



The Climate Registry

NEER

NATIONAL ENERGY
EFFICIENCY REGISTRY

Pennsylvania NEER Roadmap Workshop

August 25, 2017

10:00 am – 12:00 pm EDT

Pennsylvania Department of Environmental Protection

Harrisburg, PA



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In-room Logistics

- Exits/Emergencies
- Restrooms



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Introductions

- In the room
- On the Webinar



Objectives and Agenda

- Introduce the NEER
- Enable local contribution to road-mapping process
- Understand PA-specific needs
- Develop pathways for implementation
- Identify potential use cases

Today's Agenda

10:00 – 10:30

NEER Overview

10:30 – 12:00

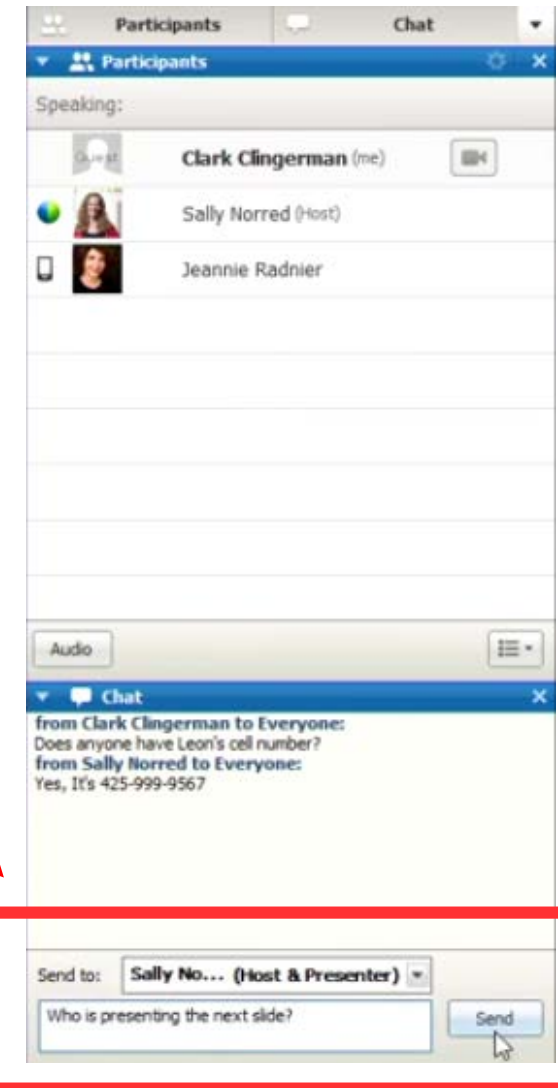
**PA Opportunities and
Barriers Discussion**



Webinar Logistics

- Please hold questions and comments for the Q&A
 - Unmute yourself to ask a question aloud, or enter your question into the chat box and it will be read aloud

A copy of the slides and a recording of the webinar will be distributed to all registrants





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Overview

Michelle Zilinskas

Policy Associate

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About the NEER

- **The NEER is a web-based platform that will:**
 - Document achievement of energy and environmental goals,
 - Disclose compliance activities, and
 - Drive voluntary investment in energy efficiency and conservation.

- **It will accomplish this by:**
 - documenting verification of energy efficiency projects,
 - facilitating the opportunity for energy efficiency instrument trading, and,
 - demonstrating the credibility of energy efficiency as an eligible resource.



