



Regional Energy Networks Workshop: "What's Next for the RENs?"

January 22, 2016

Meeting Agenda

10:00-10:10 a.m. **Introduction**, ALJ Todd Edmister & Mr. Jeremy Battis, CPUC

- 10:10-10:45 a.m. Summary of the RENs Reconciliation Memo, Dr. Katherine Johnson, CPUC EM&V Advisor
- 10:45-11:00 a.m. **Current Proposed Studies,** Mr. Tory Francisco & Ms. Paula Gruendling, CPUC Staff
- 11:00-11:45 a.m. Question and Answers

11:45-12 Noon Wrap Up and Adjourn, Mr. Jeremy Battis, CPUC

Introduction

"What's Next for the RENs?"





Regional Energy Network Reconciliation Memo

Summarizes the results of the two REN studies completed to date:

- PY 2013–2014 Regional Energy Networks Value and Effectiveness Study Final Report, (Value and Effectiveness Study), conducted by Opinion Dynamics Corporation (ODC), January 5, 2016.
- 2013-14 Regional Energy Networks and Community Choice Aggregator Programs Impact Assessment Final Report (Impact Assessment), prepared by Itron, Apex Analytics and DNV-GL January 7, 2016.

Key Takeaways

- Studies provided some preliminary information about the current value and effectiveness of the RENs.
- Savings estimates are preliminary but do suggest that BayREN multifamily program has made significant progress to date relative to its forecasted goals for both its kilowatt hour (kWh) and therm projections.
- Memo summarizes the key objectives, savings to date, and key findings from the two EM&V Studies.
- But it is too soon to draw any conclusive recommendations regarding the future of the RENs.

Reconciliation Memo Overview

- Summarizes the "What the RENs Promised"
- Summarizes the Progress Made to Date from
 - REN Annual Reports
 - Two EM&V Studies
- Highlights findings from the two studies
- Identifies additional areas for future study

Overview of the Evaluation, Measurement & Verification (EM&V) Studies

Table 2. Subprograms Included in the EM&V Studies¹⁸

REN SubProgram	Areas Addressed in the ODC Report	Areas Addressed in the Itron Report				
BayREN Programs						
Single Family Home Energy Advisor	Assess Value and Effectiveness; Summary of Accomplishments	Gross Impact Assessment, Cost Effectiveness Analysis; Evaluability Assessment; Accomplishments Assessment				
Multifamily	Assess Value and Effectiveness; Summary of Accomplishments	Gross Impact Assessment, Net-to-Gross Analysis; Cost Effectiveness Analysis, Evaluability Assessment; Accomplishments Assessment				
Codes & Standards	Summary of Accomplishments	Not evaluated				
Financing Portfolio	Assess Value and Effectiveness of PAYS Water Efficiency Pilot; Summary Accomplishments	Not evaluated				
SoCalREN Programs						
Home Upgrade and Multifamily Whole Building Upgrade	Summary of Accomplishments	Gross Impact Assessment, Cost Effectiveness Analysis; Evaluability Assessment; Accomplishments Assessment				
Financing	Assess Value and Effectiveness of Public Agency Financing Program; Summary of Accomplishments	Not evaluated				

¹⁸ Pages 17-23, PY2013-2014 Value and Effectiveness Study, Opinion Dynamics Corporation, November 18, 2015[,] and Page ES-4, 2013-14 Regional Energy Networks and Community Choice Aggregator Programs Impact Assessment Draft Report, Itron, Apex Analytics & DNV-GL, November 16, 2015.

Summary of EM&V Methodologies

Table 3. Summary of EM&V Methodologies Used in the Two Studies¹⁹

EM&V Approach	ODC	ltron
Review of Program Records		
Annual Reports	All Programs	
Review Program Databases		RENs Single and Multifamily Programs; SoCalREC
Ex Ante Savings Estimates -		RENs Single and Multifamily
Review selected measures		Programs
In-Depth Staff Interviews	34	
REN Staff	24	
IOU Staff	10	
Internet Customer Surveys	105	
SoCalREN Public Agency Participants	28	

¹⁹ Pages 17-23, PY2013-2014 Value and Effectiveness Study, Opinion Dynamics Corporation, November 18, 2015 and Page ES-4, 2013-14 Regional Energy Networks and Community Choice Aggregator Programs Impact Assessment Draft Report, Itron, Apex Analytics & DNV-GL, November 16, 2015.

