2010-2012 Energy Efficiency Plans: Consultant Analysis of Performance Incentive Mechanism

Council Consultants

MA EE Advisory Council Meeting
September 8, 2009 (revised)

Outline

- Background and introduction (update)
- Statutory and regulatory guidance
- MA performance incentives in prior years
- *Level* of the incentive, interaction with savings goals and benefits, initial analysis
- Incentive *mechanism* recommendations
- Informed by discussions with PAs
- Consultant recommendations
- Next steps and schedule

Consultant Observations and Initial Recommendations

- Performance incentives can be very effective in supporting achievement of goals and objectives
- Such incentives have been effective in MA
- Perf. incentives are an extremely important part of Plans; design, level, and balance are crucial
- Perf. incentives should focus on key objectives:
  - Higher savings, more benefits for MA
  - Cost-effectiveness and using ratepayer $ well
  - Deeper savings (first), reaching broader, & others

Where we are in the process

- Initial presentations to the Council in April
- Some discussions recently with individual Councilors and representatives of the PAs (still reaching out to Councilors)
- Initial Consultant analysis & recommendations (slides posted), Council discussion on August 25
- Further Council discussions on Sept. 8 and 30
- Strong linkage and relationship to savings goals, benefit/cost results, and other key objectives

Statutory and Regulatory Guidance

The Green Communities Act, in its directives on the three year statewide plans, states in Section 21 (b)(2):
"A plan shall include…(v) a proposed mechanism which provides performance incentives to the companies based on their success in meeting or exceeding the goals in the plan;…"

Statutory and Regulatory Guidance

The DPU, in its order in DPU 08-50-A, states:

In reviewing the performance incentive mechanism included in an energy efficiency plan, the Department will rely on the following principles:

- Performance incentive mechanisms should be designed to encourage distribution companies to pursue all available cost-effective energy efficiency.
- The amount of funds available for performance incentive mechanisms should be kept as low as possible, in consideration of the other principles adopted herein, in order to minimize the costs to electricity and gas customers.
- Performance incentive mechanisms should be designed in such a way as to encourage energy efficiency program designs that will best achieve the Commonwealth's energy goals, particularly with regard to the goals stated in the Green Communities Act.
- Performance incentives should be based on clearly-defined goals and activities that can be sufficiently monitored, quantified and verified after the fact.
- Performance incentives should be available only for activities where the distribution company plays a distinct and clear role in bringing about the desired outcome.
- Performance incentive mechanisms should be as consistent as possible across all electric and gas distribution companies. Any deviations across distribution companies should be clearly justified.
- Performance incentive mechanisms should be created in such a way to avoid any perverse incentives.
- Any modifications to a previously approved performance incentive mechanism should be fully justified at the time they are proposed to the Department.

The Key Pieces

Distinguish between:

- *Level* of incentive
- Incentive *mechanism*

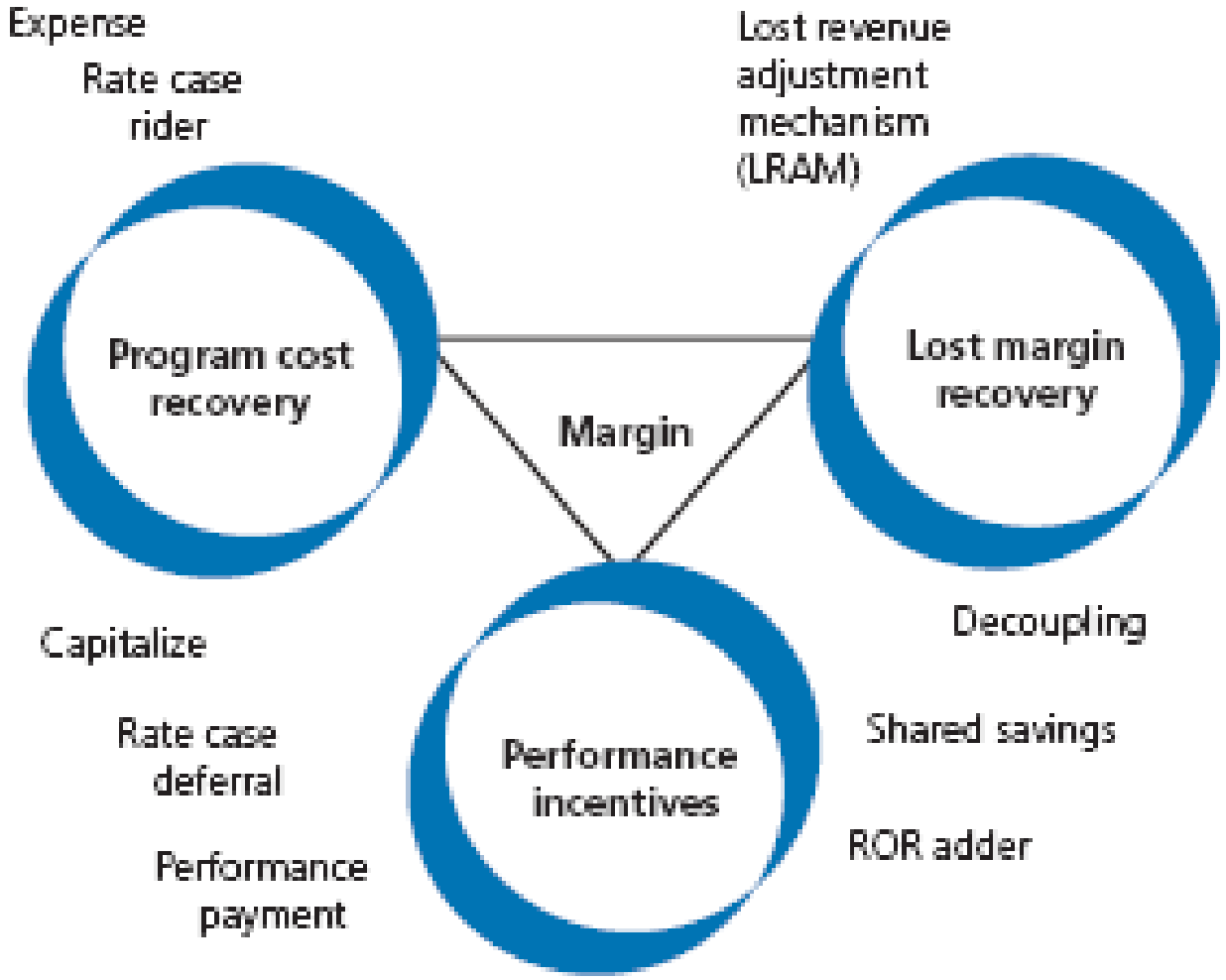
Today, we will be making some recommendations about the *mechanism* and providing some analysis on the *level* (but not making a recommendation on the level)