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NEER = Tool (Not a Policy)

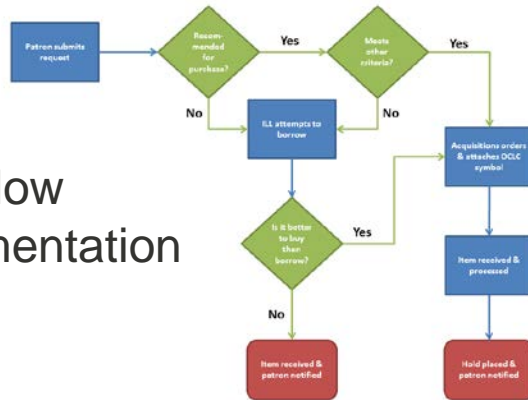
Document management



Transaction accounting



Workflow documentation



2012-12-14 03:35:30											Count
Total number of active patches with 35591:											1795
Percent successful by method:											100%
2012-12-14 03:35:30											(Number of Records: 87)
Update ID	Yearnumber	Title	Process successful	Distribution Successful	Distributions Failed	Distributions Incomplete	In Distribution Scope	Collection ID	Type	Information	
2574975		Update for Windows Server 2008 R2 x64 Edition (KB2574975)	100	7	0	0	7	SP50001	Microsoft Update	http://support.microsoft.com/KB2574975	
2574919		Update for Windows Server 2008 R2 x64 Edition (KB2574919)	100	11	0	0	11	SP50001	Microsoft Update	http://support.microsoft.com/KB2574919	
2765367		Update for Windows Server 2008 R2 x64 Edition (KB2765367)	100	11	0	0	11	SP50001	Microsoft Update	http://support.microsoft.com/KB2765367	
2764660		Update for Microsoft Office 2007 x64 Edition (KB2764660)	100	2	0	0	2	SP50001	Microsoft Update	http://support.microsoft.com/KB2764660	
2764648		Update for Microsoft Office 2007 x64 Edition (KB2764648)	100	2	0	0	2	SP50001	Microsoft Update	http://support.microsoft.com/KB2764648	
2652221		Update for Windows Server 2008 R2 x64 Edition (KB2652221)	100	7	0	0	7	SP50001	Microsoft Update	http://support.microsoft.com/KB2652221	
2641254		Update for Windows Server 2008 (KB2641254)	100	1	0	0	1	SP50001	Microsoft Update	http://support.microsoft.com/KB2641254	
2605511		Update for Kernel-Mode Driver Framework version 1.1 for Windows Server 2008 R2 x64 Edition (KB2605511)	100	17	0	0	17	SP50001	Microsoft Update	http://support.microsoft.com/KB2605511	
2605512		Update for User-Mode Driver Framework version 1.1 for Windows Server 2008 R2 x64 Edition (KB2605512)	100	17	0	0	17	SP50001	Microsoft Update	http://support.microsoft.com/KB2605512	
2607404		Update for Microsoft Office Outlook 2007 (KB2607404)	100	2	0	0	2	SP50001	Microsoft Update	http://support.microsoft.com/KB2607404	
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2717685		Update for Windows Server 2008 R2 x64 Edition (KB2717685)	100	7	0	0	7	SP50001	Microsoft Update	http://support.microsoft.com/KB2717685	
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2718127		Update for Windows Server 2008 R2 x64 Edition (KB2718127)	100	17	0	0	17	SP50001	Microsoft Update	http://support.microsoft.com/KB2718127	
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93979		Update for Windows Server 2008 (KB93979)	100	1	0	0	1	SP50001	Microsoft Update	http://support.microsoft.com/KB93979	
959736		Windows Internal Database Service Pack 3 (KB959736)	100	1	0	0	1	SP50001	Microsoft Update	http://support.microsoft.com/KB959736	
979192		Windows Server 2008 R2 Service Pack 1 for x64-based Systems (KB979192)	100	7	0	0	7	SP50001	Microsoft Update	http://support.microsoft.com/KB979192	
MS09-035	071092	Security update for Microsoft Visual Studio 2008 Service Pack 1 (KB971092)	100	1	0	0	1	SP50001	Microsoft Update	http://support.microsoft.com/KB971092	
MS11-025	2538243	Security update for Microsoft Visual C++ 2008 Service Pack 1 Redistributable Package (KB2538243)	100	1	0	0	1	SP50001	Microsoft Update	http://support.microsoft.com/KB2538243	
MS11-026	2656266	Security update for Microsoft .NET Framework 3.5.1 on Windows 7 and Windows Server 2008 R2 SP1 for x64-based Systems (KB2656266)	100	7	0	0	7	SP50001	Microsoft Update	http://support.microsoft.com/KB2656266	
MS12-025	2696373	Security update for Microsoft .NET Framework 3.5.1 on Windows 7 and Windows Server 2008 R2 SP1 for x64-based Systems (KB2696373)	100	7	0	0	7	SP50001	Microsoft Update	http://support.microsoft.com/KB2696373	
MS12-026	2696411	Security update for Microsoft .NET Framework 3.5.1 on Windows 7 and Windows Server 2008 R2 SP1 for x64-based Systems (KB2696411)	100	6	0	0	6	SP50001	Microsoft Update	http://support.microsoft.com/KB2696411	
MS12-028	2696125	Security update for Microsoft .NET Framework 3.5.1 on Windows 7 and Windows Server 2008 R2 SP1 for x64-based Systems (KB2696125)	100	7	0	0	7	SP50001	Microsoft Update	http://support.microsoft.com/KB2696125	

