Understanding the Clean Energy Incentive Program

November 17, 2015

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Webinar Logistics

- The webinar is being recorded and will be circulated to all attendees, along with the slides
- All attendees have been muted on entry and will remain muted throughout the webinar
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- During the Q&A session, the panelists will answer written questions that have been sent to webinar@synapse-energy.com
- Please use the chat feature only to notify the host if you are having a technical issue with the WebEx software or audio

Synapse Energy Economics

- Research and consulting firm specializing in energy, economic, and environmental topics
- Leader for public interest and government clients in providing rigorous analysis of the electric power sector
- Services include economic and technical analyses, regulatory support, research and report writing, policy analysis and development, representation in stakeholder committees, facilitation, trainings, and expert witness services
- Develops resources such as the Synapse Clean Power Plan Toolkit to promote transparent decision-making
- All non-confidential publications and open-source tools available for free at www.synapse-energy.com

Agenda

1. What is CEIP?
2. CEIP Key Questions
3. Next Steps for Stakeholders
4. Resources

What is CEIP?

Clean Power Plan and Section 111(d)

Who?	Applies to existing fossil fuel-fired generators that were in operation or under construction by January 8, 2014 and that meet certain size and production requirements
What?	Covered units must reduce emissions of carbon dioxide (CO_2) by the amount determined by EPA to reflect the Best System of Emission Reductions (BSER) for the source category
When?	Final rule released in August 2015. Compliance targets must be met on average over an eight-year interim compliance period as well as in the final compliance year: 2030
Where?	Applies to units in 47 states and several Tribal lands (Vermont and Washington D.C. have no covered units; Hawaii, Alaska, Puerto Rico, and Guam will be brought into the program when more data is available on the units in those states/territories)
Why?	To reduce emissions of CO_2 from the electricity sector in order to reduce the contribution to global climate change

Credits: ERCs versus Allowances

Rate-based trading:

- 1 MWh of qualified generation earns 1 Emission Rate Credit (ERC), which can be used to reduce the carbon intensity of a fossil generator's calculated emission performance

$$\text{Target Rate} = \frac{\text{EGU Emissions (lbs of } CO_2\text{)}}{\text{EGU Generation (MWh)} + \text{ERCs (MWh)}}$$

Mass-based trading:

- 1 allowance is equal to 1 ton of CO_2 emissions
- Fossil generators must hold allowances equal to the number of tons of CO_2 they emit each year

Additional Incentives for Renewables and Low-Income Energy Efficiency

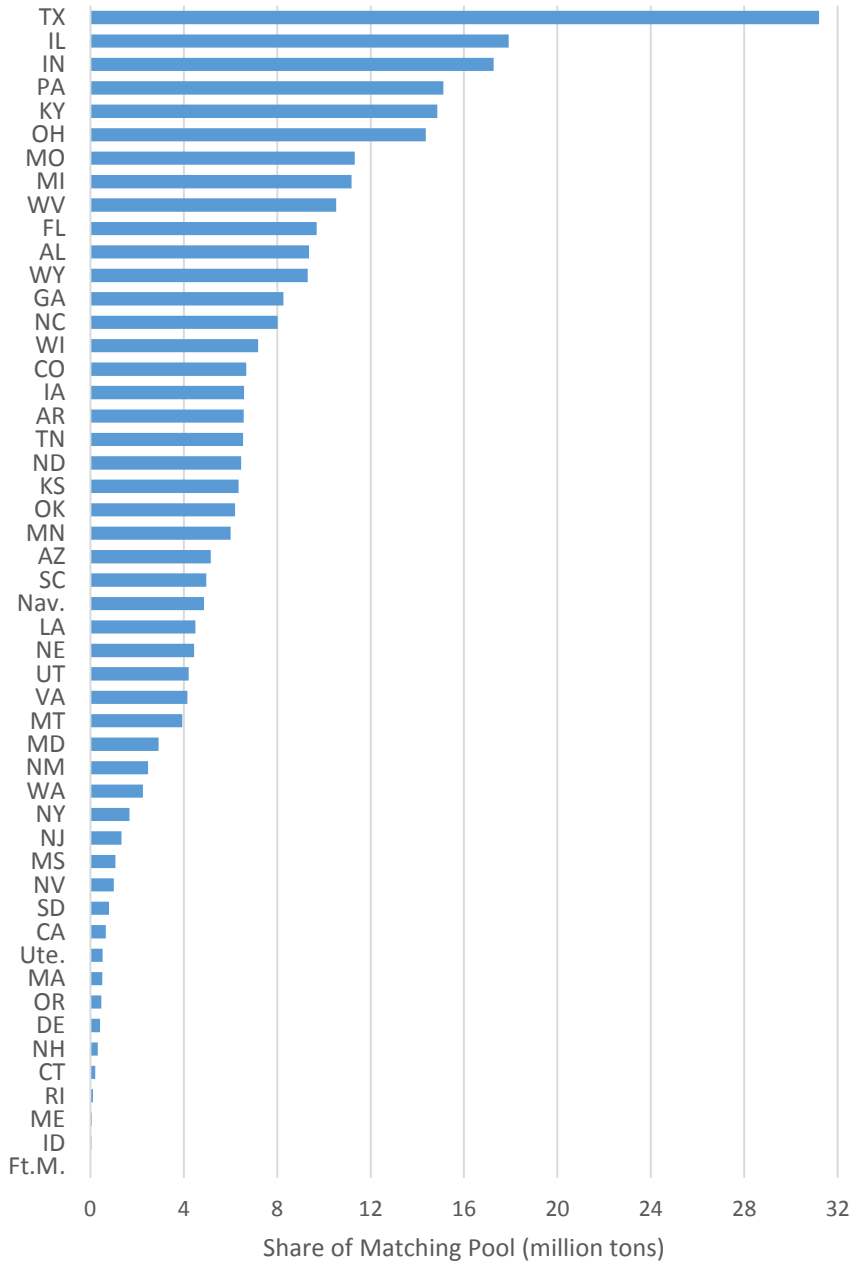
- Renewable energy and energy efficiency can have meaningful benefits, especially for low-income communities