Terminology

- Incentives – amount of money, pre-tax (the amount in the Plan budgets)
- Earnings – amount of PA earnings, after-tax (utility tax rate = ~40%)

  Recommendation: focus the majority of the discussion regarding the level of performance incentive on the *incentive* amount (the pre-tax amount contained in the budgets), not the utility *earnings* (after-tax amount)

Many Related Considerations



The MA Electric PA Mechanism, 2005-2009

Incentives	=	Basis		Incentive Rate (Earnings Rate)		Performance Range
		EE Spending in Year	x	~8% pre-tax (5% after-tax)	x	% Achieved in Relation to Goal (75%-110%)

Three Measures to Earn Incentives

Savings Incentive	Value Incentive	Performance Metrics
Goal: Maximize savings	Goal: Maximize net benefits (benefits – costs)	Goal: Establish PA focus on specified program outcomes or plan development
Rewards PA for acquiring additional lifetime energy and demand savings (kWh and kW) and project associated non-electric benefits	Rewards PA for seeking additional cost effective savings (kWh and kW) and non-electric benefits	Enables the PAs and stakeholders to highlight elements of the EE Plan which might not receive the attention they merit in the hierarchy of carrying out the Plan

Structure and key content adopted from PA slides

The Electric PA Mechanism, 2005-2009

An example – NGrid 2009 EE Plan (in after-tax $)

TABLE 1
Available Performance Incentive Dollars

1.	Budgeted Energy Efficiency Expenses		$76,991,528	
2.	Performance Incentive Rate (%)		5.00%	
		Threshold	Design	Exemplary
3.	Incentive Range	75%	100%	110%
4.	Potential Available After-Tax Incentive	$2,887,182	$3,849,576	$4,234,534

Available After-Tax Incentive by Component:	Threshold	Design	Exemplary
5. Component 1: Savings Mechanism	$1,227,199	$1,636,265	$1,799,891
6. Component 2: Value Mechanism	$890,458	$1,187,278	$1,306,005
7. Component 3: Performance Metrics	$769,526	$1,026,034	$1,128,637
8. Grand Total Available Incentive	$2,887,182	$3,849,576	$4,234,534

Calculation of Available After-Tax Incentive by Component		Weights for Incentive Components		
	Budget	Savings	Value	Perf. Metrics
9. Residential	$25,864,399	45%	35%	20%
10. Low Income	$12,805,938	30%	10%	60%
11. Commercial and Industrial	$38,321,192	45%	35%	20%
12. Total	$76,991,528			