Compliance Reporting



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U.S. DOE-sponsored Project

→ State partners:



→ Additional support from:



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Development of NEER Operating Rules

- **Steering Advisory Committee**
- **Multi-stakeholder Working Group**
- **Public comment period**



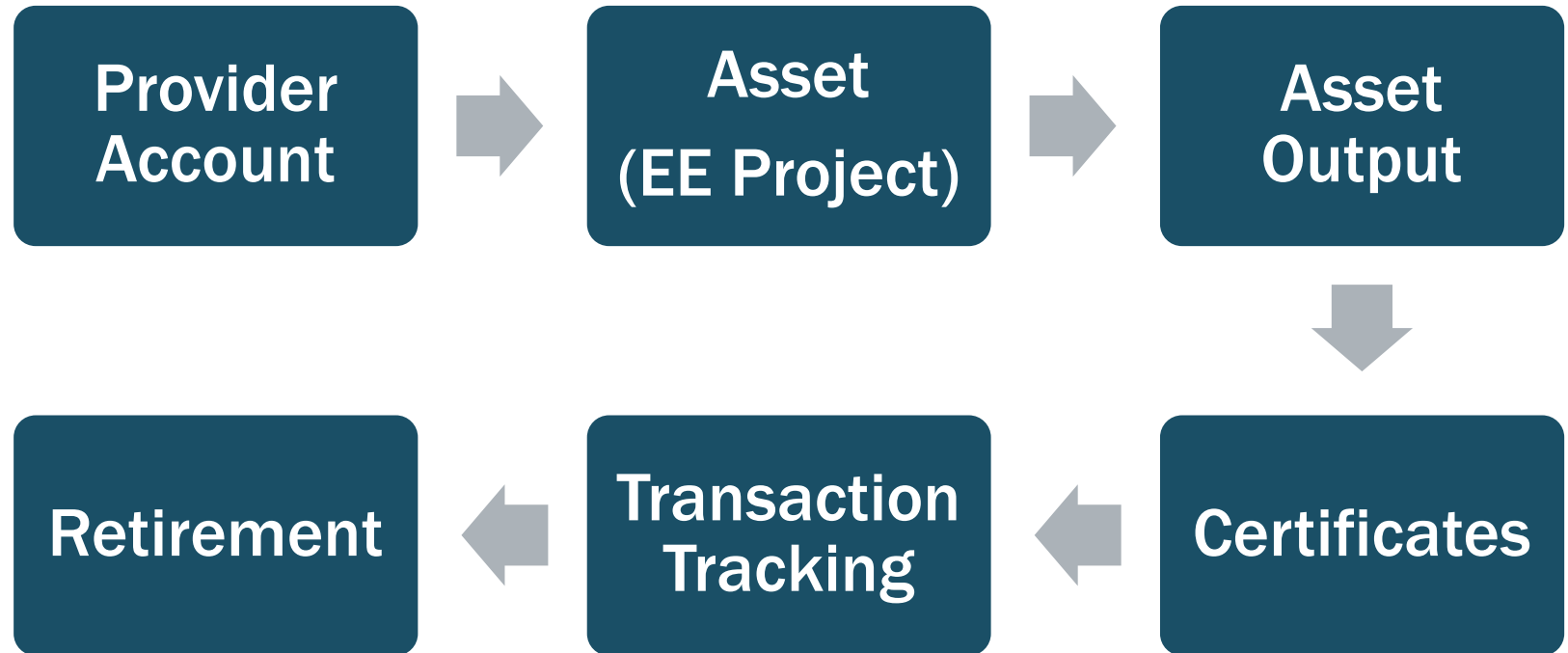


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NEER FRAMEWORK



The NEER Framework





Accounts & Assets

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[Home](#) | [Welcome, NEERAPX](#) | [Account: APX](#)

[Customize Page](#) | [Change Password](#) | [Help](#) | [Logout](#)

Administrator Inbox

Accounts

Account Name	Status
--------------	--------

No Records!

Generation Approval

NEER ID	Account Name	Asset	Status
EFF63	Dominon Energy	2016 Boiler Plant retrofit	Pending
EFF68	Dominon Energy	2016 chiller upgrade	Pending
EFF61	Dominon Energy	2016 HVAC upgrade	Pending
EFF62	Rosenheim Industries	LS 204 2015 Lighting Retrofit Aggregation	Pending

Asset Management

NEER ID	Asset	Tracking System	NEER Meter ID	Status	Reporting Entity	Reporting Unit ID	Asset Type
EFF52	Lightbringer - Fairfax Country Schools Retrofit	NEER		Approved	Self Reporting	N52	EFF
EFF53	VSD Drive Install 2015	NEER		Approved	Self Reporting	N53	EFF
EFF54	Lightbringer - Bank of America BAS Installation	NEER		Approved	Self Reporting	N54	EFF
EFF55	Automate DSM 2015	NEER		Approved	Self Reporting		





Account Information

NEER Account Information	
Account Type:*	<input checked="" type="radio"/> General Account <input type="radio"/> Asset-Only