Energy bill savings

Local jobs

Reduced air pollution

- EPA's *Clean Energy Incentive Program* provides additional incentives for solar and wind projects and energy efficiency measures in low-income communities in the two years leading up to the Clean Power Plan compliance period

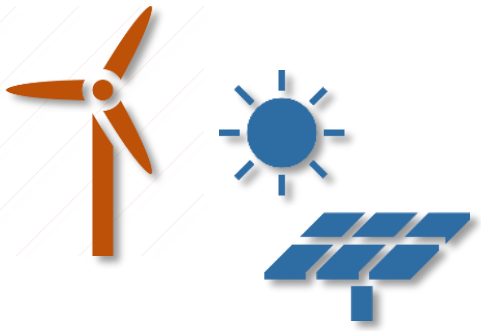


CEIP Program Design

- States opt-in to the program and make early-action credits available to eligible renewable energy (RE) or energy efficiency (EE) projects
  - Mass-based: set-aside from first interim step compliance period (2022-2024)
  - Rate-based: "borrowed" in manner that ensures stringency of rate-based targets
- EPA establishes a pool of matching credits, capped at the equivalent of 300 million tons
- Matching credits are allocated to states based on proportional share of reductions needed for the country to meet 2030 goal

How Early Action Credits Are Awarded

Project Type



1 MWh generated from wind or solar RE

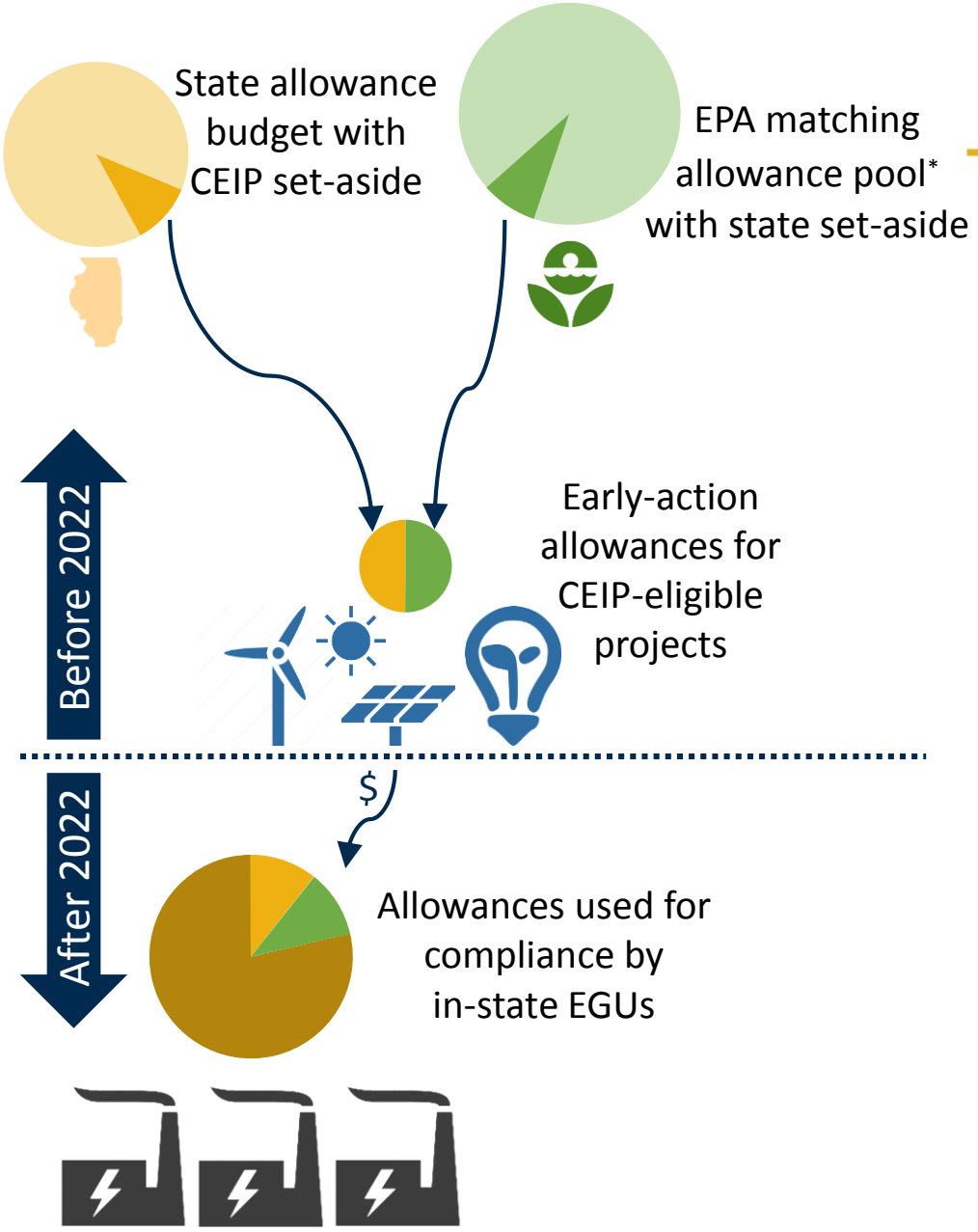
1 MWh saved from EE in Low-Income Communities