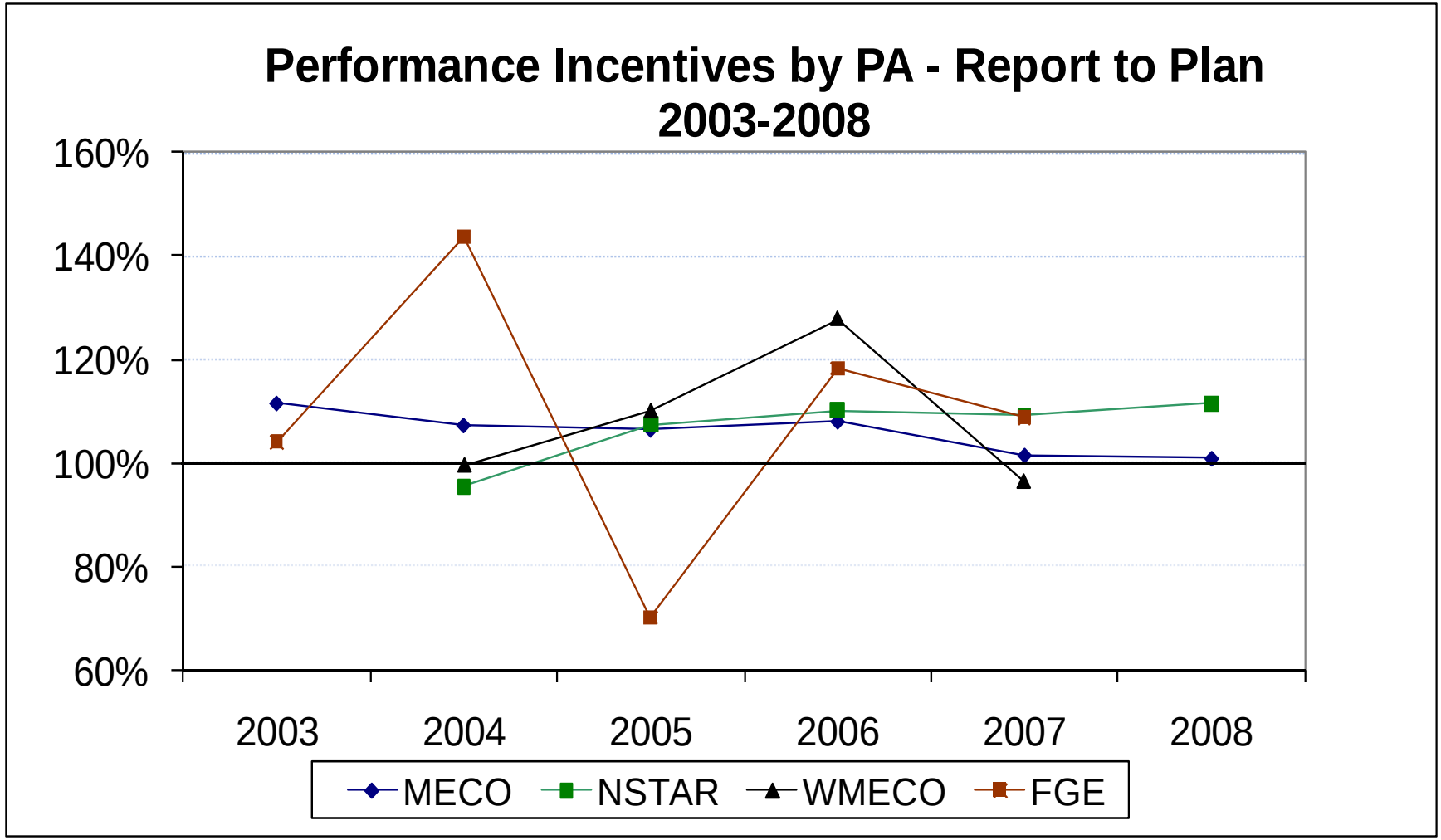
PA Performance Incentive Levels

Administrator	2005 Plan	2005 Report	2006 Plan	2006 Report	2007 Plan	2007 Report	2008 Plan	2009 Plan
NGrid/MECo	2,479,842	2,641,361	2,632,440	2,844,536	2,713,278	2,757,439	2,650,171	3,849,576
NSTAR Electric	2,414,108	2,596,194	2,412,714	2,659,477	2,273,531	2,485,347	2,353,487	3,228,966
WMECo	492,150	541,318	467,030	596,610	373,028	359,738	426,656	389,895
FG&E Electric	86,806	-	47,286	55,957	49,982	54,396	51,503	52,023
Total After-Tax	5,472,906	5,778,873	5,559,470	6,156,580	5,409,819	5,656,920	5,481,817	7,520,461
Total Pre-Tax	8,756,649	9,246,197	8,895,151	9,850,528	8,655,710	9,051,072	8,770,907	12,032,737
Source: "MA PA Pivot and KPI Data 2003-2005 10-6-06" and "MA PA Pivot and KPI Data 2005-2009 3-14-09" in EEAC-PI folder								

Analysis based on *after-tax earnings* reported in KPI and pivot table data.

See the last row in the table for the *pre-tax incentive* levels.

PAs Actual Incentives Are Higher Than Planned Levels



Incentive Level and Incentive Mechanisms for the Three Year Plan

Incentive Level

- Generally compared as % of program cost
- MA recent past design, about 8% (pre-tax)
- PA proposal in Plans: 8% (pre-tax)

  2010-12 Electric: pre-tax = $78 million

  (after-tax = $47.4 million)

  2010-12 Gas: pre-tax = $18.5 million

  (after-tax = $11.8 million)

- Nationally, incentive levels range from 1-2% (management fees) to over 15% of prog. cost

Incentive Level – Other Issues

- Impact of performance range: performance at 130% of goal means an 8% design incentive rate = incentives at 10.4% of program costs
- The policy environment has changed
- Legislation: statutory requirement
- Decoupling ($?) and lost base revenues (~$40M PA-proposed in 2010-12): how do these impact the incentive level?
- Interaction of incentive level and saving goals: relationship between goals (benefits) and level

Incentive Level and Savings Goals

- *Conceptually*: to encourage higher savings goals, consider higher incentives if the PAs commit to higher goals. (Depends on how important the *goals* in the Plans are to you vs. the actual achievements) (See 8/25 slides)
- *Alternatively* (as presented later herein), to encourage the *achievement* of higher savings, set targets for each year and offer higher incentives for exceeding the targets (which may also encourage a PA to set higher goals)

Incentive Amount Should NOT be Based on % of Program Costs

- Currently, the total incentive amount is based on the planned program costs and the actual program expenditures
- Going forward, determine the total incentive amount, *not* based on % of costs, but rather based on the value of the total performance and the role of the performance incentive
- Total incentive amount = $ X

* National comparisons will still use % of program cost as a metric for comparative analysis, but program costs should not be used in MA to determine the amount of the incentive

Performance Incentive *Mechanism*: Council Consultant Analysis and Recommendations

Nine Consultant Recommendations
One PA-Proposed Issue

1. Build on the Current Approach

- Build upon the current electric performance incentive mechanism with its three components: savings (benefits), value (net benefits), and performance metrics
- Three components focus on key objectives:
  - Higher savings, more benefits for MA
  - Cost-effectiveness and using ratepayer $ well
  - Others: deeper savings (first), reaching broader, etc
- Retain the performance metric component for other objectives, deeper savings, broader reach

2. Scale the Incentive

- Scale the incentive to encourage higher savings; higher incentives (higher on scale) for higher savings, lower $ for lower savings
- Vary the performance incentive across the performance range:

  Higher = 120% X+Y% incentive

  Target = 100% X% incentive

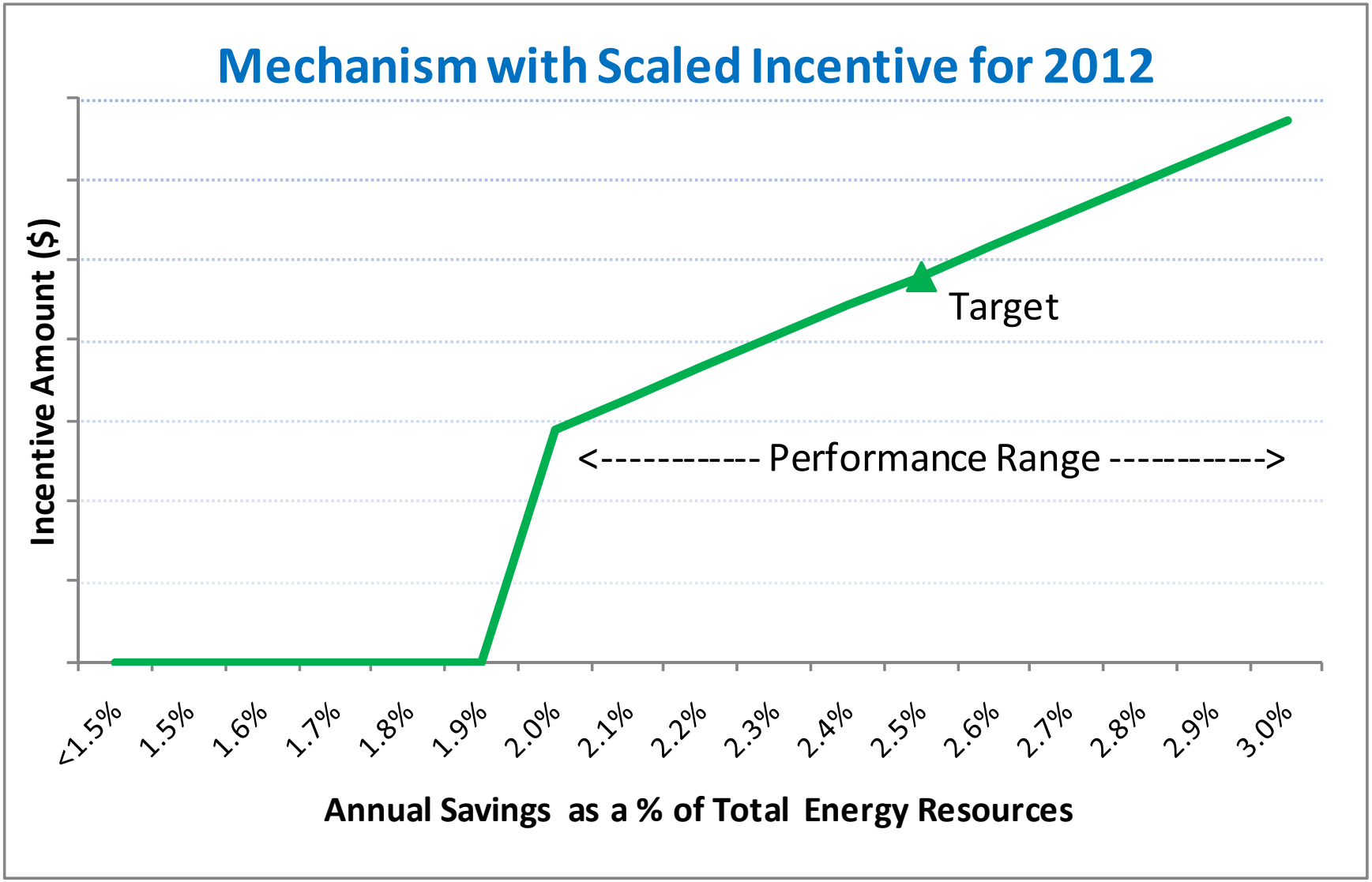
  Lower = 80% X-Y% incentive

Example: Scaled Incentive Rate

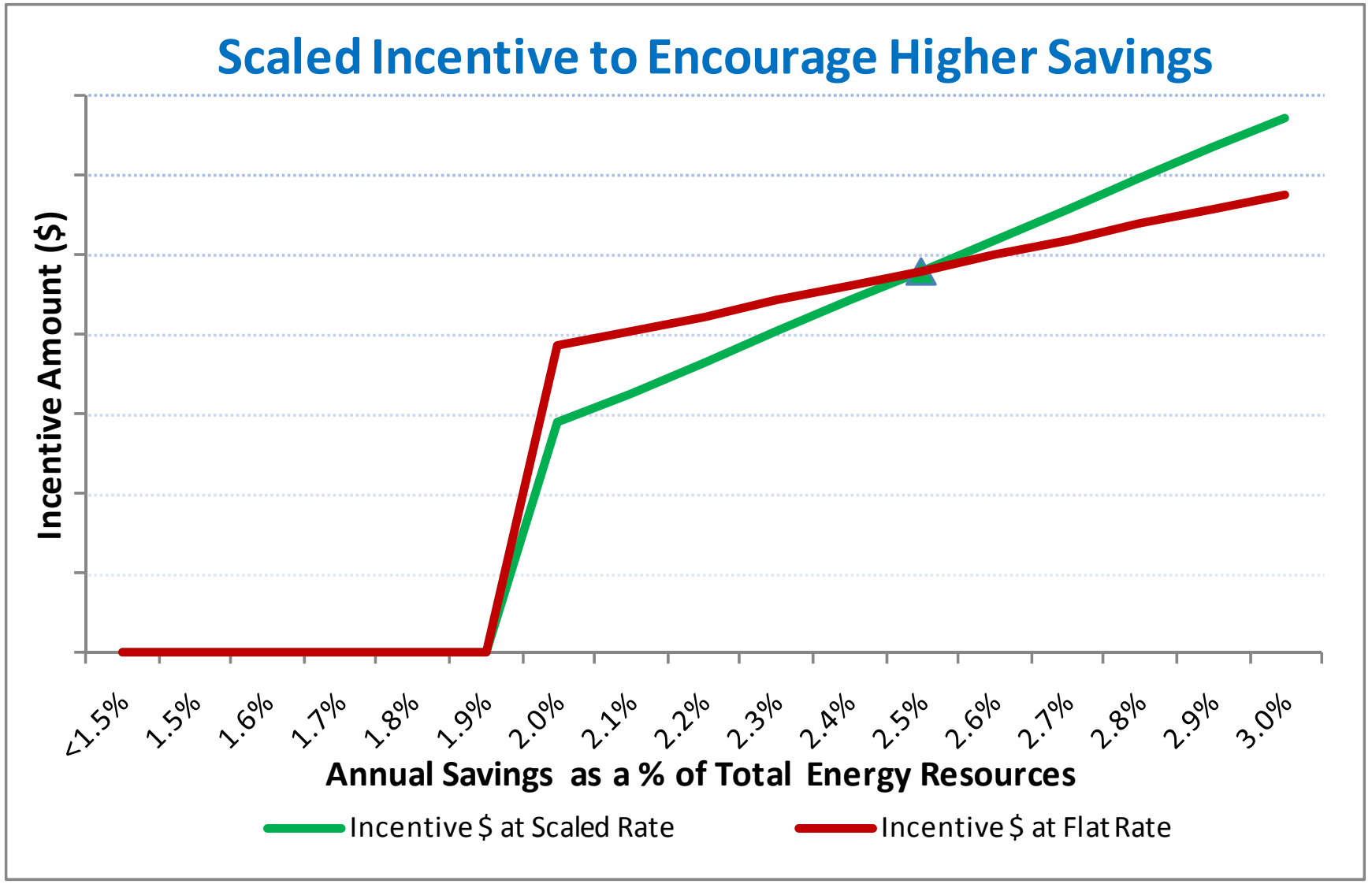
	Actual Performance as % of Goal					
Actual Performance	70%	80%	90%	100%	110%	120%
Incentive Rate (%)	X-1.5	X-1	X-0.5	X	X+0.5	X+1
					X+1	X+2

