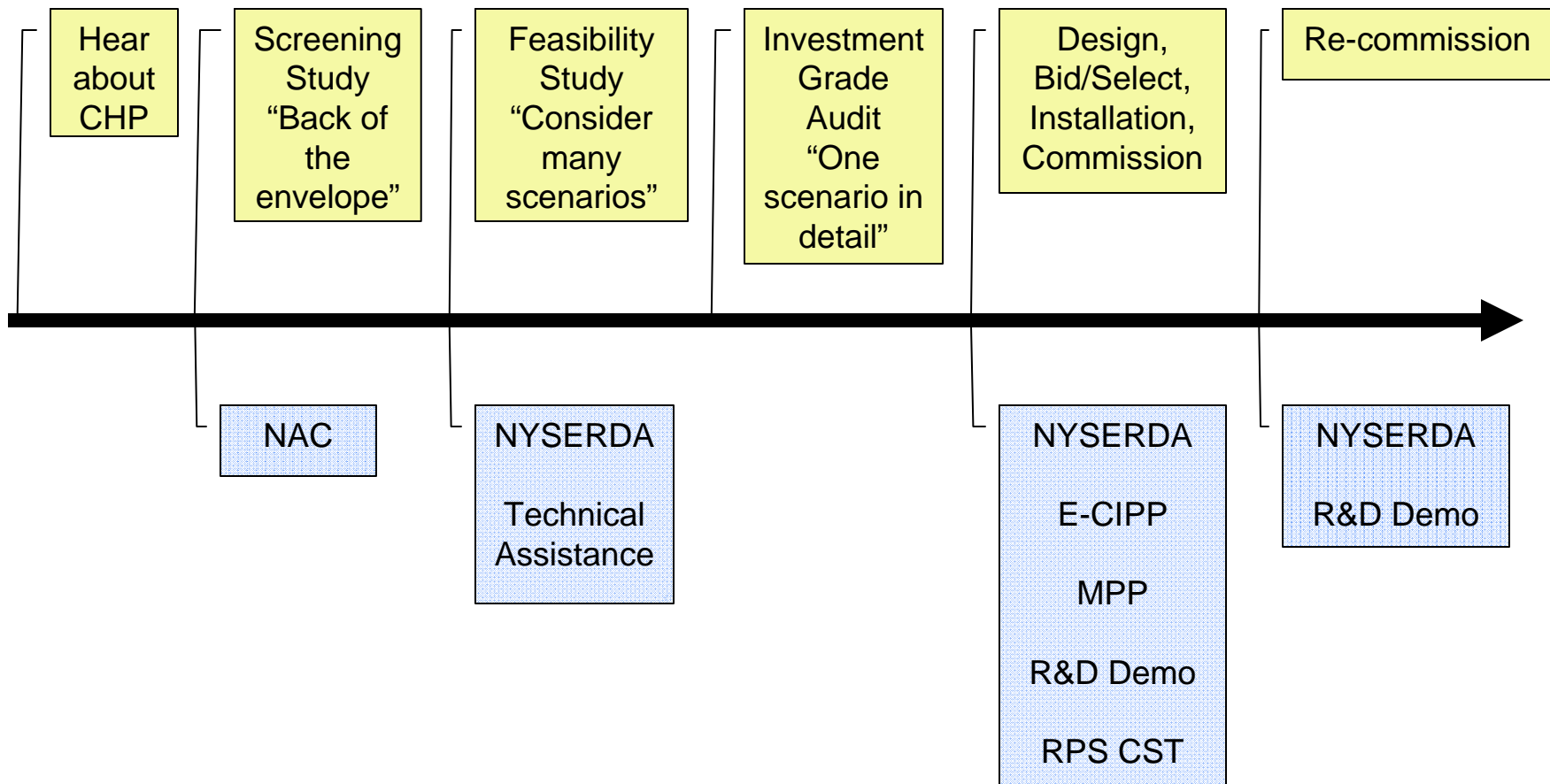
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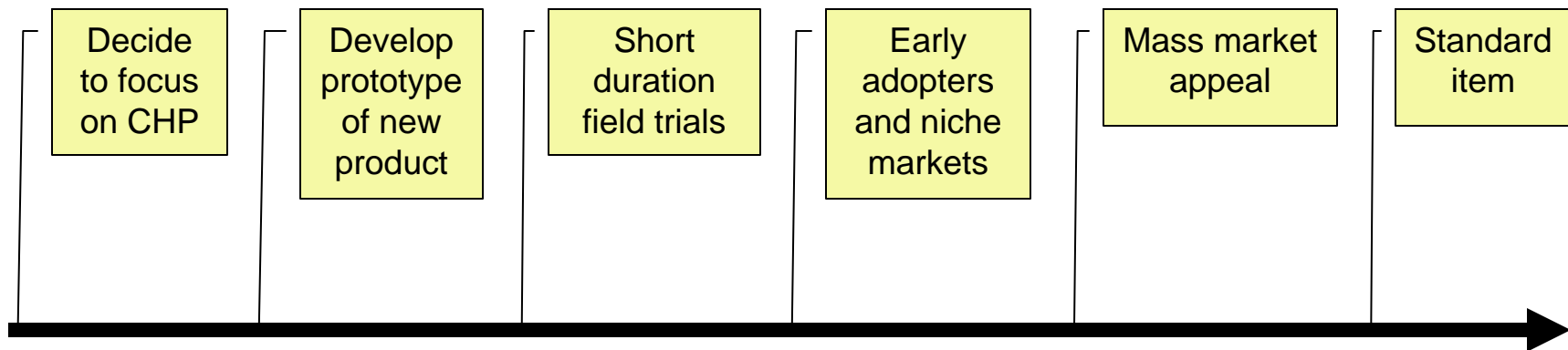
## Demand (Customer Perspective)



