2015 Integrated Resource Plan

IRPWG Meeting

Session 10

December 15th -16th , 2014

Day 1

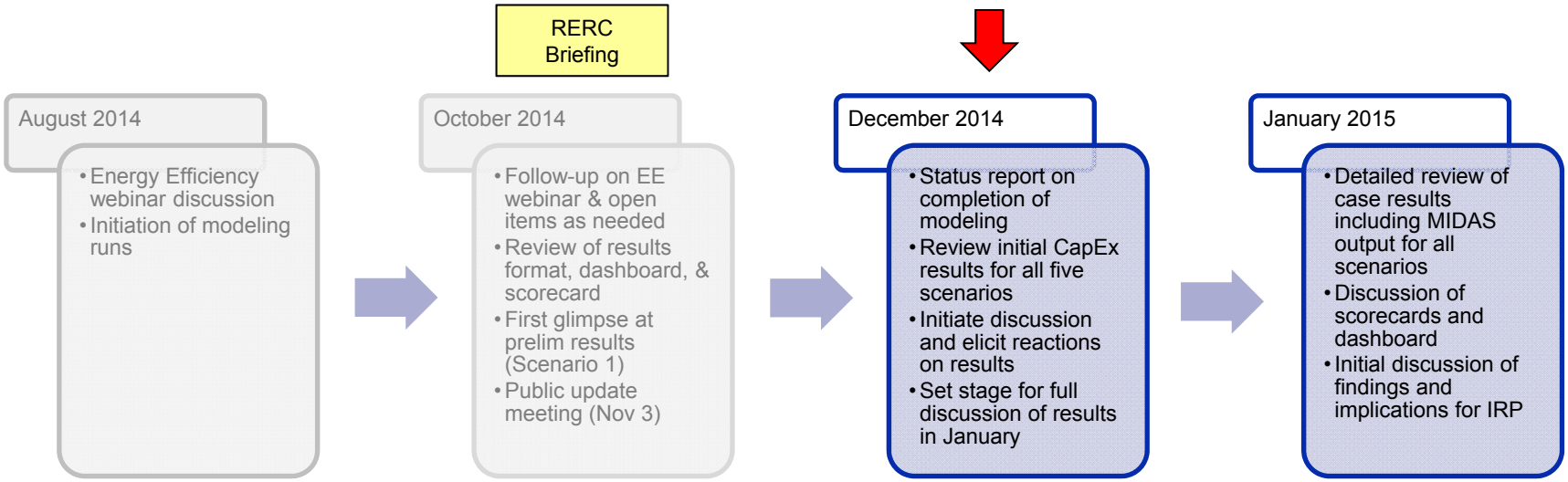
IRPWG Meeting – December 15th Agenda

	Day 1	
10:00	Welcome – IRP Status and Session Objectives	Randy
10:10	Updates on Public Meetings / Board Meetings	Joe/Gary
10:45	2015 IRP Work Plan	Gary
11:00	Revised Preliminary Results – Scenario 1	Tom
12:00	Lunch	
1:00	Preliminary Results – Scenario 2	Tom
1:30	Preliminary Results – Scenario 3	Tom
2:00	Preliminary Results – Scenario 4	Tom
2:30	Break	
2:45	Preliminary Results – Scenario 5	Tom
3:15	Summary by Strategy	Scott
3:45	Break	
4:00	Observations/ Take-aways	Randy
4:45	Wrap-up/Overview of Next day Agenda	Randy
5:00	Adjourn	

IRPWG Meeting – December 16th Agenda

	Day 2	
8:30	Recap from Day 1- Observations Day 2 Agenda and Objectives	Randy
9:15	Revisit Evaluation Categories and Metrics	Gary
9:30	Valley Economics Methodology	Tim
10:00	Break	
10:15	Environmental Methodology	Chuck
10:45	Break	
11:00	Flexibility Metrics Cost/Risk Metrics Scorecard and Strategies Assessment Process	Gary
11:45	Wrap-up / Next Steps	Randy
12:00	Adjourn	

