2003 Market Transformation Symposium

Art vs. Science in Establishing Market Transformation Program Incentives

Presentation by

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Energy Efficiency in New York Today

- Eight-year public benefits program at $932.1 million through a System Benefits Charge (SBC)
  - > NYSERDA's **New York Energy $mart℠** program
    - ~ Began as a three-year program in July 1998 at $234 million
- State Authorities spending $130 million per year
- Statewide total approximately $280 million annually
  - > Three State authorities cooperate and jointly offer programs

Public Benefits Focus

NYSERDA's Statewide **New York Energy $mart^{SM}** …

- Energy efficiency, low-income services, research and development (R&D), and environmental protection
- Key public policy goals with several objectives
  - ~ achieving greater efficiency through market transformation and R&D
  - ~ develop markets for efficiency, load management services and technology, and renewable energy

Public Benefits Funding

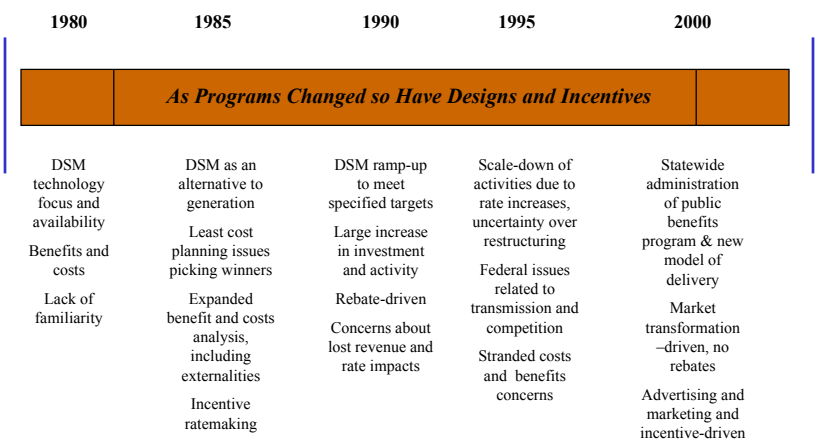
Funding is collected annually from utilities as a separate assessment on utility bills …

- 0.1 to 0.2 cents per KWh or (up to 2 mills), representing between 1 to 2% of customer bills
  - > $1.00 per month for average residential customer
  - > $18.0 per month for a typical commercial customer
  - > $1,400 per month for a typical industrial customer
- SBC funds distributed by area in proportion to utility payment

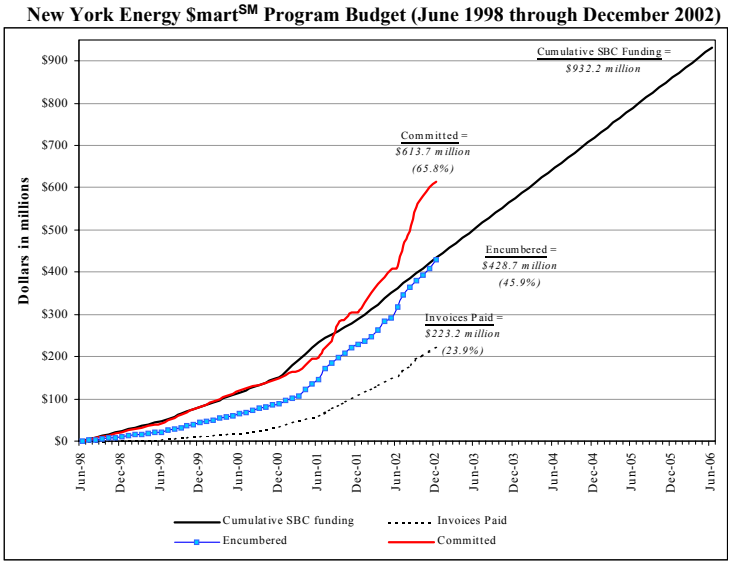
New York Energy $mart[SM] Goals and Objectives