What the RENs Promised

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Background

- The CPUC authorized a new type of energy efficiency program administrator in November 2012, through the formation of two Regional Energy Networks (RENs) with a two-year budget of approximately \$67 million.
- The RENs are also independently accountable for delivering the results described in their respective Program Implementation Plans (PIPs) and providing monthly and annual updates on their overall progress towards achieving their energy savings goals.

Role of the RENs

Deliver energy efficiency services that:

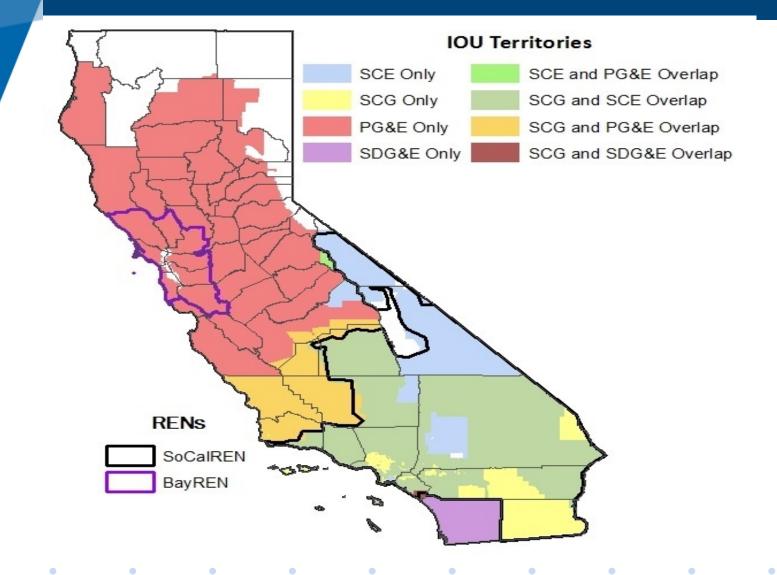
- The four California Investor-Owned Utilities (IOUs) cannot or do not intend to undertake;
- There is no current utility program offering and for which there is the potential for scalability to a broader geographic reach, if successful; and
- Are hard-to-reach markets, whether or not there is currently a utility program that may overlap.

RENs are Unique

"Had the utilities been proactive over the past several years and reached out to the local governments to create true partnerships that took advantage of the expertise and viewpoints of the local governments, perhaps the Commission would not have felt the need to step in to allow the REN proposals to be submitted directly and the RENs could indeed have been satisfied with being part of the utility portfolios...But for now, RENs are distinguishable from other LGPs by the fact that the Commission instead of the utilities selects them.

 The RENs are also independently accountable for delivering the results described in the PIPs.

RENs' Territories



BayREN Programs



- BayREN Single Family Home Upgrade
- Bay Area Multifamily Whole Building Program
- The BayREN Codes and Standards Subprogram
- BayREN Energy Efficiency Financing Portfolio