December 15th – 16th IRPWG Meeting Objectives



During this meeting, we aim to accomplish the following objectives:

- Update the group on revisions to modeling assumptions and strategy treatment
- Review the preliminary CapEx case results for all five scenarios
  - We have not yet completed the stochastic analysis in MIDAS. Those results will be presented in January
- Discuss initial observations and feedback on results from the IRPWG
- As requested by the IRPWG, present additional detail on the economic impact and environmental methodologies being used for the 2015 IRP
- Update the team on metrics scoring and reporting tools to be used to evaluate and communicate the IRP results

Update on External and Stakeholder Meetings

Quarterly Project Status: Public Meeting

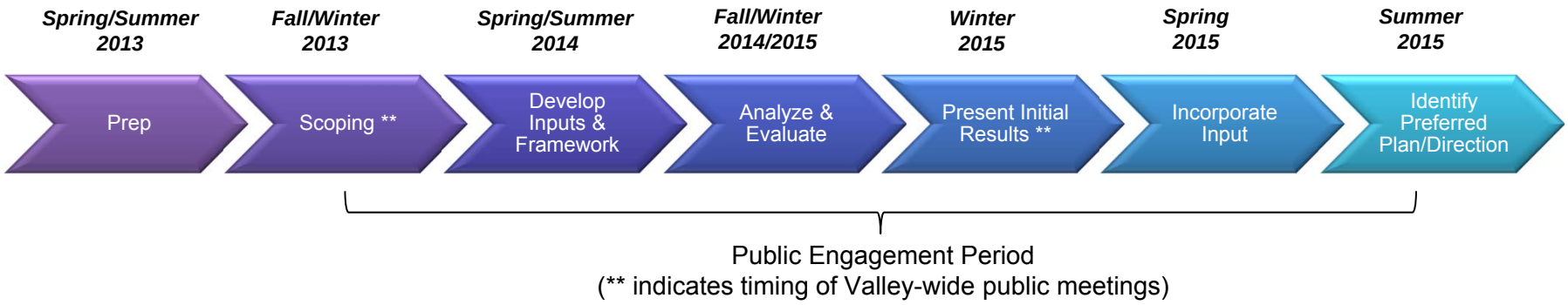
- Held November 3rd in Knoxville (and via webinar)
- Purpose of quarterly meetings is to brief public on IRP process, provide status update and answer questions
- Questions from participants centered around three main areas
  - Scenario assumptions: growth, electricity prices, etc
  - Environmental metrics
  - TVA IRP process compared to other utilities

TVA Board Meeting

- Updated the board on the IRP Process
- Discussed status of Shawnee Units 1 & 4
  - 2011 EPA consent decree requires TVA to either control, repower, or retire units 1 & 4 by December 31, 2017, with the decision to be made by December 31, 2014
  - TVA released a draft of the required Environmental Assessment (EA) on November 25th, proposing that the units be controlled
  - This proposal will be taken up by the Board for a final decision by December 31st
  - All data and results presented today reflect this modeling assumption