GOALS	Goal 1: Improve system-wide reliability through end-user efficiency actions.	Goal 2: Improve energy efficiency and access to energy options for under-served customers.	Goal 3: Reduce environmental impacts of energy production and use.	Goal 4: Facilitate competition to benefit end-users.
OBJECTIVES	A. Improve customer load management.	A. Improve energy affordability and efficiency of low-income sectors.	A. Build a sustainable market for production and sale of renewable energy.	A. Develop an energy service industry, including a network of energy service providers.
	B. Encourage new options for strategic energy reliability and secure power for critical facilities.	B. Improve energy affordability and efficiency for residential customers.	B. Increase the environmental performance and sustainability of buildings.	B. Improve the viability of distributed power generation and combined heat and power as an economic energy option in New York.
	C. Increase the availability, promotion, and sale of environmentally preferred energy-efficient commercial products and services.	C. Improve energy affordability and efficiency of small business customers.	C. Conduct environmental monitoring and analysis to support informed public policy.	C. Address institutional barriers to competition.
	D. Develop and evaluate the next generation of energy-efficient and strategic energy efficiency technologies.	D. Improve energy affordability and efficiency of municipal and institutional customers.		D. Increase consumer awareness of energy supply issues.
	E. Increase consumer awareness of energy efficiency benefits.			

Some History



New York Energy $mart[SM] Program Budget (June 1998 through December 2002)



Financial Incentives: Art vs. Science

- Critical to setting of incentives is
  - > Determining the type of incentive to offer, the dollar level & duration of the offer, and who to give the incentive to
- There is no one formula for setting incentives
- Experience of staff & input from market participants is important
- Openness to new information and flexibility to modify programs incentives in critical

Information Needs

Before establishing incentives, certain Program information is required

Goals and expectations

Budget and spending rate

Activities and their duration

Characterization of markets and actors

Decision making barriers and opportunities

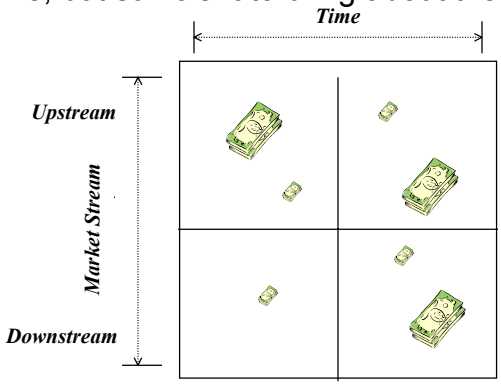
Guiding Principles

Requirements …

- Incentives must be meaningful and noticeable
- Money must be provided to the "right entity" at the "right point" in decision making, for the "right activity"
- $ incentives must …(1) reflect nature of a program *e.g.*, market transformation vs. resource acquisition, (2) be targeted at key decision makers and nodes, and (3) activity-directed *e.g.*, advertising, purchase buy-down, stocking incentive, sales incentive, etc.

Setting Incentives

Incentives can be large, small, one-time or paid-out over time, but sufficient to bring about the desired action(s).



Types of Incentives

Incentives could be based on

- Cost of equipment purchases
- Energy savings or MW reductions
- Training received or provided
- Co-op adds placed or cost of advertising
- Measure or equipment sales or turn-ins
- Amount of renewable energy generated or sold

Setting Incentive Levels

Can be established through **science** as

- A percentage of customer savings
- A percentage of avoided costs
- A percentage of incremental
- Buy-down payback period

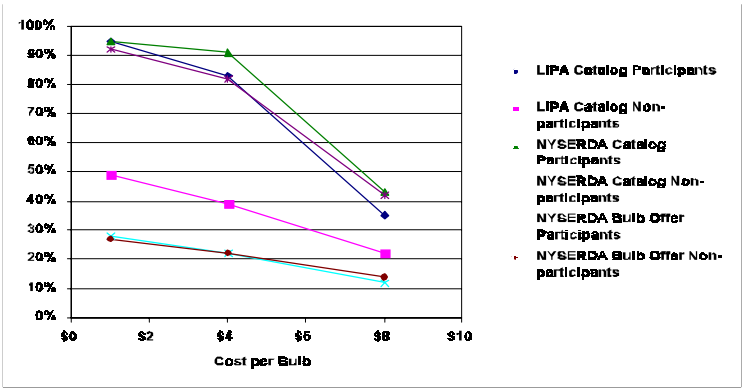
Hybrid approach can also be used

Or through **art** as

- Large enough to generate interest and action or overcome "hassle factor," or willingness to pay

Customer Attitudes and Intentions

Willingness to purchase CFL's at various price points



* *Nexus Market Research*

Illustration No. 1 - Motors

The **Art** of premium efficient motor incentives

- $40.0/motor to participating vendors for the first three program cycles, (deemed sufficient to cover “hassle”)

- Now, offer a incentives schedule differentiated by vendor size (previous years sales) and # of sales

Motor Sales 0 to 20	Motor Sales 21 to 60	Motor Sales > 61
$25 for 1st motor	$25 for 1st – 5th	$25 for 1st – 15th
$50 for 2nd – 4th	$50 for 6th – 15th	$50 for 16th – 30th
$65 for 5th + motor sales	$75 for 16th + motor sales	$80 for 31st + motor sales

* Motor incentives available per quarter.