Credits

From State Pools		From EPA		Total
◐	+	◐	=	●
●	+	●	=	●●

● = 1 early action credit

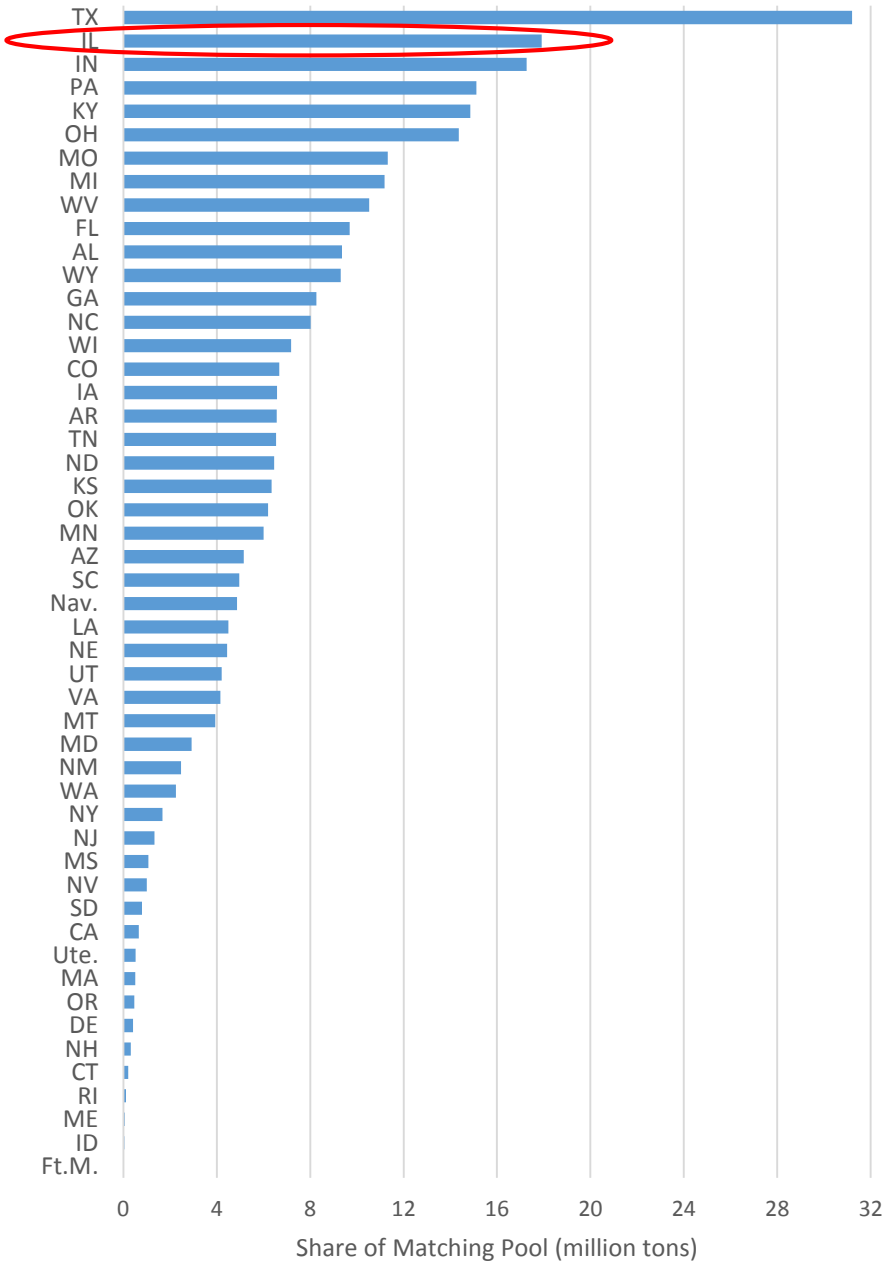
Allowance Pool



Example of Illinois:

- Total allowance budget in first interim compliance period (2022-2024) of 240 million short tons
- 18 million short tons of CEIP early-action allowances available from EPA matching pool
- If Illinois takes full advantage of CEIP, it also awards 18 million short tons of allowances
- This leaves 240 – 18 = 222 allowances left in state budget for 2022-2024
- Total allowances originating in Illinois that can be used for compliance in first compliance period can then be as high as 222 + 18 + 18 = 258
- **Results in more allowable emissions in first compliance period, but additional emissions are avoided between 2018 to 2022**

*Note: Each state's share of set-asides from the national pool will be adjusted to account for states who decline to participate