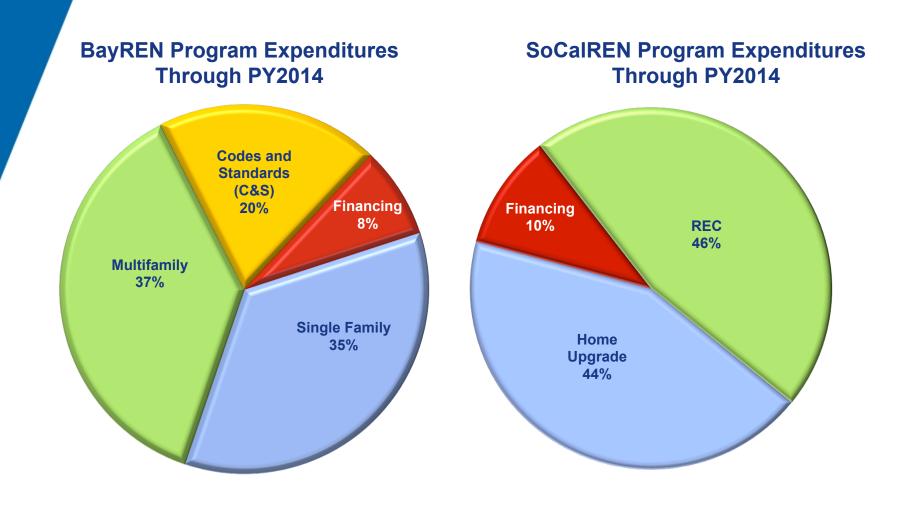
SoCalREN Programs

#energynetwork

- Single Family Home Upgrade
- Multifamily Whole Building Retrofits
- Local Marketing and Outreach, Contractor Outreach and Training
- Green Building Labeling, and Low Income Single Family Housing Upgrades
- Financing Programs
- SoCalREN's Regional Energy Center

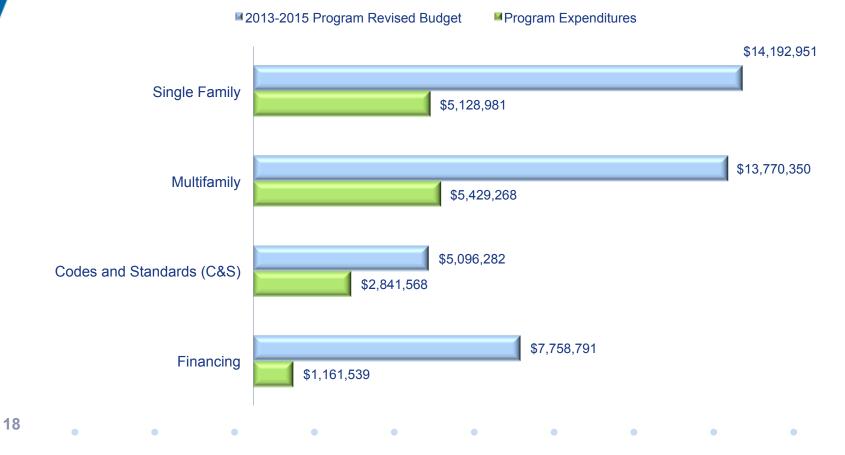
REN Spending & Savings Comparisons

REN Program Spending



BayREN Program Spending

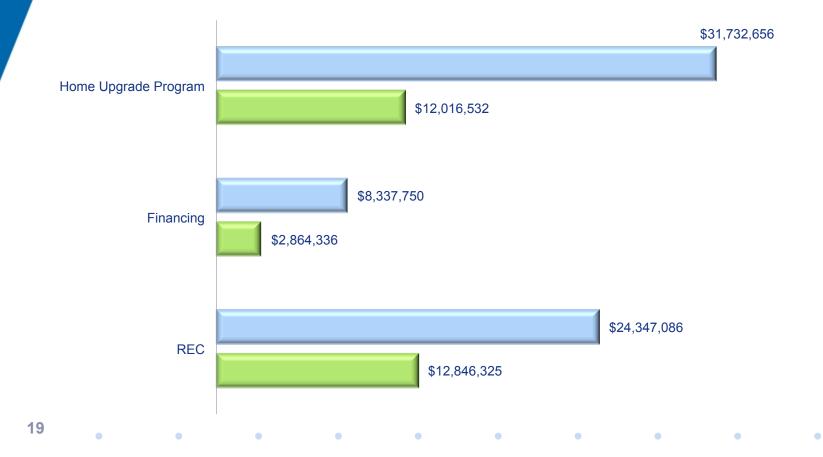
Comparison of BayREN 2013-2015 Budgets to Program Expenditures (Through December 2014)



SoCal REN Program Spending

Comparison of SoCalREN 2013-2015 Budgets to Expenditures (Through December 2015)