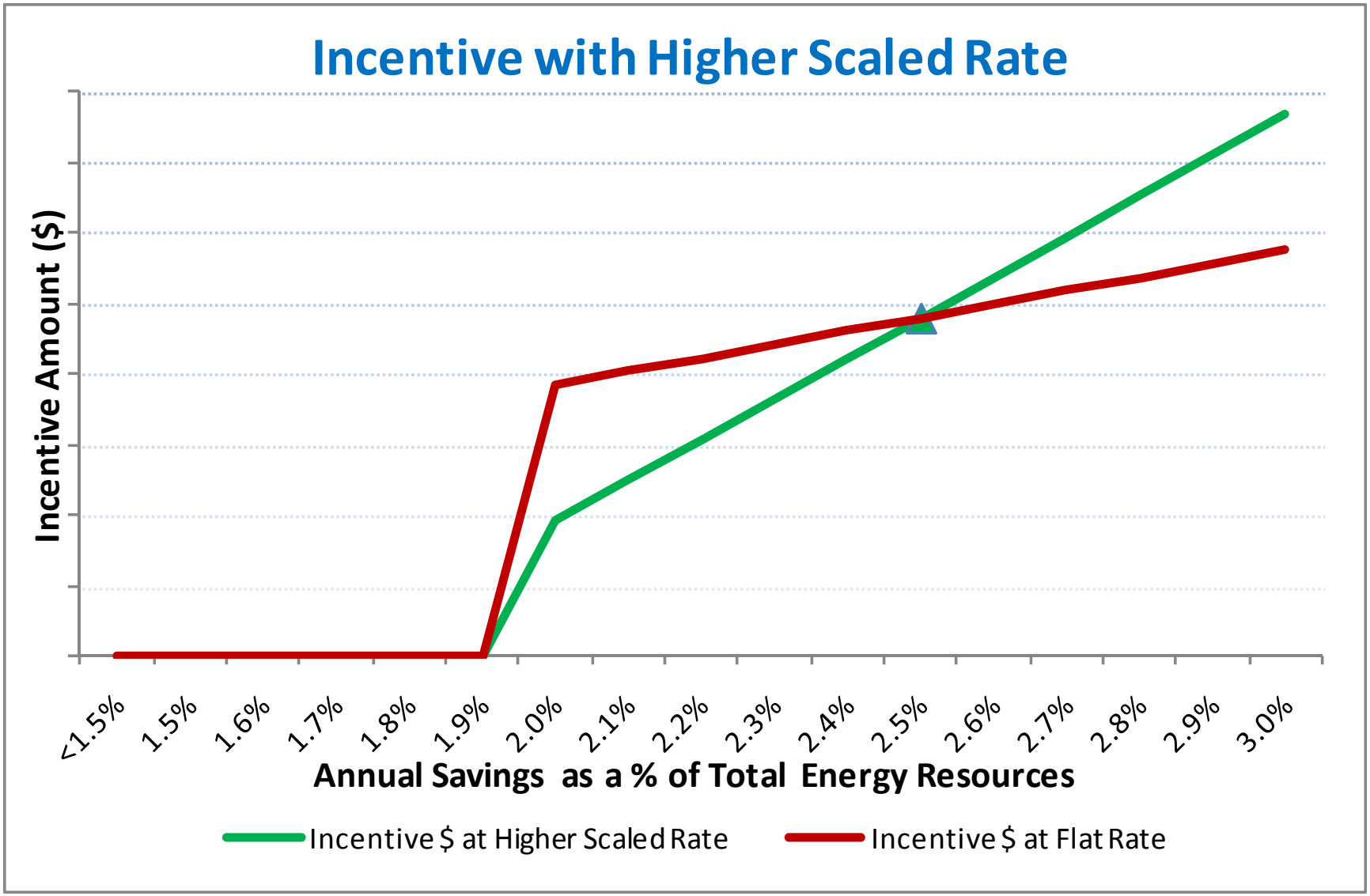
Could also implement as a smooth scale, to reduce the size of the "steps" and to reduce any undue pressure at each step (less lumpiness)

(Note: there are other ways to design and implement a scaled incentive)