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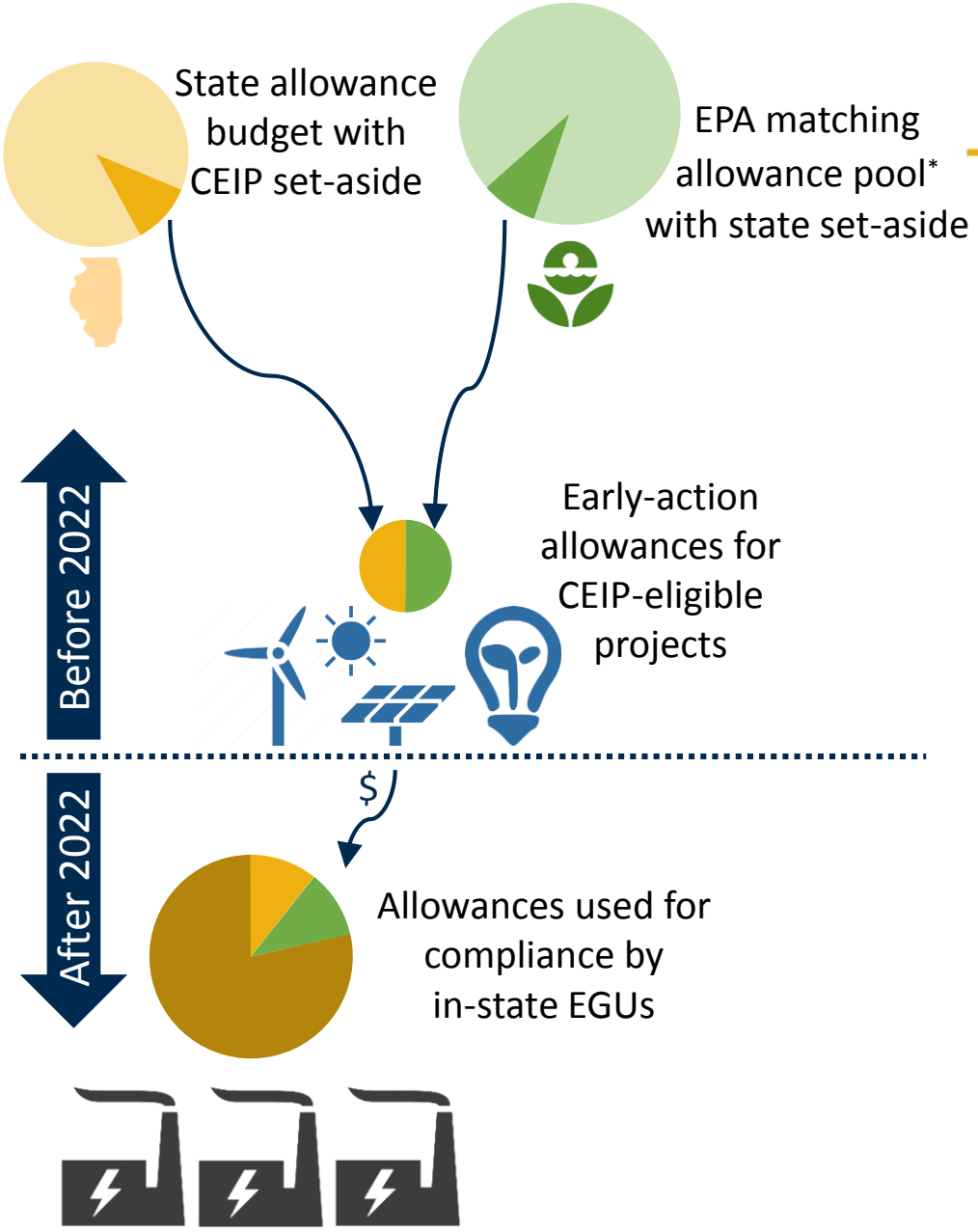

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Environmental Justice and the CEIP

The CEIP targets "environmental justice" communities:

- Only energy efficiency in low-income communities qualifies
- Low-income energy efficiency programs receive double the allowances or credits compared to renewable energy projects

Why the focus on low-income communities?

- They have less access to energy efficiency financing
- They are less resilient to the negative economic impacts of the Clean Power Plan
- They suffer a disproportionate amount of the damages caused by power plant pollution

Synapse will be hosting a webinar on environmental justice in the Clean Power Plan on December 8 (tentative date) for those who want to learn more about this topic.

CEIP Key Questions

How Does CEIP Impact Trading and Compliance?

Allowances:

- EPA's federal matching pool of 300 million tons is equivalent to <2% of emissions otherwise allowed during all compliance periods
- EPA asserts that this number is appropriate to achieve goal of incentivizing early action

Emission Rate Credits:

- EPA has not yet established how a tonnage cap can be translated into ERCs
- State early-action ERCs are "borrowed" from future compliance period, but there is no inherent limit on the number of ERCs that can be generated, so some constraint is needed to ensure stringency of targets in the future
  - Retirement of future ERCs?
  - Adjustment of target rates to account for early action ERCs?
- EPA is still figuring this out—and taking comments!

What Input Has EPA Requested?

- How to define eligible projects
  - Definition of “commence construction” or “commence operations”
  - Definition of “low-income community”
- Mechanics of awarding allowances/ERCs
  - Evaluation, measurement, and verification (EM&V) requirements
  - Mechanism for review of submitted projects and issuance of allowances/ERCs
  - Mechanism for distributing states’ allocated but unclaimed allowances/ERCs
  - Mechanism for converting between mass-based pool and ERCs
- General program structure
  - Size of low-income energy efficiency and renewable energy carve-outs
  - Current distribution of matching pool among states: alternatives or critiques
  - Inclusion of states, tribes, and territories for whom goals are not yet set
  - Means of maintaining the stringency of rate-based standards given early ERCs

Should States Participate in CEIP?