Company Type:*(Select type that applies)	<input checked="" type="radio"/> Generating Unit Owner/Representative <input type="radio"/> Generating Unit Aggregator <input type="radio"/> Community Choice Aggregator <input type="radio"/> Investor-Owned Utility <input type="radio"/> Municipal Utility <input type="radio"/> Rural Electric Cooperative <input type="radio"/> Irrigation District <input type="radio"/> Joint Power Authority <input type="radio"/> Retail Marketer <input type="radio"/> Broker <input type="radio"/> Federal Marketer/Power Administrator <input type="radio"/> Wholesale Marketer <input type="radio"/> Tribal Organization <input type="radio"/> Public Interest Organization <input type="radio"/> Coop Utility <input type="radio"/> Public Power District <input type="radio"/> Utility Aggregator <input type="radio"/> Local Government <input type="radio"/> Not-for-Profit <input type="radio"/> State Government <input type="radio"/> Private Citizen/Citizen's group <input type="radio"/> Federal Government
Privacy: *	<input checked="" type="radio"/> Regular Account <small>Allow other account holders to see account name on the REC transfer screen. Account name listed on the public report of Account Holders.</small> <input type="radio"/> Private Account <small>Does not list your account name on the REC transfer screen (but instead your account numerical ID). Does not list Account Name on the public report of Account Holders.</small>

Company Information

Company Name: *	<input type="text" value="Lightbringer Corp."/> 
Company Address1: *	<input type="text" value="1500 H Street NW"/>
Company Address2:	<input type="text"/>
Company City: *	<input type="text" value="Washington, D.C."/>
Company Country: *	<input type="text" value="UNITED STATES"/>
Company State/Province: *	<input type="text" value="DISTRICT OF COLUMBIA"/>
Company Zip/Postal: *	<input type="text" value="20037"/> (format: US and Mexico 12345 / Canada a1b2c3)
Company Web site URL:	<input type="text" value="www.NEERRegistry.org"/> (format: www.apx.com)