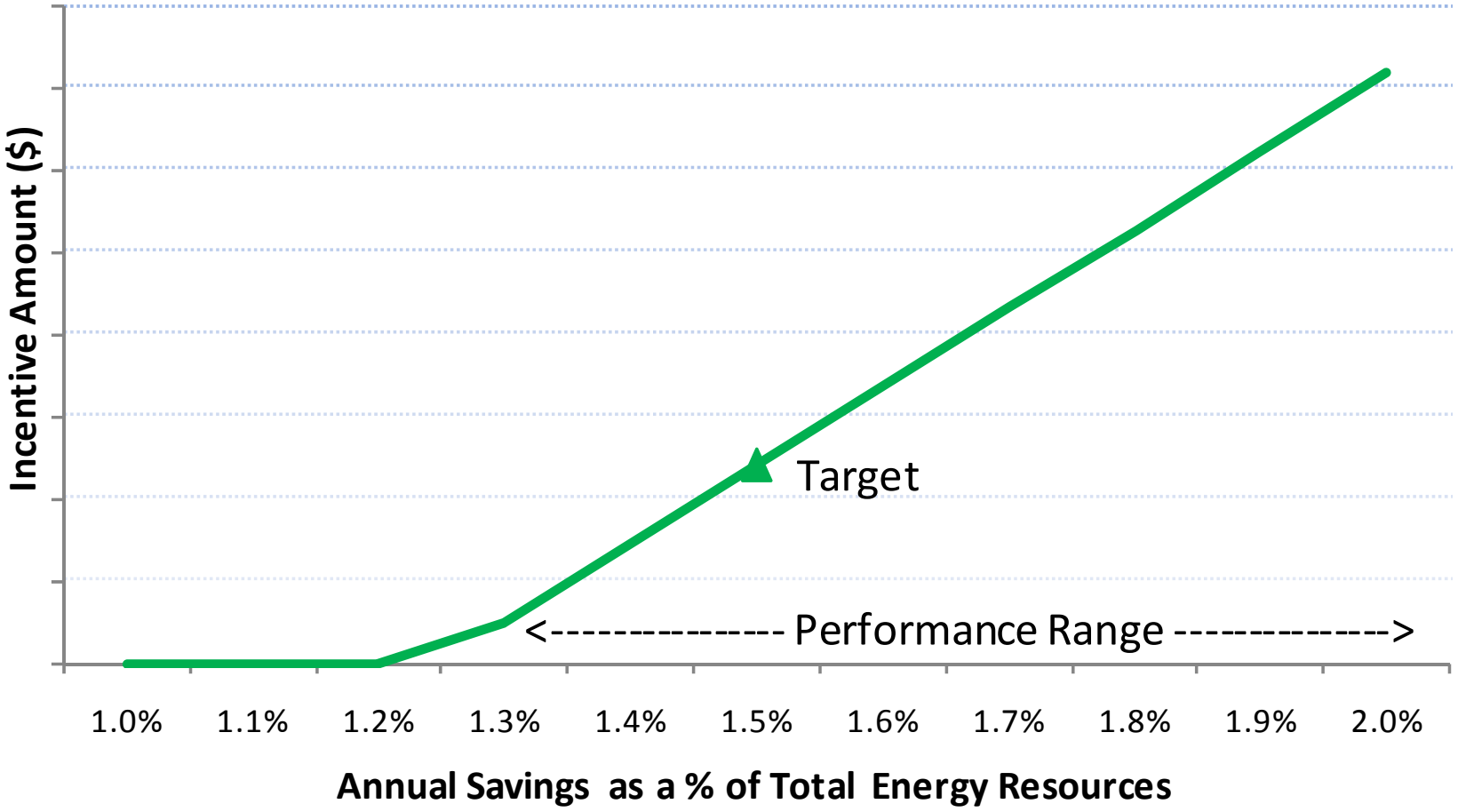


Note: Slide performance range to the left for lower targets in earlier years, 2010 and 2011


Scaled Incentive to Encourage Higher Savings
Incentive Amount ($)
<1.5%
1.5%
1.6%
1.7%
1.8%
1.9%
2.0%
2.1%
2.2%
2.3%
2.4%
2.5%
2.6%
2.7%
2.8%
2.9%
3.0%
Annual Savings as a % of Total Energy Resources
Incentive $ at Scaled Rate
Incentive $ at Flat Rate


Incentive with Higher Scaled Rate
Incentive Amount ($)
<1.5%
1.5%
1.6%
1.7%
1.8%
1.9%
2.0%
2.1%
2.2%
2.3%
2.4%
2.5%
2.6%
2.7%
2.8%
2.9%
3.0%
Annual Savings as a % of Total Energy Resources
Incentive $ at Higher Scaled Rate
Incentive $ at Flat Rate

Mechanism with Scaled Incentive for 2010



3. Modify the Performance Range

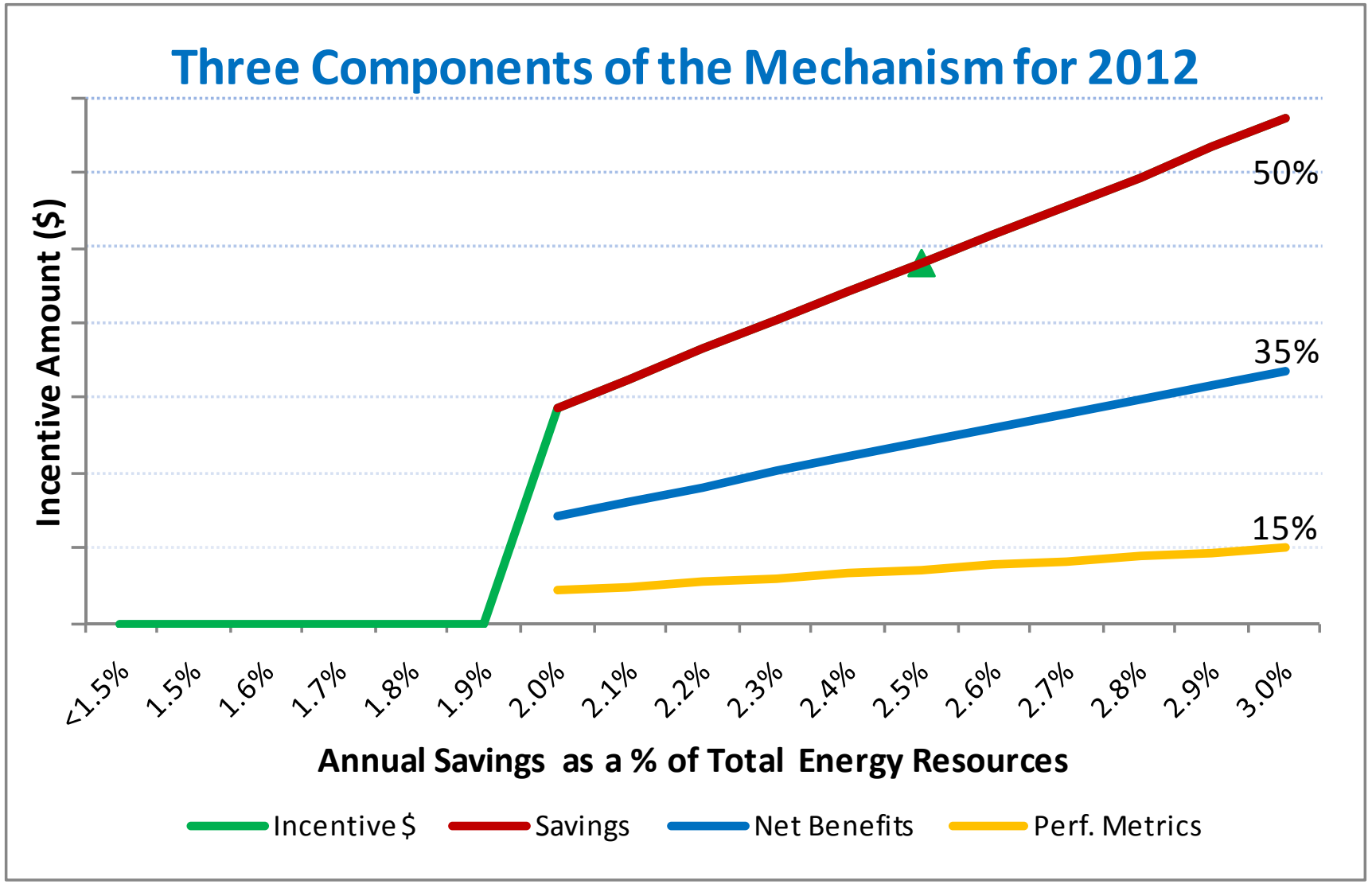
- 2009 electric mechanism = 75% to 110%
- Modify the performance range
  - Much higher % on the upper end or no cap, to encourage achieving higher savings (to exceed the targets)
  - Higher threshold on the lower end of the performance range to encourage achieving or getting very close to the targets

