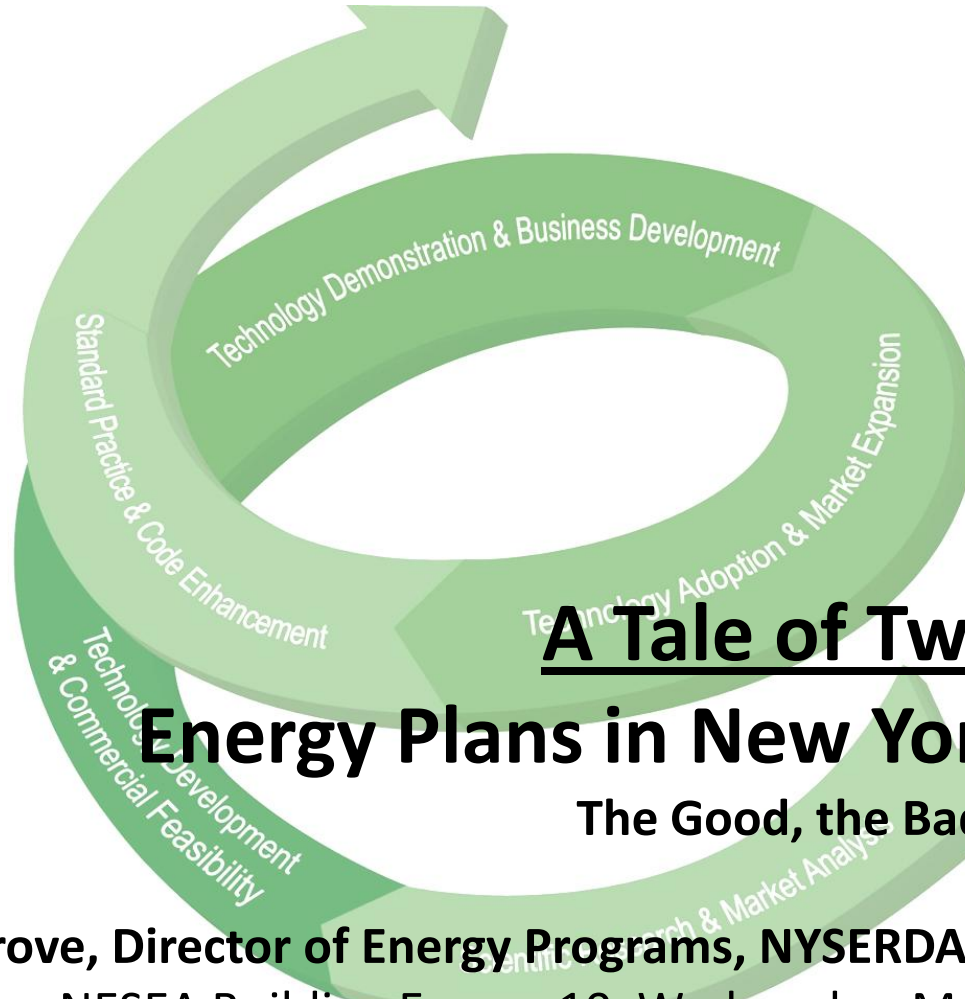




New York State
Energy Research and
Development Authority



A Tale of Two States

Energy Plans in New York State:

The Good, the Bad, the Reality

Michael Colgrove, Director of Energy Programs, NYSERDA – NYC Office

NESEA Building Energy 10, Wednesday, March 10, 2010

11:00am-12:30pm

What is NYSERDA?

New York State Energy Research and Development Authority

- Public benefit corporation
- Established by the New York State Legislature in 1975