2015 IRP/SEIS Schedule: Major Phases/Milestones

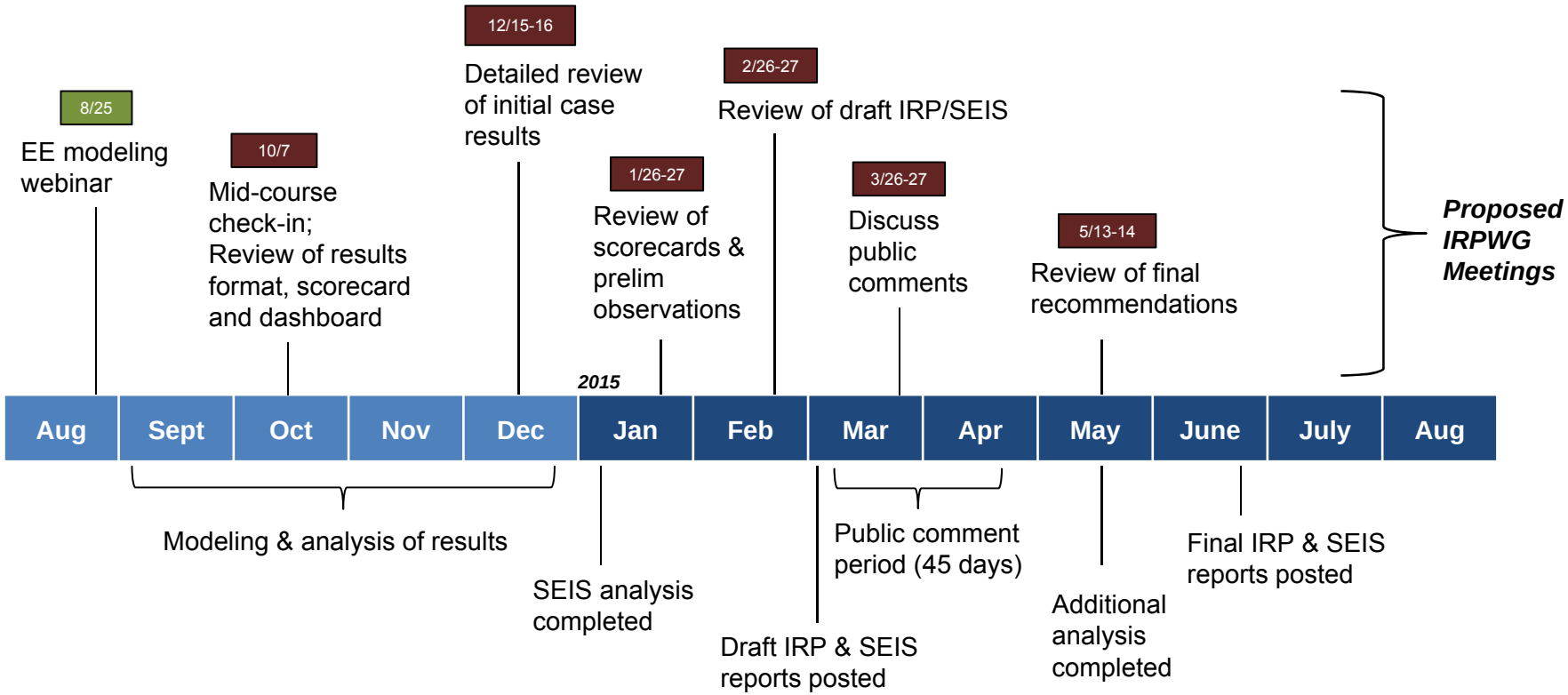
The 2015 IRP is intended to ensure transparency and enable stakeholder involvement.