Billing Contact Information



Asset Information



Asset Information	
Asset Type	
Asset Type: *+	<input type="radio"/> Energy Efficiency Project
Tracking System: *	NEER
Tracking System Project ID: *	
Tracking System Fuel Type: *	
Active Sub-Account Selection: *	Lightbringer - Fairfax County Schools Retrofit
Show Certificates Issued on Public Reports:	<input checked="" type="checkbox"/>
Project Name and Location Information	
NEER ID:	52
Unit Name: *	Lightbringer - Fairfax Count
Primary Asset Name: *	
Street Address1: *+	8115 Gatehouse Rd
Street Address2: +	
City: *+	Falls Church
Country: *+	UNITED STATES
State/Province: *+	VIRGINIA
County: *+	Fairfax
Zip/Postal: *+	22042 (format: US and Mexico 12345 / Canada a1b2c3)
Latitude: +	(format: [+]-JDDD.DDDDD)



Asset Output



Self-Reporting/Facility/Project Output Data Review

Reporting Entity:

Reporting Entity Unit:

Year: ▼

Facility/Project ID - Name:

Period Data Status	Vintage	Baseline	Actual	MWh	Begin	End	Adjustment Current (MWh)	Adjustment New Status	Adjustment New (MWh)	Serial Number Loader
Certificate Created	4/2017			45000	5/1/2016	4/30/2017	0.00	N/A	0.00	





Key Concept: SCCP

- Any **Client Jurisdiction** can set up their own **Specific Compliance/Certification Program (SCCP)**
 - Translation: Any **jurisdiction, private entity or non-governmental organization** can set up their own **NEER** program requirements
- NEER supports SCCP requirements by operationalizing **Quality Assurance/Quality Control (QA/QC) Protocols**



Key Concept: QA/QC Protocols

- QA/QC Protocols are a set of procedures that the EE Provider and Project (**Asset**) must go through to complete registration of reported energy savings (**Asset Output**) or receive Instruments.