# CHP: NYSERDA and Supply & Demand Supply (OEM/Vendor Perspective)

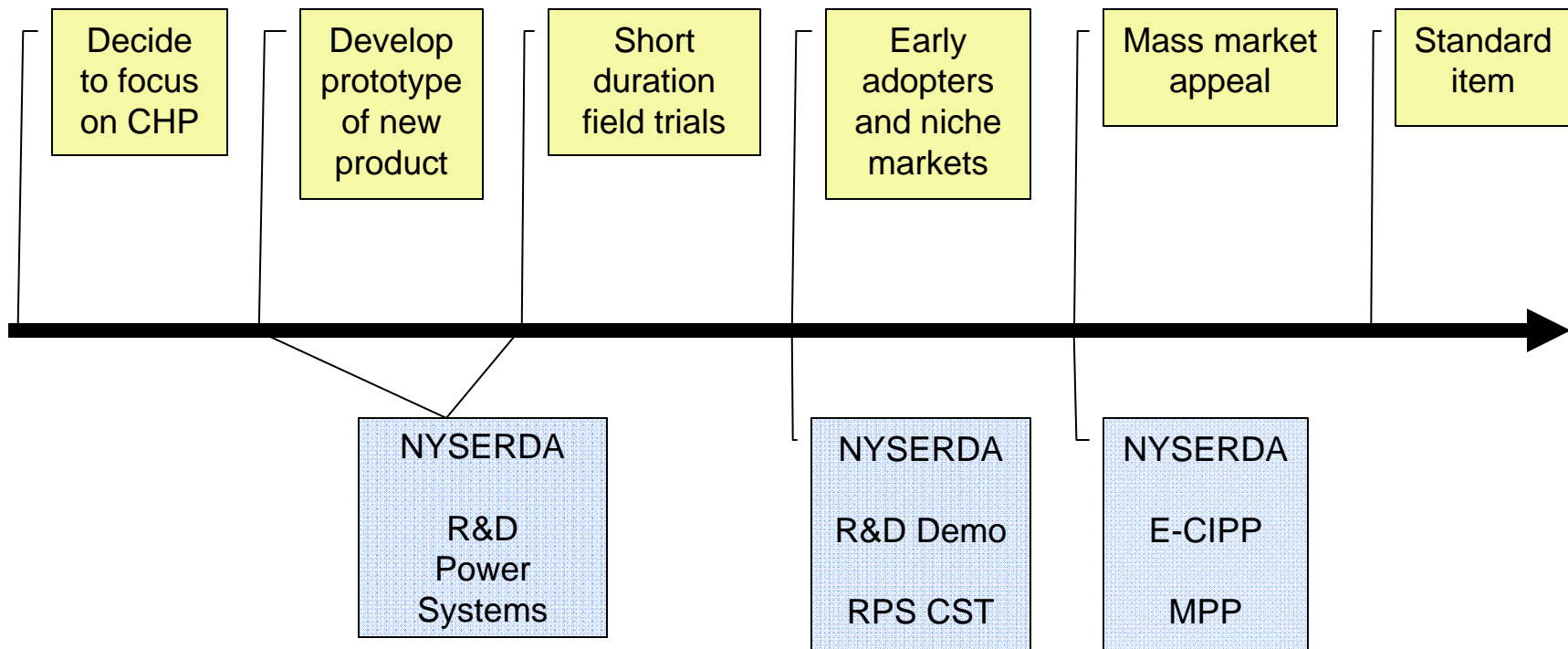
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## Supply (OEM/ Vendor Perspective)