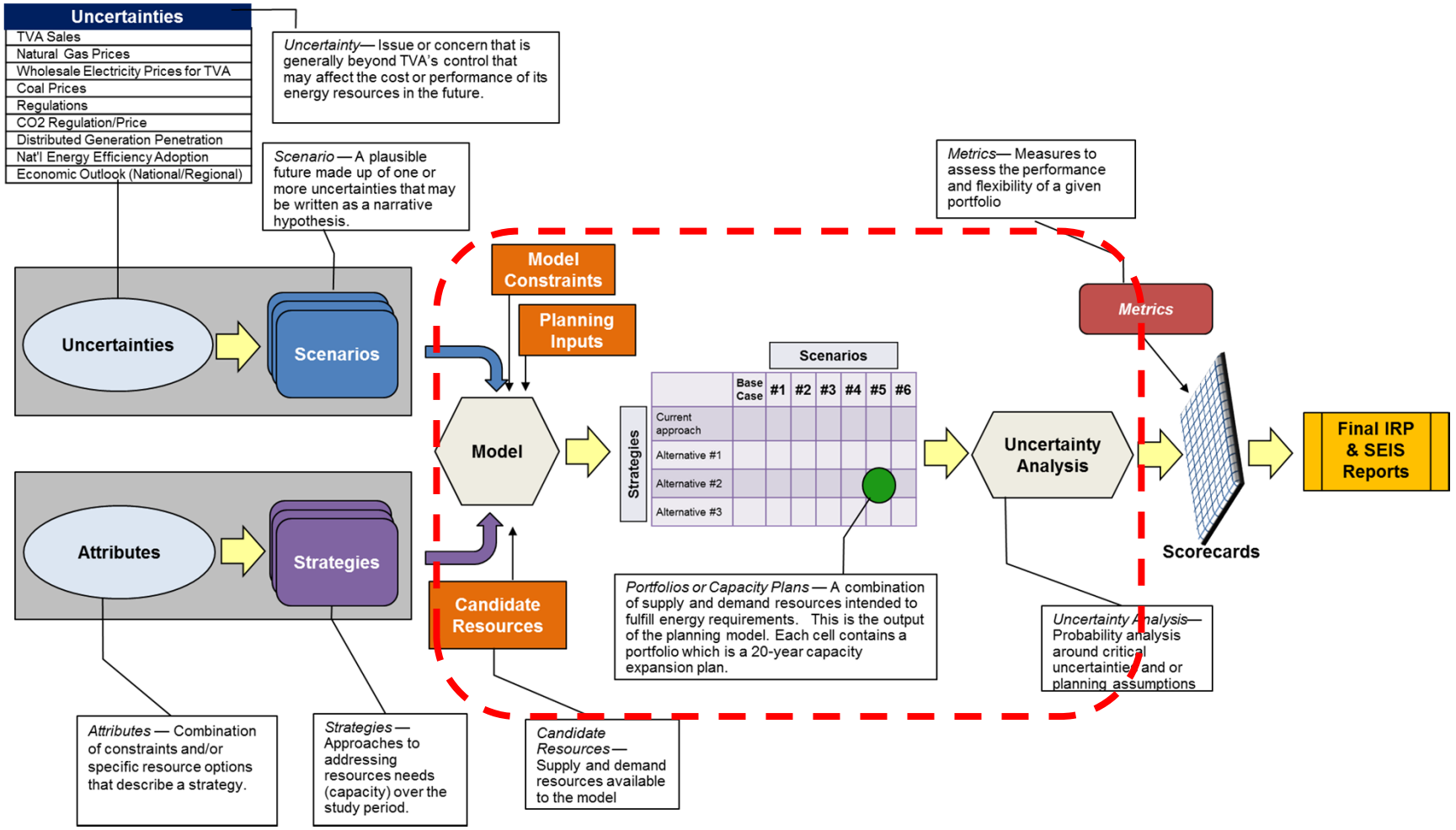
Key tasks/milestones in this revised study timeline include:

- Complete modeling runs – December 2014
- Detailed review of case results & prelim findings – January 2015
- Publish draft Supplemental Environmental Impact Statement (SEIS) and IRP – February 2015
- Complete public meetings on draft results – April 2015
- Final publication of SEIS and IRP and Board approval – June 2015