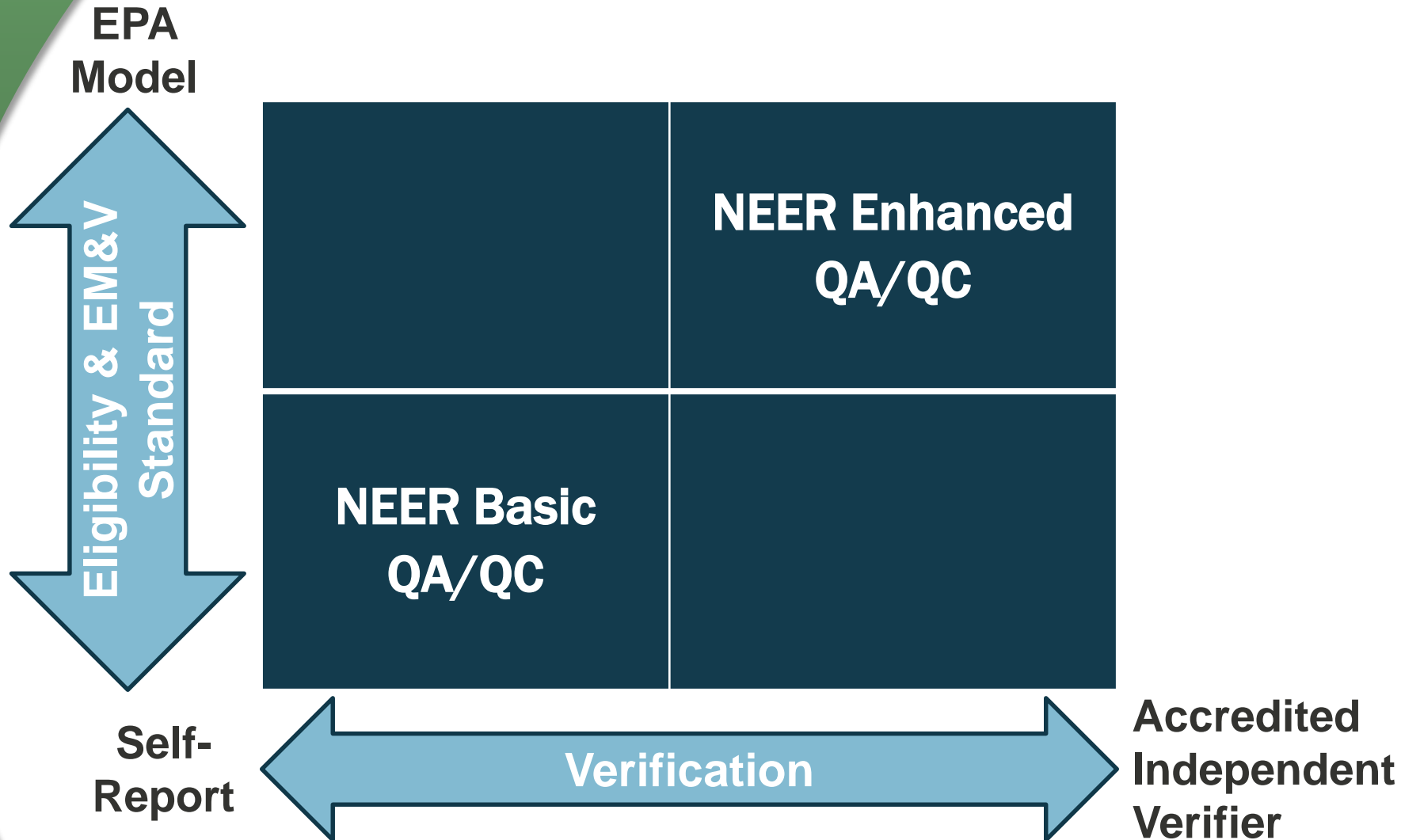
QA/QC Framework

- **Who** is authorized to submit, review and approve different documents
- **What** documents need to be submitted
- **Where** documents are archived
- **When** have all the steps been completed and all parties agree the quantity savings number is acceptable