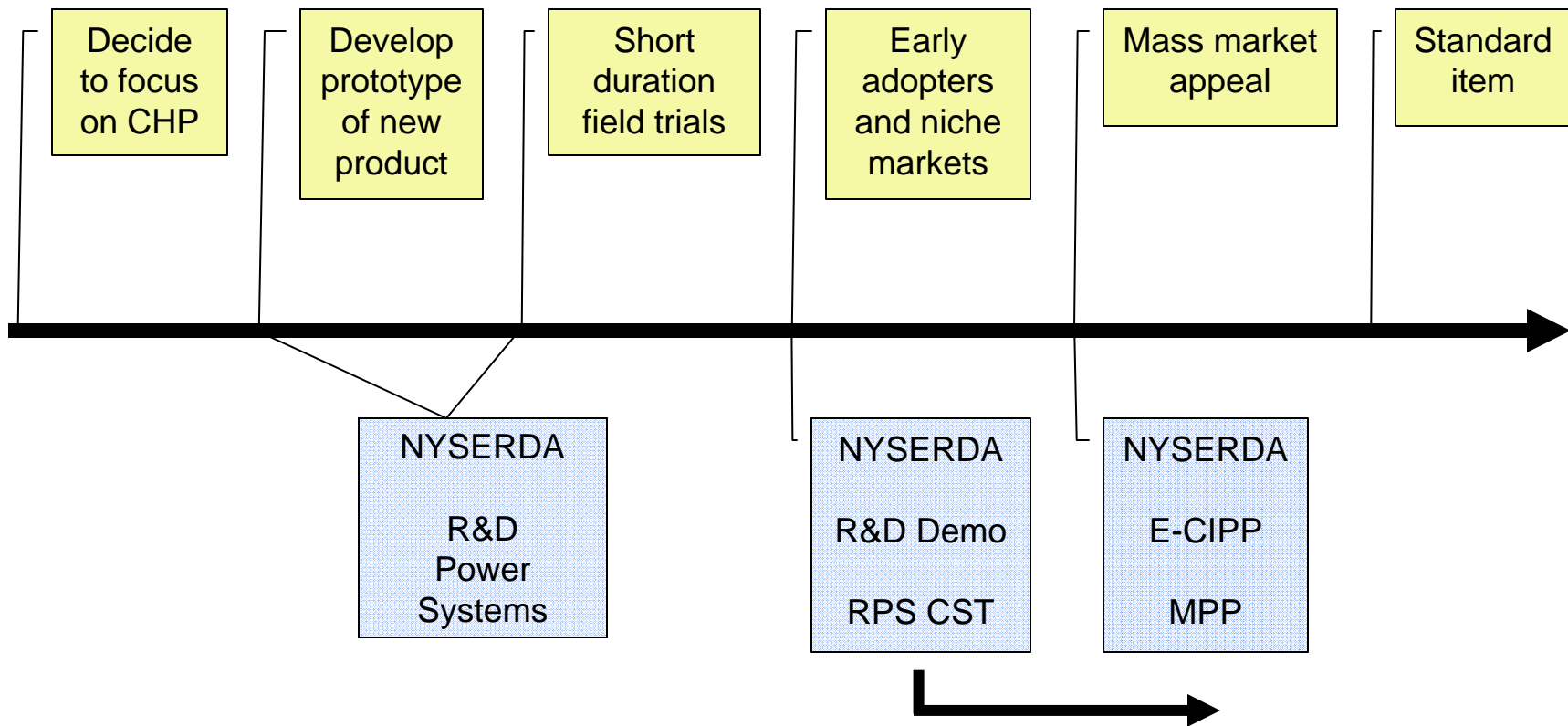
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Accelerate Maturation: "Fleet" Program