2015 IRP/SEIS Schedule: Major Milestones & Stakeholder Sessions

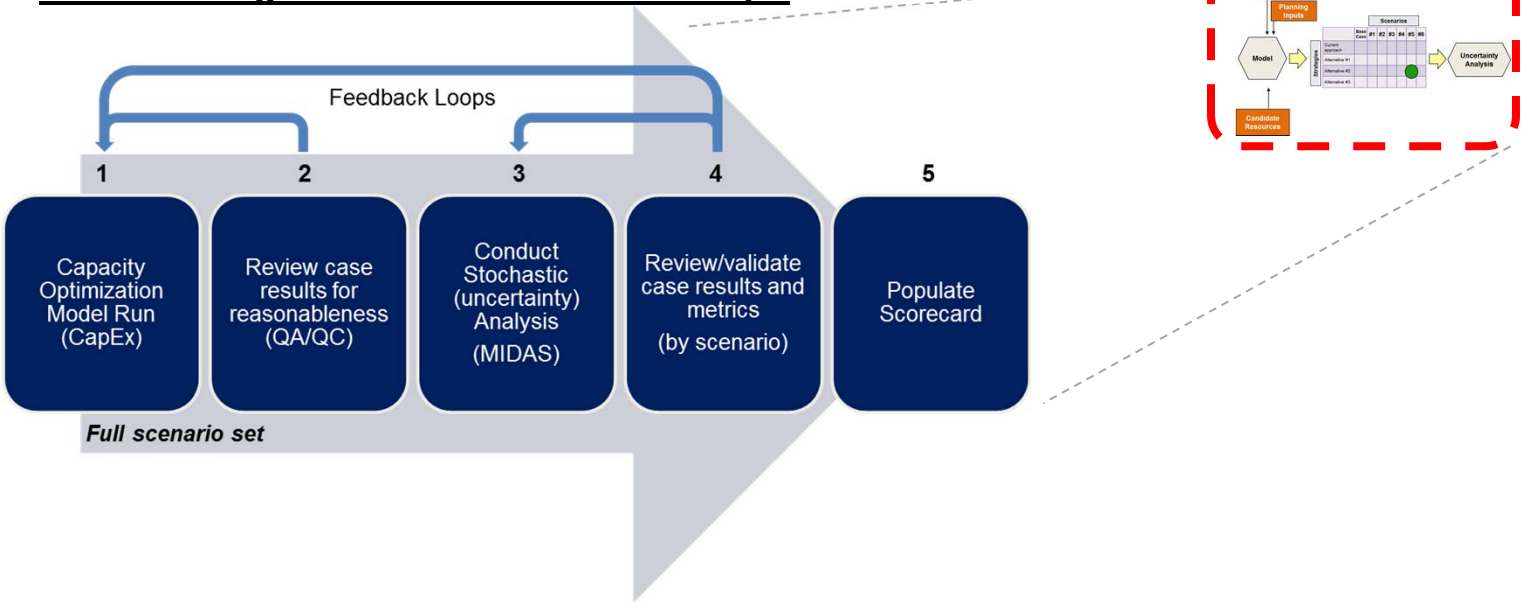


The Modeling Process



Today's Review of Preliminary Results

The Modeling Process Involves Five Steps



- During today's session we will review CapEx results for all scenarios and strategies
- These preliminary results reflect completion of Step 2 of the modeling process only – can present expected values but no detailed stochastic analysis yet
- In addition, it is important to remember that what we will see today is only a portion of all the model runs that will be subject to analysis:
  - The whole process involves 25 standard cases; 72 stochastic iterations; additional sensitivity runs: over 1800 model runs in total
- Raw results are covered in the **NDA agreement**, so today's session will be open only to those who have executed an NDA

Scenarios and Strategies Being Modeled

Scenarios	
1. Current Outlook	• Current outlook for the future TVA is using for resource planning studies
2. Stagnant Economy	• Stagnant economy results in flat to negative growth, delaying the need for new generation
3. Growth Economy	• Rapid economic growth translates into higher than forecasted energy sales and resource expansion
4. De-Carbonized Future	• Increasing climate-driven effects create strong federal push to curb GHG emissions: new legislation caps and penalizes CO2 emissions from the utility industry and incentivizes non-emitting technologies
5. Distributed Marketplace	• Customers' awareness of growing competitive energy markets and the rapid advance in energy technologies produce unexpected high penetration rates in distributed generation and energy efficiency