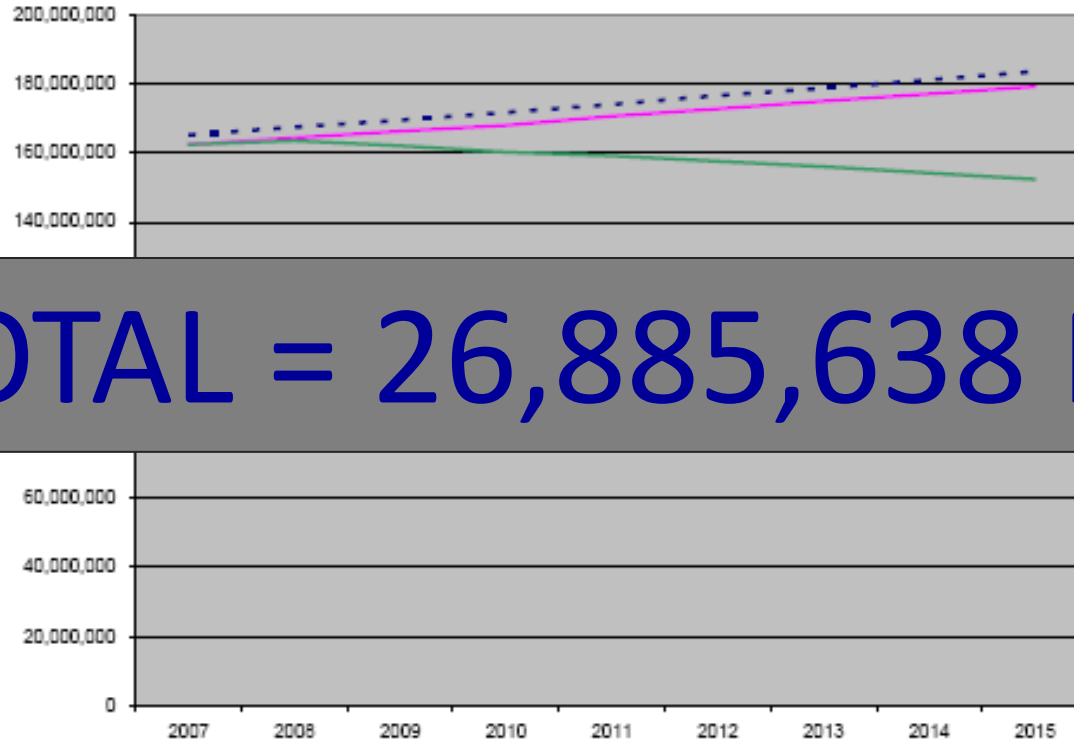
Mission

Use innovation and technology to solve some of New York's most difficult energy and environmental problems in ways that improve the State's economy.

The Goals

BASELINE Forecast and 15x15 Goal

2007 Forecast Sendout (MWhs)



TOTAL = 26,885,638 MWh

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
NYISO	165,214,000	167,440,000	169,470,000	171,744,000	174,032,000	176,815,000	178,759,000	181,126,000	183,544,000
Baseline	162,433,219	164,402,854	166,343,040	168,013,530	170,641,997	172,742,491	175,028,192	177,074,908	179,237,566
15x15 Results	162,433,219	163,552,495	162,041,065	160,192,211	159,167,794	157,553,065	156,016,509	154,177,290	152,351,948

The Goals

	<u>Combined IOUs Wedges – SALES Terms (MWhs)</u>									
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	
NYSDEC	46,934	96,828	152,663	209,647	268,368	327,854	389,080	451,127	514,498	
DHCR	8,327	25,347	33,657	41,939	50,170	53,644	66,125	73,888	81,538	
SBC III	401,000	738,500	1,076,000	1,413,500	1,751,000	2,188,250	2,625,500	3,062,750	3,499,995	
Utility	58,471	113,471	119,471	119,471	119,471	119,471	119,471	119,471	119,471	
Standards	0	180,262	501,291	551,276	719,977	1,405,491	2,330,667	3,168,417	3,291,390	
Codes	0	0	76,757	71,569	295,268	689,517	966,034	1,235,062	1,474,712	
T&D	0	0	0	0	0	0	191,167	382,572	577,361	
Generation	0	0	0	0	0	0	406,415	812,835	1,218,904	
NYSERDA	0	0	416,386	1,410,237	2,278,532	2,781,386	2,948,882	3,194,826	3,843,548	
UTILITY	0	0	364,338	1,233,957	1,993,715	2,433,713	2,580,272	2,795,472	3,363,104	
TIP	0	0	52,048	176,280	284,816	347,673	368,610	399,353	480,443	

The Money

Systems Benefit Charge (SBC)

Public benefits fund to support energy efficiency adoption, research and development, and energy burden and environmental justice issues.

SBC I (1998-2001) = \$234.3M total

SBC II (2001-2005) = \$750M total

SBC III (2006-2011) = \$875M total

Energy Efficiency Portfolio Standard (EEPS)

TOTAL = \$4,242,100,000

RGGI = \$502M

Energy Efficiency Portfolio Standard (EEPS)

Provides funding to achieve the State's goal of reducing its electricity usage by 15% by 2015.