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NEER QA/QC Protocols



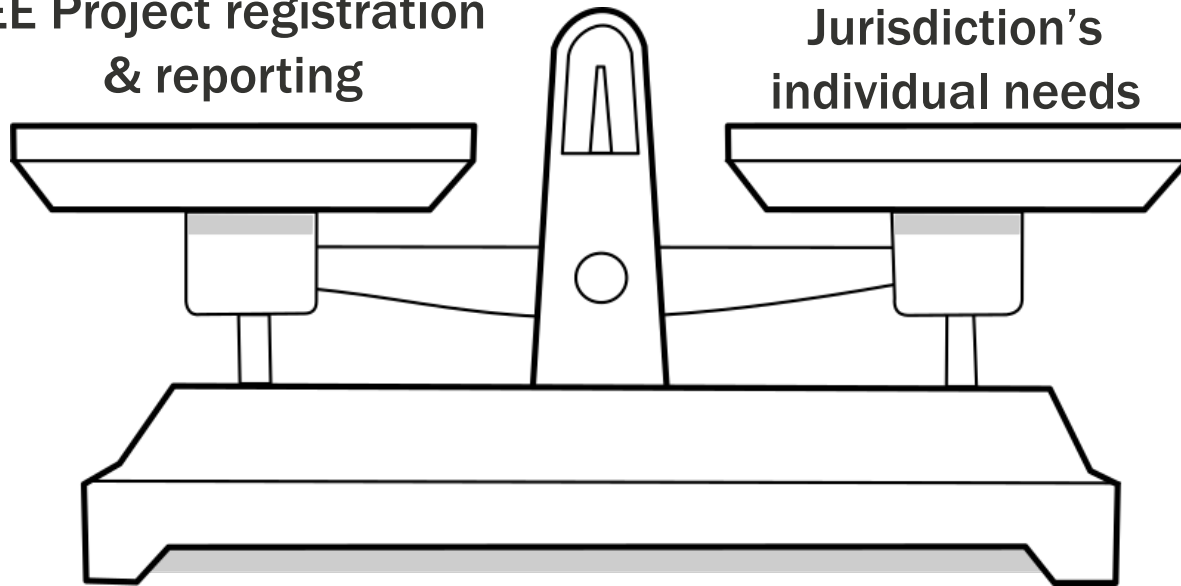


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Consensus Design plus Customization

**“Off the Shelf”
standard elements of
EE Project registration
& reporting**

**Customization to
meet a
Jurisdiction’s
individual needs**





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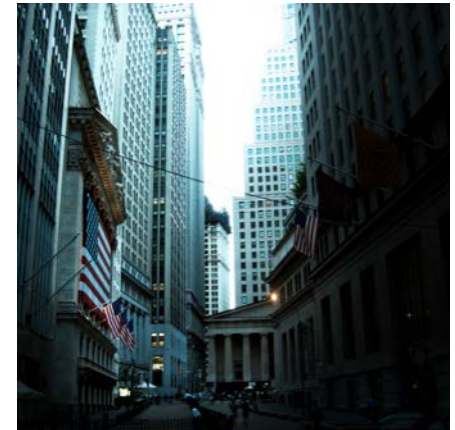
QUESTIONS?



*National Energy
Efficiency Registry
(NEER):
Opportunities and
Barriers*



*National Association of
State Energy Officials*



Rodney Sobin
Senior Program Director
National Association of State Energy Officials

NEER Regional Roadmap Workshop
Pennsylvania Department of Environmental Protection
Harrisburg, PA August 25, 2017

+ NEER Roadmapping

- Roadmap to identify potential applications and paths forward where NEER can support state and regional energy objectives
- Common front section
 - NEER overview and purpose
 - Major potential applications
 - Broad pathways (legislation, regulation, Executive Order, PUC order)
 - General guidance on criteria, QA/QC, “SCCP” development
- State/region-specific sections – GA, MI, MN, PA, OR/region, TN
 - Potential applications—opportunities and barriers
 - Possible paths forward in each state’s own context

+ NEER Roadmapping: Applications could include but not limited to--

- Lead-by-Example: state and public facilities
 - EE goals/targets/requirements
 - State, K-12 schools, higher education, and localities
 - ESPCs
- Benchmarking and disclosure policies
 - Philadelphia, Pittsburgh in PA (thus far?)
- Energy efficiency financing
 - EE impacts of finance programs: loan funds, green banks, PACE, other mechanisms
- Voluntary program tracking
 - EE, clean energy, sustainability
 - Better Buildings; Superior Energy Performance/Energy Management Systems,...

+ NEER Roadmapping: Applications could include but not limited to--

- Utility energy efficiency (electricity and natural gas)
 - Energy efficiency resource standards (EERS) or similar requirements
 - Act 129 in PA
 - In principle, if rules allow, could open EERS to third-party EE
 - *Industrial, commercial customer self-direct programs (other states)*
 - EE as a “resource”
 - Integrated resource planning, state energy planning
 - Grid markets (e.g., forward capacity -- PJM)
- Air quality and Climate
 - EE for National Ambient Air Quality Standards (NAAQS)
 - EE for Regional Haze Program
 - NO_x, SO₂ or other criteria pollutant trading
 - State and local climate and greenhouse gas objectives
- Tracking, aggregating other energy savings (e.g., building energy codes)

+NEER Roadmapping: Pennsylvania Opportunities?