Benefits:

- EPA matching provides an added incentive for participation
- States can benefit from actions already planned to occur
- Incentivizing energy efficiency in low-income communities:
  - Benefits vulnerable populations
  - Helps make cost-effective energy efficiency accessible despite high up-front costs
  - Reduces unpaid bills for utilities, lowering costs for all users

Risks:

- Rate-based targets may be tightened to account for "borrowing" of ERCs
- Many aspects are to-be-determined
- Value of credits will be determined by future markets and could be minimal

States must notify EPA of their intent to participate!

Next Steps for Stakeholders

Key Dates for Input

Nov. 10 – Call for Project Providers

- Conference Call - Potential CEIP Project Providers
- Time: 3:00 – 5:00 p.m. EST
  Participant Dial-in Number: (877) 290-8017
  Conference ID#: 72558829

Nov. 12 – EPA Webinar

- Webinar: Proposed Federal Plan and Model Trading Rules for the Clean Power Plan
- Presentation slides available: http://www2.epa.gov/cleanpowerplan/clean-power-plan-overview-webinar

Nov. 23 – Call for Project Partners

- Conference Call - Potential CEIP Project Partners
- Time: 7:00 – 9:00 p.m. EST
  Participant Dial-in Number: (877) 290-8017
  Conference ID#: 72559715

Nov. 30 – Call for Credit Issuers

- Conference Call - Potential CEIP Credit Issuers
- Time: 2:00 – 4:00 p.m. EST
  Participant Dial-in Number: (877) 290-8017
  Conference ID#: 72560287

Dec. 1 – General Call

- Conference Call - General
- Time: 3:00 – 5:00 p.m. EST
  Participant Dial-in Number: (877) 290-8017
  Conference ID#: 72558409

Dec. 15 – Docket Submission Deadline

- Deadline to submit comments to Docket ID Number EPA-HQ-OAR-2015-0734
- Comments can be submitted at www.regulations.gov, by e-mail to a-and-r-Docket@epa.gov, faxed to (202) 566-9744, or mailed.

CP3T Can Be a First Step in CEIP Planning

The Clean Power Plan Planning Tool (CP3T) is an Excel-based spreadsheet tool for performing "first-pass" planning for compliance with EPA's Clean Power Plan. It is based on the unit-specific data assembled by EPA to create their Clean Power Plan building blocks. CP3T users can adjust fossil unit capacity factors, renewable energy and energy efficiency projections, unit retirements, and other unit additions for each state. Users can then compare differences in generation, capacity, emissions, emission rates, and costs across created

NOTE

Please ensure macros are enabled on your computer.
CP3T requires Excel 2007 or newer to run.

Click here to read the User Manual
This User Manual includes a walkthrough of CP3T, a checklist of issues to consider when using CP3T, guidance on scenario analysis, and other helpful information

Click here to read the two-page Quickstart Guide

Click here to read the Creative Commons License and End-User Agreement

Begin analysis

Restore default Excel functionality

CP3T Can Be a First Step in CEIP Planning

Clean Power Plan Planning Tool

Energy Efficiency Costs

Click here to return to the Dash

PA / Participant Split		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Program Administrat	%		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Participant	%		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Allocation of Costs and Savings		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Residential	%		42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
Low Income	%		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Commercial & Ind.	%		53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Clean Power Plan Planning Tool