EEPS (2009-2011) = \$950.8M awarded thus far

Emissions Allowance Trading Programs

RGGI (collections to date plus projected revenue thru 3/2012) = \$446M

CAIR (for all allowance vintages thru 2011) = \$24M

The Implementation

NYSERDA

SBC, research and development, mid-stream participation, marketing, resource acquisition, market impacts, low-income, workforce development, training and certification

NYS Division of Housing & Community Renewal (DHCR)

Weatherization Assistance Program

Utilities

Resource acquisition (direct install), rebates

Codes & Standards

Code updates and improvements, enforcement, code official training

NYS Department of Environmental Conservation (DEC)

Regional Greenhouse Gas Initiative – cap-and-trade

The Problems

Consider Current Public Policy Goals



15% by 2015



20% by 2020



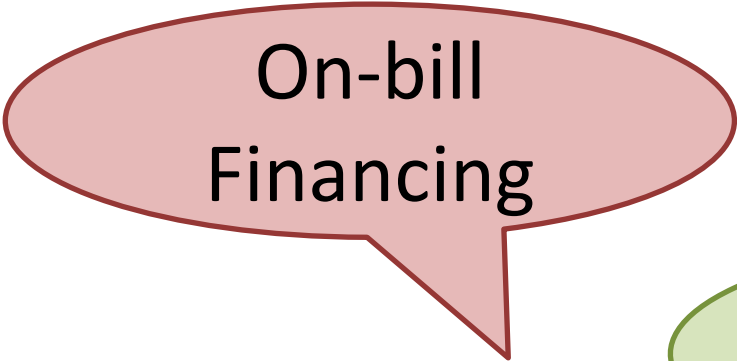
30% by 2030

The Problems

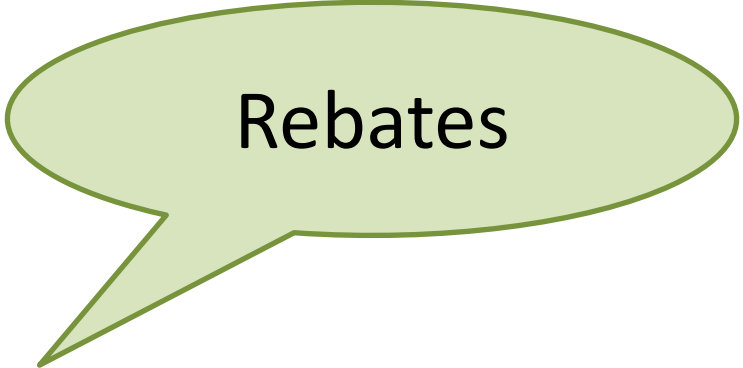
Consider the Focus of Current Programs



PACE



On-bill
Financing



Rebates

The Problems

Back-of-the-Envelope

Number of households in NYS: 7,300,000

Cost of a new ENERGY STAR refrigerator: \$400

Annual energy savings per refrigerator: 700 kWh

To replace every refrigerator in NYS (assuming 1 refrigerator per household) =
\$2,920,000,000

Which would save...5,110,000 MWh annually

Therefore, it would take 68.8% of all NYS funding to save 19.0% of New York's
15x15 goals.

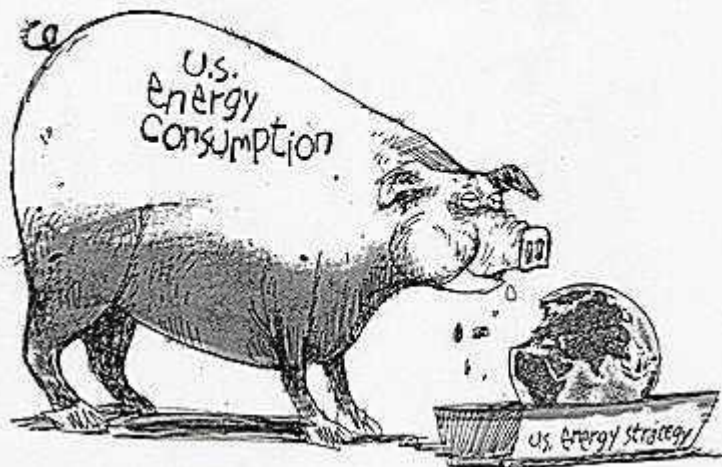
Back to Basics

How exactly do people use too much energy?

- (1) They use energy when they don't need to, i.e. keeping the lights on when they leave a room.
- (2) They use energy to provide services they used to do without energy, i.e. electric can openers.

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- (3) They use equipment that uses energy inefficiently, i.e. incandescent vs. fluorescent lighting.
- (4) They use energy to provide new services as technologies advance, i.e. plasma TVs.

Back to Basics

So is a focus on financing or first-cost going to solve these problems?