Strategies	
A – The Reference Plan	• Traditional utility "least cost optimization" case
B – Meet an Emission Target	• Resources selected to create lower emitting portfolio based on an emission rate target or level using CO2 as the emissions metric
C – Lean on the Market	• Most new capacity needs met using PPA or other bilateral arrangements • TVA makes a minimal investment in owned assets
D – Doing More EE	• Majority of capacity needs are met by setting an annual energy target for EE (e.g., minimum contribution of 1% of sales)
E – Focusing on Renewables	• Majority of new capacity needs are met by setting immediate and long-term renewable energy; includes hydro • Utility-scale approach is targeted initially with growing transition to distributed generation as the dominant renewable resource type by 2024

Break: Lunch

Break

Break

Observations / Take-aways

Wrap-up and Overview of Tomorrow's Agenda

Overview of Day 2

IRPWG Meeting – December 16th Agenda

	Day 2	
8:30	Recap from Day 1- Observations Day 2 Agenda and Objectives	Randy
9:15	Revisit Evaluation Categories and Metrics	Gary
9:30	Valley Economics Methodology	Tim
10:00	Break	
10:15	Environmental Methodology	Chuck
10:45	Break	
11:00	Flexibility Metrics Cost/Risk Metrics Scorecard and Strategies Assessment Process	Gary
11:45	Wrap-up / Next Steps	Randy
12:00	Adjourn	

Day 1 Adjourn

2015 Integrated Resource Plan

IRPWG Meeting

Session 10

December 15th -16th , 2014

Day 2

Day 1 Recap

The primary comments and suggestions received during yesterday's session can be grouped in the following categories:

1. XXXXXXX

XXXXXXXXXXXXXx

IRPWG Meeting – December 16th Agenda

	Day 2	
8:30	Recap from Day 1- Observations Day 2 Agenda and Objectives	Randy
9:15	Revisit Evaluation Categories and Metrics	Gary
9:30	Valley Economics Methodology	Tim
10:00	Break	
10:15	Environmental Methodology	Chuck
10:45	Break	
11:00	Flexibility Metrics Cost/Risk Metrics Scorecard and Strategies Assessment Process	Gary
11:45	Wrap-up / Next Steps	Randy
12:00	Adjourn	

During this meeting (Day 2), we aim to accomplish the following objectives:

- Continue discussion/reactions to preliminary case results
- Discuss in detail, methodologies behind Valley Economics and Environmental Stewardship
- Recap evaluation categories and metrics calculations prior to presentation of full detailed results in January

2015 IRP Selected Metrics

- During this section we will present the Scoring and Reporting metrics that TVA has selected for the 2015 IRP
- For this final selection, TVA has taken into consideration the inputs from stakeholders as well as industry benchmarks on metrics and evaluation criteria used by other utilities in their IRPs
- First, the detailed formulas of the 2015 metrics will be presented. As a reminder:
  - Scoring metrics are those that will be used in the scorecard
  - Reporting metrics will be used in the draft and final versions of the IRP report to illustrate the findings and further support the recommendations
- Following, as requested by the IRPWG, we will revisit the methodologies behind the calculation of the scoring metrics