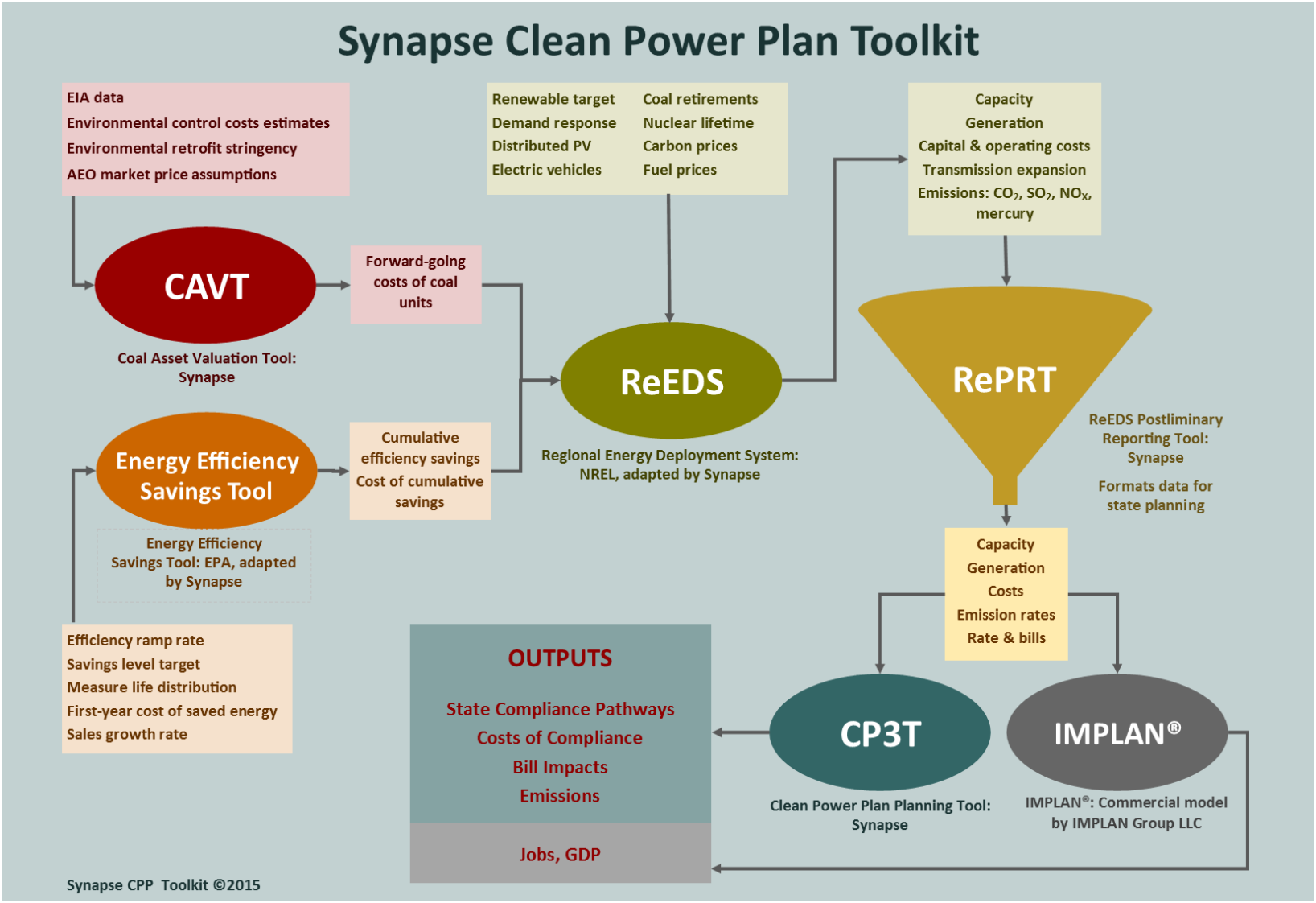
Energy Efficiency Sales and Savings

Click here to return to the Dash Click here to check if you have a gap ir

Clean Energy Incentive ERCs		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annual inc. saving	GWh				-	-	-	2	5	5	5	-	-
Expiring savings	GWh				-	-	-	0	0	0	0	-	-
Net cumulative sa	GWh				-	-	-	2	6	11	16	-	-
CEI credits availat	GWh				-	-	-	-	-	23	32	-	-

Resources

Synapse Clean Power Plan Toolkit



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Related Resources

Synapse Clean Power Plan Toolkit: http://synapse-energy.com/CleanPowerPlan

Past Clean Power Plan Webinars: http://synapse-energy.com/synapse-projects-and-webinars-related-clean-power-plan

Clean Power Plan Reports and Outreach for National Association of State Utility Consumer Advocates: http://synapse-energy.com/project/clean-power-plan-reports-and-outreach-national-association-state-utility-consumer-advocates

Synapse Blog Posts on Clean Power Plan: http://synapse-energy.com/tags/clean-power-plan

Consumer Costs of Low-Emissions Futures Briefs and Reports: http://synapse-energy.com/project/consumer-costs-low-emissions-futures

Stay Tuned!

Synapse will be presenting more webinars on issues related to the Clean Power Plan.

December 8 (tentative): "Environmental Justice in the Clean Power Plan"

December 15 (tentative): "Energy Efficiency in the Clean Power Plan"

January 5, 2015 (tentative): "Bill Impacts of the Clean Power Plan"

How to Stay Connected

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Follow us on LinkedIn: https://www.linkedin.com/company/synapse-energy-economics

For questions on CP3T: cp3t@synapse-energy.com

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