Maybe for (3), but not likely for the rest. And we've already seen that we can't achieve mass energy efficiency reductions by addressing only that problem.

So what do we have to do? If money isn't the complete reason why people don't adopt energy efficiency practices, what is?



Other Barriers

I would propose at least three other barriers than first cost:

- (1) The current pricing signal and structure are inadequate to more highly value energy efficiency.
- (2) The consequences of our energy usage are too diffuse and long-term to truly register as critical.
- (3) There is no social motivator that encourages (or shames) us to use energy more efficiently.

Pricing Structure

The current pricing signal and structure are inadequate to more highly value energy efficiency.

- Pricing signal is a “blunt instrument”¹
- Ontario’s Woodstock Hydro’s pilot explored pre-payment options using in-home displays and smart cards: resulted in 6.5% average savings over 2.5 years¹
- Pre-payment combined with TOU would create a situation where we pay for energy the way we buy gas or food
- Food stamp model for low-income

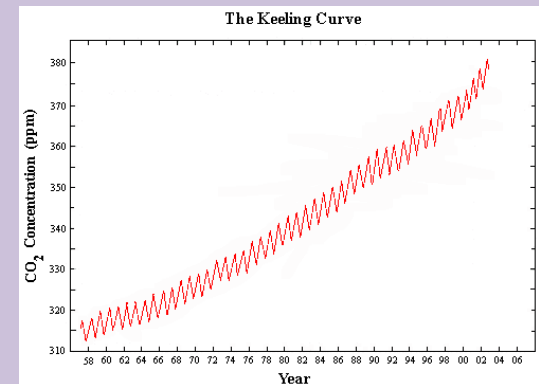


¹“Smart Metering and Smarter Metering”, Stoneleigh June 22, 2006, <http://canada.theoil Drum.com/node/2694> & “Residential Demand Response Technologies: A Consumer’s Guide”, Mark C. Martinez June 26, 2006, <http://drcc.lbl.gov/pubs/drtown-auto-martinez.pdf>

Consequences

The consequences of our energy usage are too diffuse and long-term to truly register as critical.

- “There is medium confidence that at least partial deglaciation...would occur over...centuries to millennia for a global average temperature increase of 1-4°C...causing a contribution to sea-level rise of 4-6 m or more.”²
- Consider how difficult it is for people to lose weight or quit smoking, which also have future, uncertain impacts



²IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 7-22.

Consequences

To make matters worse...

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December 11, 2008

Posted by Marc Morano – 9:30 AM EST - Marc_Morano@EPW.Senate.GOV

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“James Inhofe, Senate’s top skeptic, explains his climate-hoax theory,” Amanda Little, February 25, 2010, <http://www.grist.org/article/2010-02-25-james-inohofe-senate-top-skeptic-explains-climate-hoax-theory>



Photo: Andy Revkin

Consequences



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Consequences



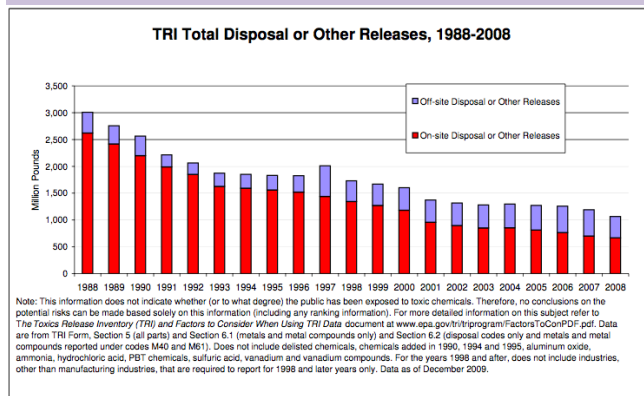
Consequences



Social Pressure

There is no social motivator that encourages (or shames) us to use energy more efficiently.

- Mandatory Reporting of Greenhouse Gases Rule: will it have effects similar to the Toxic Reporting Inventory?³
- Benchmarking requirements in California and New York City: can energy use become a purchasing factor?



- Utility usage comparison reports and competition pilots: can “keeping up with the Joneses” save energy?