4. Base the performance target and performance range on Council targets

- Use the Council targets for savings goals to set the performance range (rather than using the PA-proposed savings goals, which are lower and vary significantly across the PAs)
- Consistent target for all PAs (not PA specific)
- Example targets for electric:
  - 2010 1.5% savings
  - 2011 2.0% savings
  - 2012 2.5% or 2.7% savings

5. Use the Three Components

- Three components focus on key objectives:
  - Savings, to encourage higher savings and more economic benefits
  - Value or net benefits, to encourage cost-efficiency and using ratepayer $ well
  - Performance metrics, to encourage deeper savings (first), reaching broader, other key outcomes, and other key activities and efforts


Three Components of the Mechanism for 2012
Incentive Amount ($)
50%
35%
15%
<1.5%
1.5%
1.6%
1.7%
1.8%
1.9%
2.0%
2.1%
2.2%
2.3%
2.4%
2.5%
2.6%
2.7%
2.8%
2.9%
3.0%
Annual Savings as a % of Total Energy Resources
Incentive $
Savings
Net Benefits
Perf. Metrics

6. Vary Weights of the Components

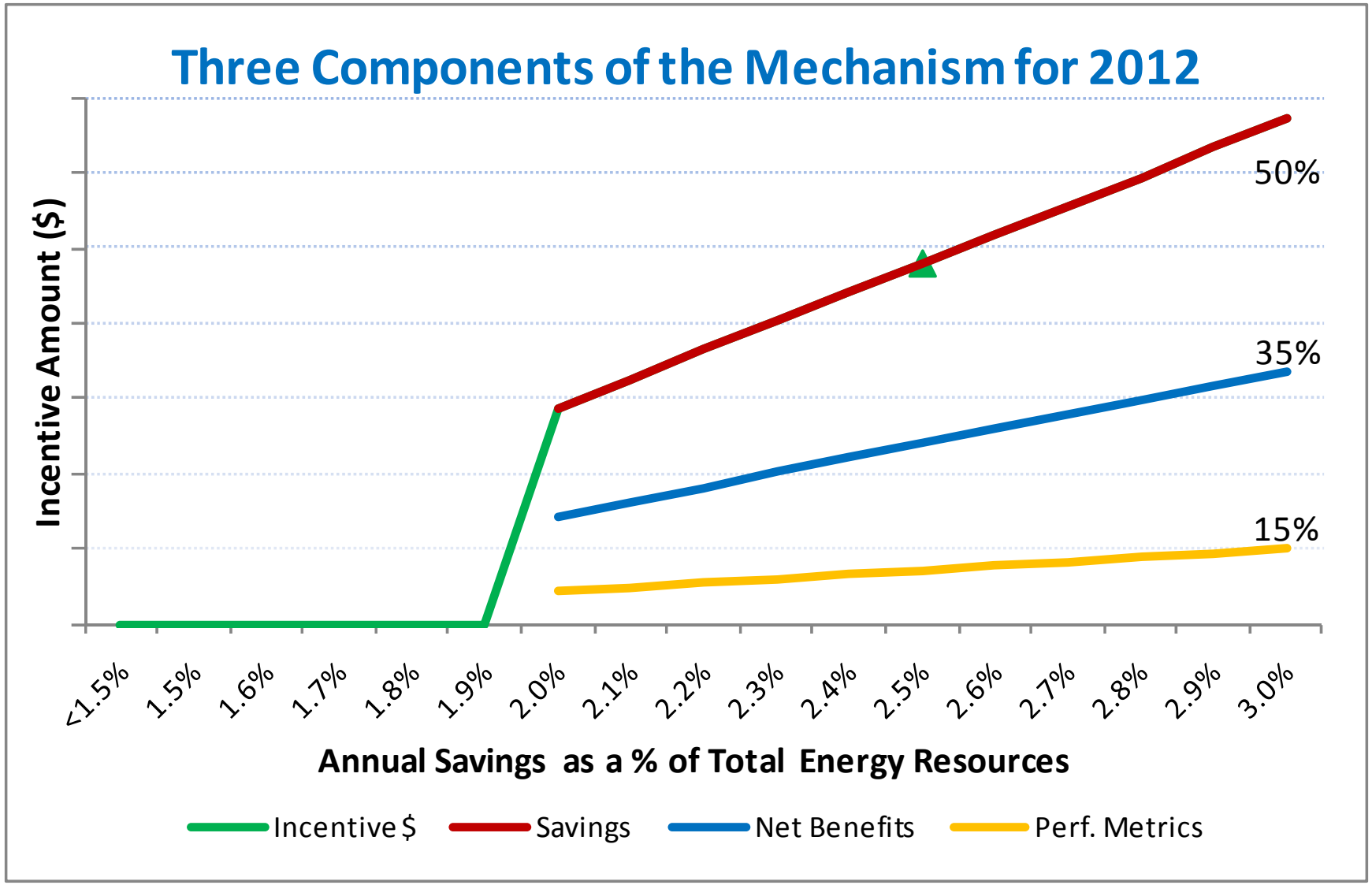
- Over the three years, vary the weights of the performance incentive components
- First year: more emphasis on perf. metrics, e.g., deeper savings (higher % savings, savings per participant, savings from multiple fuels through integrated delivery), reaching broader, and ramp up activities and outcomes
- Latter years: more emphasis on savings among the components (once the deeper savings program designs are developed and in place)