# NYSERDA Objectives for CHP

## Demonstration

- Select technologies for in-field experimentation.
- Fill gaps in knowledge.
- Gain higher education.
- Risk-share with pioneer.
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## Deployment

- Accelerate adoption of proven technologies.
- Achieve grid load reduction.
- Achieve energy savings.
- Achieve emission reductions.
- Pay for performance.

# Background: CHP Demo Program

- NYSERDA has had a CHP Demo Program for approximately 8 years.
- About 100 projects, about half of which are operational.
- Most of these were site specific designs.

# “Raising the Bar” for Demos

- Each year seek “new/innovative” projects to demonstrate features which “fill-in the gaps in our portfolio”.
- Currently focusing on the interconnection challenge: CHP system (the “everyday” prime mover) must be capable of grid independent operation during grid outages.

# New: CHP “Fleet” Category

- Accelerate maturation of CHP technology by encouraging the development of standardized, pre-engineered, pre-packaged CHP systems.
- Encourage relationships between CHP system developers and companies that control multiple facilities with similar loads.
- Phase 1 “Prototype” → Phase 2 “Roll-out”

# CHP Performance Programs

- CHP designs which have already been demonstrated and don't have new features to “fill-in the gaps” in our portfolio may still need funding support.
- CHP Performance Programs created to address this need.
- Payment structure is designed to reward measured and verified load reduction.
- Available for Multifamily and C/I Sectors.

# Renewables

- Renewable Portfolio Standard Customer-Sited Tier.
- Anaerobic Digester Gas (ADG) systems.
- Commercially-mature Fuel Cells.
- Payment structure is designed to reward measured and verified electricity production.

# Which Program is Right for Me?

- Which prime-mover technology?
- What fuel?
- How much “technical risk” is involved?
- Timeframe for proceeding: selection via first-come/first-serve rolling admission or periodic competitive review?
- Cash-flow (NYSERDA payments): mostly during construction/commissioning or mostly after years 1 & 2 of performance?

# What About MicroCHP?

- CHP sized for a single-family residence.
- Currently assisting Product Development.
- Starting projects for limited field trials.
- Recognized need for well-orchestrated demonstration of a large number of units clustered on a given grid circuit.  
Discussing funding mechanisms.

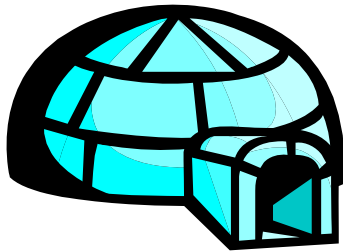
## Modernization of cooling for food preservation

THEN:

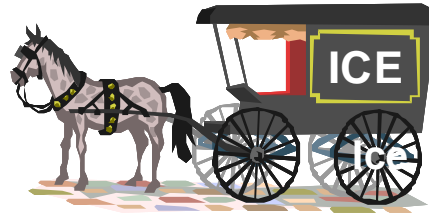
Ice produced at  
remote location

+

transported long  
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+



NOW:

Cooling produced by  
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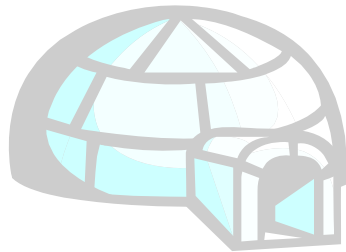
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## Modernization of electricity infrastructure

NOW:

Electricity produced  
at remote location

+

transported long  
distances to your home



+



WHEN:

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by appliance at home