Selected Scoring Metrics – Definitions/Formulas

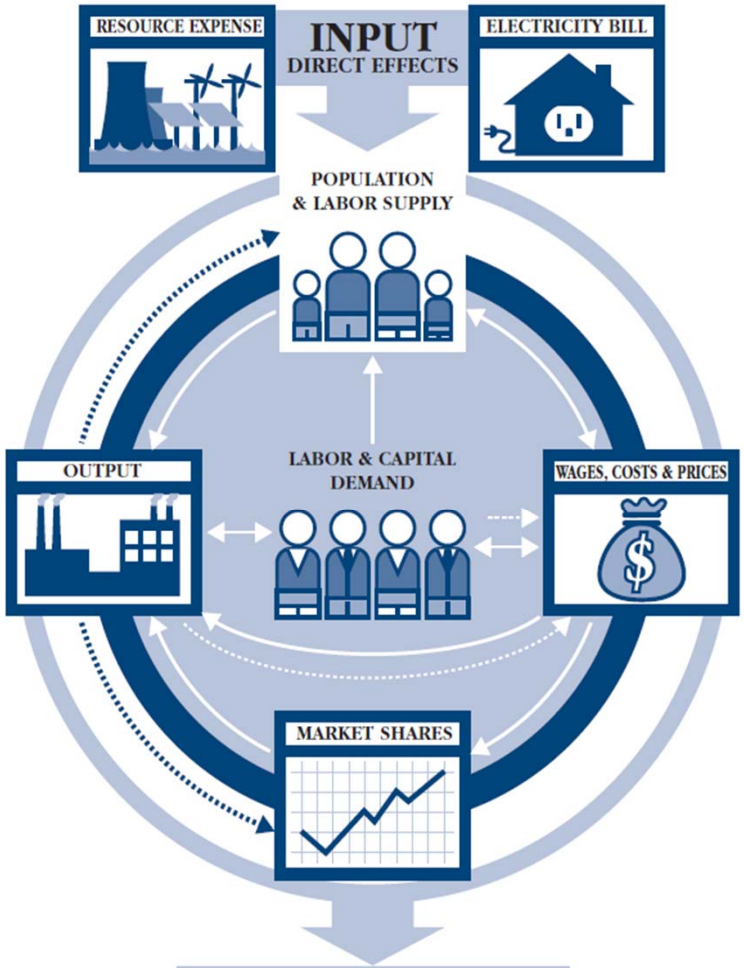
Category	Scoring Metric		Formula
Cost	**PVRR ($Bn)**	=	Present Value of Revenue Requirements over Planning Horizon
	System Average Cost Years 1-10 ($/MWh)	=	$\frac{\text{NPV Rev Reqs}_{(2014\text{-}2023)}}{\text{NPV Sales}_{(2014\text{-}2023)}}$
Risk	**Risk/Benefit Ratio**	=	$\frac{95^{th}_{(PVRR)} - \text{Expected}_{(PVRR)}}{\text{Expected}_{(PVRR)} - 5^{th}_{(PVRR)}}$
	Risk Exposure ($Bn)	=	95^{th} Percentile $_{(PVRR)}$
Environmental Stewardship	**CO_2 (MMTons)**	=	Average Annual Tons of CO_2 Emitted During Planning Period
	Water Consumption (Billion Gallons)	=	Average Annual Gallons of Water Consumed During Planning Period
	Waste (MMTons)	=	Average Annual Tons of Coal Ash and Scrubber Residue During Planning Period
Flexibility	**System Regulating Capability**	=	$\frac{\Sigma \text{ (Regulating Reserve + Demand Response + Quick Start)}}{\text{Peak Load}}$
Valley Economics	**Per Capita Income**	=	Difference in the Change in Per Capita Personal Income Compared to Reference Case (for each scenario)

Reporting Metrics – Definitions/Formulas

Category	Reporting Metric		Formula
Cost	**System Average Cost Years 11-20 ($/MWh)**	=	$\frac{\text{NPV Rev Reqs}_{(2024\text{-}2033)}}{\text{NPV Sales}_{(2024\text{-}2033)}}$
Risk	**Cost Uncertainty**	=	$95^{th}_{(PVRR)} - 5^{th}_{(PVRR)}$
	Risk Ratio	=	$\frac{95^{th}_{(PVRR)} - \text{Expected}_{(PVRR)}}{\text{Expected}_{(PVRR)}}$
Environmental Stewardship	**CO_2 Intensity (Tons/GWh)**	=	$\frac{\text{Tons } CO_{2\ (2014\text{-}2033)}}{\text{GWh Generated}_{(2014\text{-}2033)}}$
	Spent Nuclear Fuel Index (Tons)	=	Expected Spent Fuel Generated During Planning Period
Flexibility	**Variable Energy Resource Penetration**	=	$\frac{\text{Ave (2014-2033) } \Sigma\text{(Variable Resource Capacity)}}{\text{Annual Peak Load}}$
	Flexibility Turn Down Factor	=	$\frac{\text{“Must run” + “Non-Dispatachable (Wind/Solar/Nuclear)}_{(2033)}}{\text{Sales}_{(2033)}}$
Valley Economics	**Employment**	=	Difference in the Change in Employment Compared to Reference Strategy