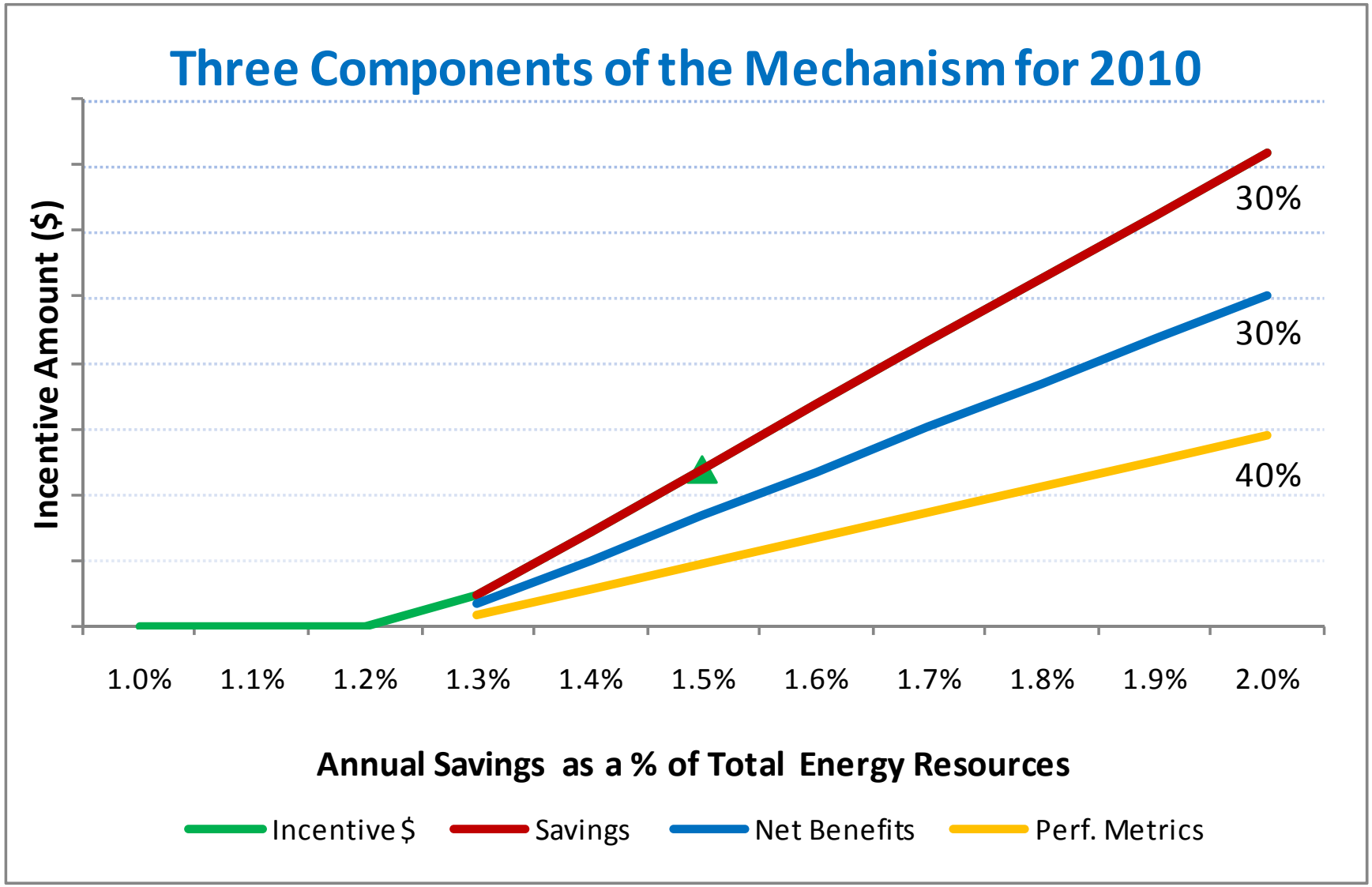
Vary the weights of the components

	2010	2011	2012
Savings	30%	50%	50%
Net Benefits (Value)	30%	35%	35%
Performance Metrics	40%	15%	15%

In the first year, place more emphasis on performance metrics (deeper savings, reaching underserved customers, obtaining outside capital, other specifics activities and efforts).

Three Components of the Mechanism for 2012




Three Components of the Mechanism for 2010
Incentive Amount ($)
30%
30%
40%
1.0%
1.1%
1.2%
1.3%
1.4%
1.5%
1.6%
1.7%
1.8%
1.9%
2.0%
Annual Savings as a % of Total Energy Resources
Incentive $
Savings
Net Benefits
Perf. Metrics

7. More Weight on Savings

- Overall, somewhat more emphasis on savings and the savings component, particularly in the second and third years
- Emphasize savings particularly for encouraging the achievement of savings higher than the targets (through a scaled incentive with higher incentives for exceeding the targets -- see scaled incentive, above)

8. Use Physical Units

- In framing savings goals and analyzing incentive designs, we often use percentages
- However, in the *implementation* of perf. incentives, best to use physical units
  - MWh of energy savings, $ of net benefits
  - Using physical units is a clear target that is less influenced by other factors (compared to %) and won't change with changing forecasts
  - Statewide: determine the $ incentive/kWh saved and $ incentive/net benefit achieved and apply the incentive factors to all PAs consistently

9. Single Year (2010) Perf. Incentive

- Consider including in the three-year Plans a performance incentive for just the first year, with the overall structure of the mechanism for all three years set forth, but with the details not included for 2011 and 2012 (or don't request DPU approval for 2011-12)
- Propose and file the performance incentive details for 2011 (and 2012?) in October 2010, making use of the experience/data from 2010
- Uncertainty is larger over the longer time period, which impacts goal setting by the PAs; to reduce the impact of uncertainty related to future years, focus on just the first year performance incentive at this time

10. Application of Evaluation Results

- Issue *proposed by the PAs* in the Plans (not part of Consultant recommendations)
- Retrospective vs. prospective application of evaluation results for impact factors
- The PAs (not EEAC Consultants) have proposed two systems, one for the performance incentive determination (prospective application of evaluation results, no retrospective adjustments) and one for the annual report (use of all evaluation results, with retrospective application)

Next Steps and Key Dates

- Continue interactions with PAs and Councilors; try to resolve differences, develop mechanism
- Need process to address incentive level
- Performance incentives are on the Council meeting agendas for Sept. 8 and Sept. 30
- Savings goals, revised Benefit/Cost analysis, and Bill Impact analysis are on the Council agendas concurrently
- Additional data from the PAs around Sept. 15? 25?
- Plenty to do, focus on the highest priority issues