- Lead-by-Example--tracking state/public sector EE?
 - ESPCs, state facilities, water/wastewater facilities, localities, K-12, higher ed
- Identifying EE resources (including CHP) for IRP, state energy planning?
- Voluntary EE tracking, recognition?
- Local benchmarking, disclosure—building EE upgrades
- Documenting and quantifying EE from financing programs?
- Air quality management—EE in SIPs, air quality planning, allowances?
- Climate and resiliency—GHG reduction goals? Climate adaptation planning?
- Aggregate and track EE achievements from other policies. programs?
 - E.g., building energy codes, voluntary measures
- Others??

+ NEER Roadmapping: Use-Case Example 1

- Local lead-by-example EE tracking (also emissions)
 - E.g., city does streetlamp upgrades and wants to track and report energy savings
 - City establishes NEER account, opts for NEER “Basic” QA/QC
 - City specifies that it retains right to claim energy savings in contract and directs energy service company (ESCO) or contractor to report project energy impacts in NEER
 - City can track, aggregate, and report energy savings from this and other projects
 - **If desired, city can translate NEER-registered savings to avoided criteria pollutant and greenhouse gas emissions (AVERT, eGRID, other)**
 - **If state has NOx “set-aside” allowances, could allot to project owner or ESCO/contractor to sell or could retire allowances (SIP credit)**
 - **Could quantify savings, avoided emissions for potential SIP credit**
 - State can use such city-reported data in energy and environmental planning

+ NEER Roadmapping: Use-Case Example 2

- Voluntary facility/building upgrades
 - Corporation/organization (or agencies for “lead-by-example” programs) can use
 - Track policy/program impacts--Better Buildings; local benchmarking and disclosure
 - Company/jurisdiction can opt for NEER “basic” QA/QC or other criteria (“SCCP” or NEER “Enhanced”)
 - Participants measure and register savings using requisite QA/QC
 - **If desired, translate NEER-registered savings to avoided criteria pollutant and greenhouse gas emissions (AVERT, eGRID, other)**
 - **If state has NOx “set-aside” allowances, could allot to project owner or ESCO/contractor to sell or could retire allowances (SIP credit)**
 - **Could quantify savings, avoided emissions for potential SIP credit**
 - Help better recognize and tally EE outside of utility programs (for recognition, energy planning, air quality planning)

+ NEER Roadmapping: Pathway mapping

- Other use-cases pertinent to Pennsylvania?
- Opportunities and benefits
- Barriers
- Which applications appear most promising? Least?
- Paths forward for promising applications?
 - Overcoming barriers and realizing benefits
 - Analytic needs
 - Laws, regulations, Executive Orders, PUC orders, and other processes
- Other items?

+ NEER Roadmapping: Next steps

- Roadmap document
 - Common front section
 - State-specific sections: Oregon/Region, Tennessee, Georgia, Michigan, Minnesota, Pennsylvania
- NASEO Annual Meeting (Sept. 17-20, 2017)
 - Present draft at stakeholder meeting
 - In-person: <http://eeregistry.naseo.org/registration>
 - Webinar:
<https://attendee.gotowebinar.com/register/8665060207874759426>
- Final Roadmap due October 2017
- Continued engagement and NEER development



As of August 29, 2017:

1300 N. 17th Street
Suite 1275
Arlington, VA 22209
Phone: 703.299.8800

www.naseo.org

Thank You

Rodney Sobin

rsobin@naseo.org



The Climate Registry

Thank You

→ NEER Homepage: www.neeregistry.org

→ The Climate Registry:

- Michelle Zilinkas: mzilinkas@theclimateregistry.org
- Ryan Cassutt: rcassutt@theclimateregistry.org



The Climate Registry

→ NASEO:

- Rodney Sobin: rsobin@naseo.org



National Association of
State Energy Officials

→ Pennsylvania DEP:

- Kerry Campbell: kcampbell@pa.gov
- Dennis Maloskey: dmaloskey@pa.gov



pennsylvania

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PROTECTION

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