³“Could transparency make up for a lack of a carbon cap?” Jonathan Hiskes, February 15, 2010, <http://www.grist.org/article/2010-02-16-could-transparency-make-up-for-a-lack-of-a-carbon-cap>

Market Transformation

“Market transformation combines individual policy and program initiatives into a coherent strategy for rapidly moving up the diffusion curve and increasing the ultimate market penetration of energy efficiency measures.”⁴

“Market transformation is the strategic process of intervening in a market to create lasting change in the market behavior by removing identified barriers or exploiting opportunities to accelerate the adoption of all cost-effective energy efficiency as a matter of standard practice.”⁵

“Market transformation is a reduction in market barriers resulting from a market intervention, as evidenced by a set of market effects, that is likely to last after the intervention has been withdrawn, reduced, or changed.”⁶

⁴Market Transformation Strategies to Promote End-Use Efficiency, Howard Geller and Steven Nadel, 1994, www.aceee.org/pubs/e941.htm

⁵NEEA's Definition of Market Transformation, www.nwalliance.org/participate/docs/NEEAMTDefinition2008.pdf

⁶Market Effects and Market Transformation: Their Role in Energy Efficiency Program Design and Evaluation, Mitchell Rosenberg and Lynn Hoefgren, California Institute for Energy and Environment, March 2009, http://uc-ciee.org/energyeff/documents/mrkt_effts_wp.pdf

Market Transformation

Characteristics of a Market Transformation Program⁷

A Careful Analysis of the Overall Market

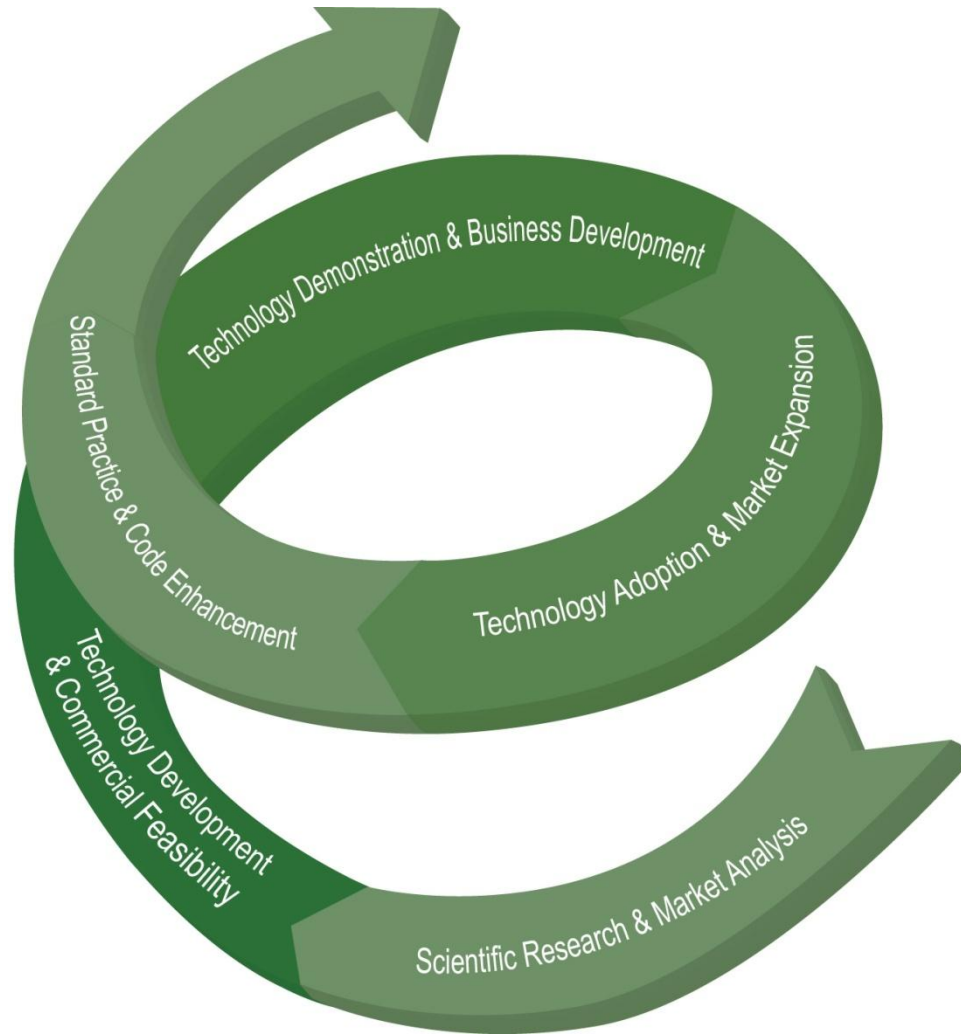
A Clear Statement of the Overall Goal of the Initiative

The Development of a Set of Coordinated Activities to
the Achieve the Goal

Successful Implementation of the Individual Activities

Development and Execution of an “Exit Strategy”

Clean Energy Continuum



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