2013-2015 Program Revised Budget Program Expenditures



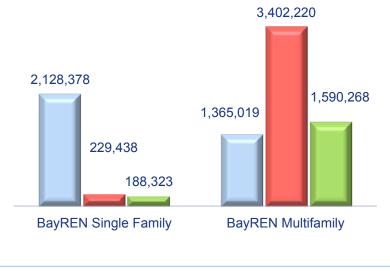
Comparison of kWh Savings Estimates

BayREN kWh Savings Estimates

Forecasted Savings

Self-Reported Savings

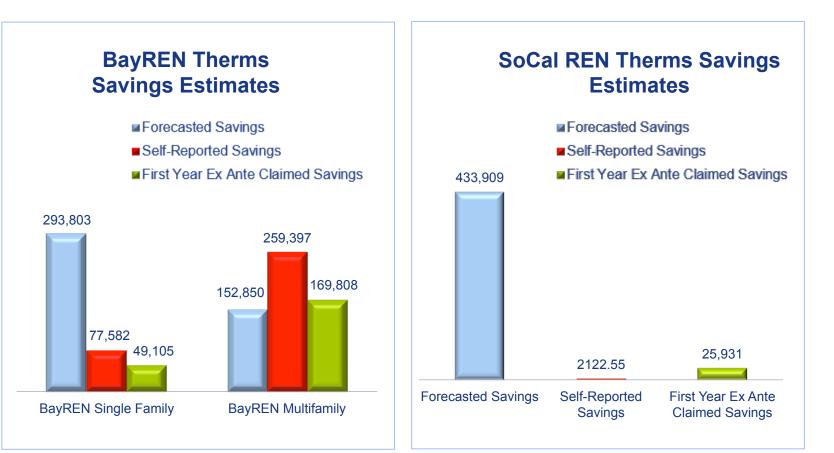
First Year Ex Ante Claimed Savings



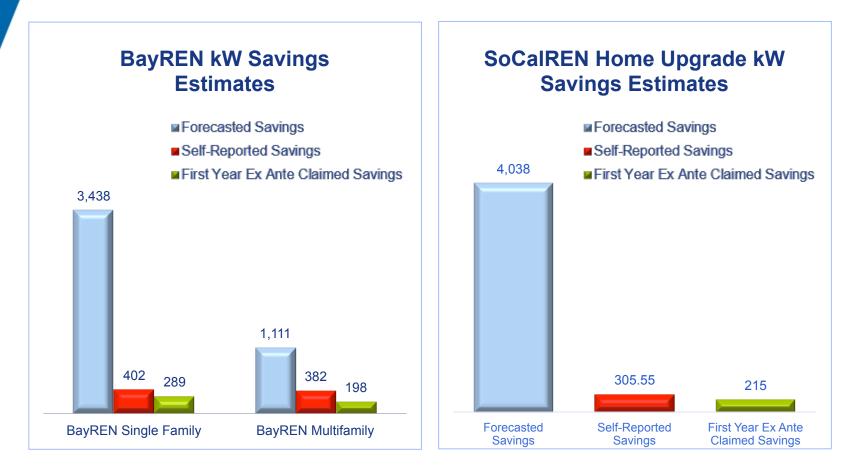




Comparison of Therms Savings Estimates

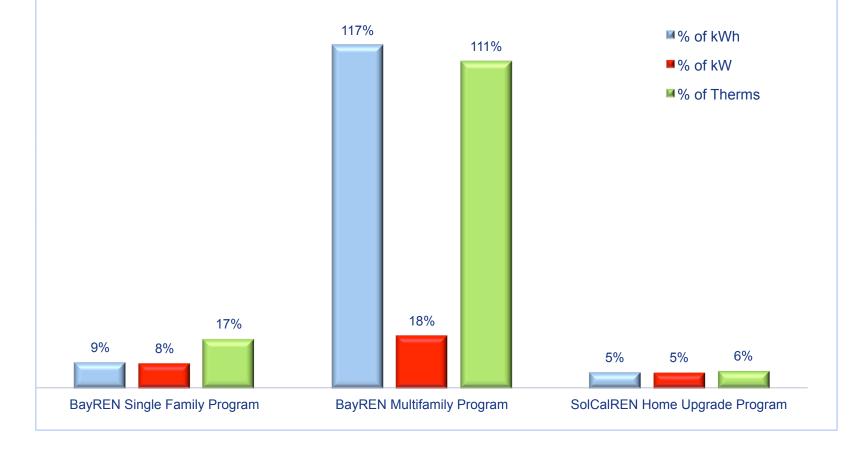


Comparison of kW Savings Estimates



Comparison of Forecasted to Claimed

Comparison of Forecasted to Claimed Energy Savings

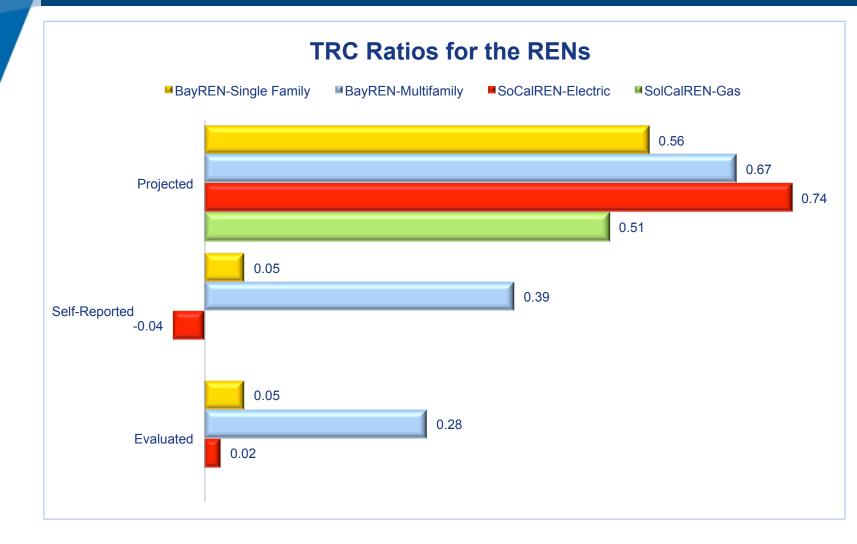


Comparison of Forecasted to Reported

Comparison of Forecasted to Reported Energy Savings [™]% of kWh % of kW ■% of Therms 249% 170% 34% 26% 12% 11% 9% 8% 0.49% **BayREN Single Family Program BayREN Multifamily Program** SolCalREN Home Upgrade Program

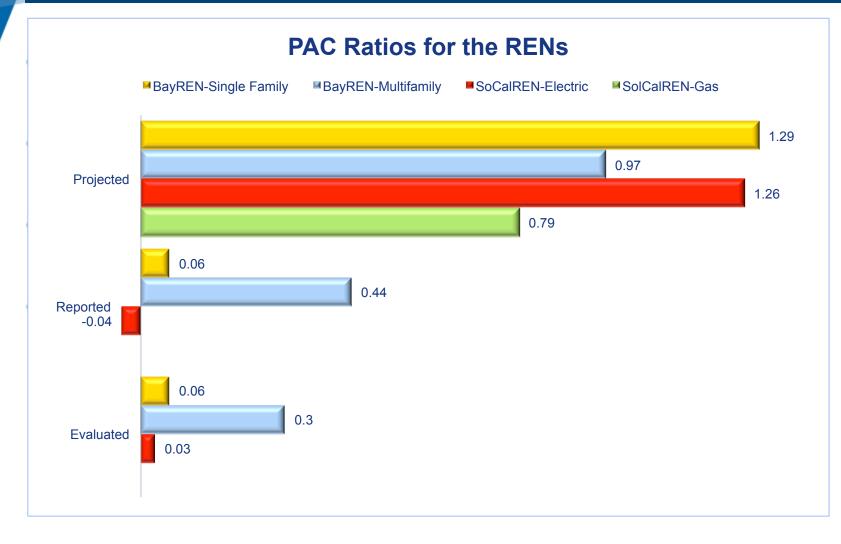
Cost-Effectiveness

Cost-Effectiveness Findings



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PAC Ratios for the RENs



Additional Key Findings from the Impact Assessment

- Itron calculated the net-to-gross values only for BayREN's multifamily measures
 - Itron found that the ex post savings were lower than the ex ante savings or
 - That the actual savings estimates were .58 compared to forecasted savings estimates of .85.
- But Itron qualified its savings estimates as follows:

"Although this evaluation did not update gross savings values for the RENs' multifamily measures, there is not a high level of confidence in the reliability of these values either."

Qualitative Findings from the Value & Effectiveness Study

Key Findings from the Value & Effectiveness Study

- Capacity Building: The RENs may help improve local government capacity building.
- Customer Satisfaction: RENs' program participants report high satisfaction levels across all three programs studied.
- Additional Benefits: Participants in the PAYS, Home Upgrade Advisor, and Public Agency Program programs indicated that they received substantial benefit from the RENs activities.
- Scalability: Existing REN program offerings can be replicated and scaled up but new RENs may face difficulties and significant barriers to entry.