Illustration No. 2 – Commercial Lighting

The **Art** of small commercial lighting incentives …

- $500 per project to electrical contractors if measures are implemented and lighting quality metrics are met (88 projects completed)

  > With $3,000 available for selected demonstration projects to serve as showcases (7 projects so far)

- Customer incentives available by measure in $mart Equipment Choices program (about 1/3 of projects)

- Additional incentives to mid-stream participants for project design competitions

Illustration No. 3 - New Construction

The **Art** & **Science** of new construction incentives …

- First established as a % of incremental measure cost (50 to 75%) – now considering moving to performance based incentives

- Considered a different market than performance contracting market

  > different decision points and decision makers

  > different barriers

  > many potential “lost opportunities”

Illustration No. 4 – ESCO Program

The **Science** of C/I Performance Contracting program incentives …

- First set at 25 to 50% of life-time avoided cost benefit for efficiency measures

- Up to 90% for end-use renewable measures

After some experience and slower than expected market development, incentives were increased

- Rigorous M&V component, requires higher incentives

- Custom measure eligibility, also requires higher $

Illustration No. 5 – Res. Appliances

The **Art** of residential room air-conditioner program incentives (quick movement and coordination of actors)

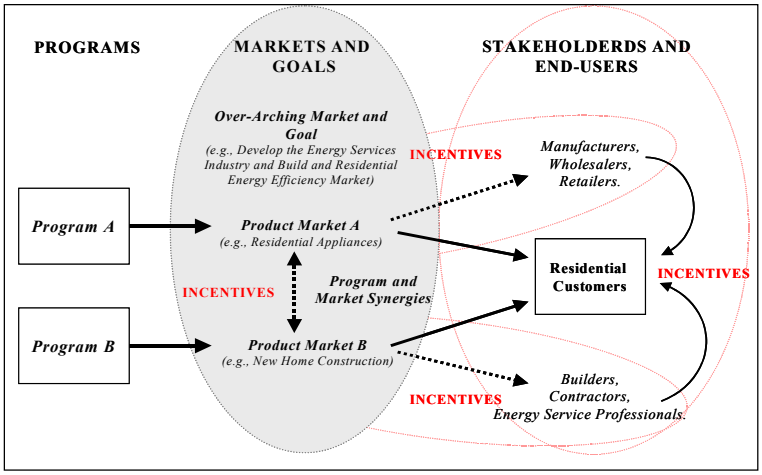
- Set at $75 per older unit turned-in coupled with a new purchase (bounty)
  - > Known to be in excess of incremental cost
  - > Proven significant enough to drive sales, change stocking, and increase energy efficiency "ethic" of manufacturers, retailers, and consumers
- New incentive is $35 (might eventually phase-out)

Illustration No. 6 – Renewables

The **Science** of renewable development program incentives

- Residential systems incentives at 40 to 50% of installed costs, based on focus group research, experience in other states and utility programs
- Nonresidential incentive a bit higher since no State tax credit is available (making res. and non-res. incentives about equal)
- Large-scale wind receives a performance incentive based on KWh generated

Incentives and Evaluation



Synergy and Incentives

- Program synergy occurs naturally and as an result of deliberate action
  - > Deliberate synergies can result from cross-cutting incentives influencing market participants at multiple locations in the market
- Integrated real-time evaluation provides an opportunity to verify the science and select the art of incentives
- Incentives are most effective if they reflect both art and science

Continuing Challenges

- Include:
  - > Allocating resources efficiently and effectively
  - > Reaping synergies among program offerings
  - > Understanding changing markets & needs and adapting as markets develop & behaviors change
  - > Reducing regulatory barriers
  - > Quantifying intangible and co-benefits
  - > Knowing when to claim victory (transition out)