Non-Resource Accomplishments

Table 1. Comparison of Non-Resource Goals toSelf-Reported and Verified Accomplishments

Performance Metric	BayREN	SoCalREN	Total
Total number of PPA metrics reported	21	9	30
Number reported and verified	9	5	14
% Verified	43%	56%	47%
Number Additional Metrics Reported in the 2015 Annual Report	12	28	40
Number of Additional Metrics Verified	9	22	31
% Verified	75%	79%	78%

Comparison of EM&V Studies

Areas of Agreement within the EM&V Studies

- Both studies identified serious deficiencies in the current program databases and provided recommendations on ways in which to improve database tracking to better link program accomplishments to energy savings.
 - Itron provided 24 recommendations intended to improve data collection and tracking to allow for better estimates of energy savings.
- Both studies found that the non-resource accomplishments have a positive impact on REN operations.
 - But these require further study.

Areas of Inconsistency

The two studies diverged in their characterization of the savings estimates:

- ODC concluded that the BayREN Multifamily program performed well and achieved higher than expected savings.
 - However, this is based on qualitative findings only, and do not reflect the actual savings estimates.
 - Itron found that BayREN's Multifamily Program had a net realization rate of only 68% of its energy savings goals. This finding is based on the actual review of savings estimates and therefore is considered to be a more reliable result.

Conclusions and Recommendations from the EM&V Studies

Value

- Offering new program designs, such as the PAYS and (SoCalREC) software packages;
- Supporting energy efficiency in hard-to-reach markets, specifically in the multifamily sector; and
- Providing beneficial technical expertise in BayREN Home Upgrade Advisor, SoCalREN Public Agency Program, and PAYS programs.

Conclusions and Recommendations from the EM&V Studies

Effectiveness

- Successfully navigated the CPUC regulatory environment and mitigated administrative challenges to bring their nearly \$67-million-dollar portfolio of programs to fruition within 18 months;
- Responding well to management challenges; and
- Achieving high satisfaction ratings across the three different programs.

Impact Assessment

- The current program databases are overstating savings estimates, which then lead to significant miscalculations of program cost-effectiveness, and free ridership rates.
- The gross savings estimates for the REN programs were significantly overstated.
- The study found significantly different net-to-gross ratio (NTGR) for the BayREN program.
- The evaluators identified a number of reasons for these errors.

Recommendations from EM&V Studies

- ODC recommended that the RENs should continue because of the value that they demonstrate to their constituencies in several important areas.
- Itron determined that both the RENs and the IOUs need to improve the data collection and tracking of key pilot methods to improve quality of data needed to document program progress and determine energy savings and cost-effectiveness.
- Both evaluations recommended conducting additional studies to more fully understand the effects of issues identified in these two EM&V Reports.

ED EM&V Conclusions & Recommendations

Results are Preliminary

- Neither study offered definitive recommendations on steps the CPUC should take with regard to the next chapter of the RENs.
 - Specifically, the findings from these two studies suggest that the BayREN multifamily program has made significant progress to date relative to its forecasted goals for both its kilowatt hour (kWh) and therm projections.

But this needs to be verified through future studies.

Better Tracking is Needed to Document Non-Resource Accomplishments

- The value of the metrics currently tracked for nonresource programs is questionable as they are not linked directly back to specific program goals.
- Future process evaluations should include recommendations on ways to streamline and improve the quality of the information reported in the program databases to ensure that the full value of these non-resource programs is reported appropriately.

Additional Study is Needed

- There are several related studies currently underway may provide additional information to guide the CPUC in determining appropriate next steps for the RENs.
- Drawing more meaningful conclusions about the status of the RENs and their future seems premature at this point.
- Unfortunately, neither study can provide a clear answer to the question now before the CPUC: What's next for the RENs?
- The Commission should continue the programs subject to implementation of the recommended improvements in the reports and continue to review their performance through the planned studies.

Current Proposed Studies

Studies in the Pipeline

- A process study of the BayREN Codes and Standards Compliance Improvement Program
- "Market Scalability Study of the RENs and MCE Multifamily Programs
- An energy impact evaluation of the RENs, due in 2016, will cover the 2013–2014 program years and the first two quarters of 2015.
- A second phase of this RENs value and effectiveness study, to be completed in 2016.

Discussion Period

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For More Information

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