Regional Economic Models, Inc. (REMI)

- **Tailored to the TVA Region by REMI**
- **Nationally & Internationally Recognized**
  - — Used by 100+ universities, state and local governments, utilities, and consulting firms across the U.S. and Europe
- **Designed specifically for scenario analysis**
- **Thousands of equations model interactions**
  - — Output
  - — Labor & Capital Demand
  - — Population & Labor Supply
  - — Wages, Costs, & Prices
  - — Market Shares
- **TVA has used REMI for 5+ years**



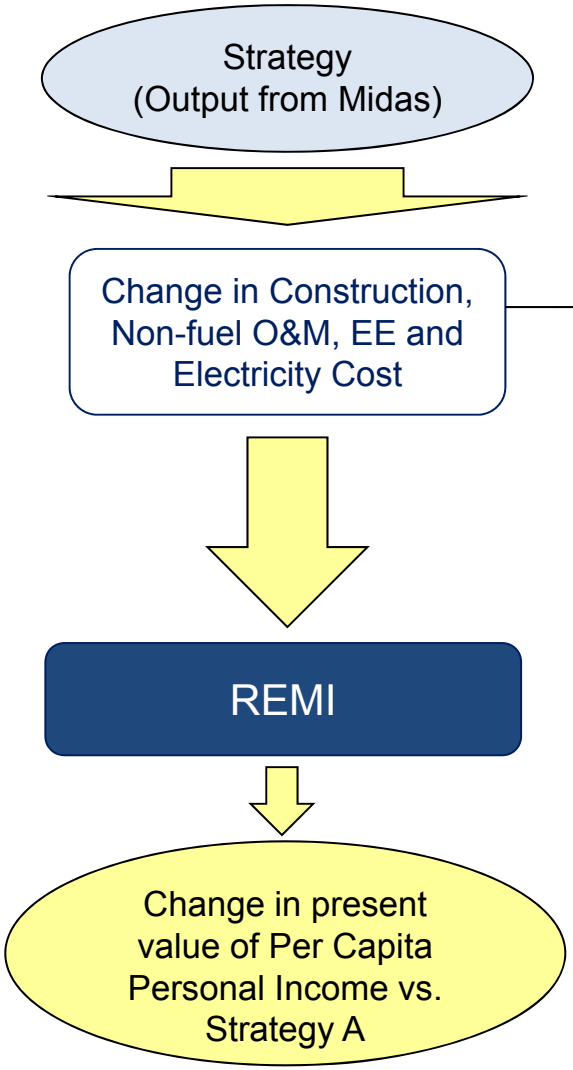
Per Capita Personal Income

Single measure of economic prosperity of TVA Region

Recall Process Improvements

- **Original Approach**
  - Utilized REMI's generic construction industry for both renewable & non-renewable plant construction
  - Required percentage sourced in TVA region for renewable & non-renewable plant construction
- **Process Improvements**
  - Solar Farm Construction custom industry for *all* renewable energy sources
  - Gas Plant Construction custom industry for *all* non-renewable energy sources
  - Provided by REMI
- **Benefits of New Approach**
  - REMI identifies what inputs are sourced in the TVA region
  - Avoids double counting inputs sourced outside TVA region

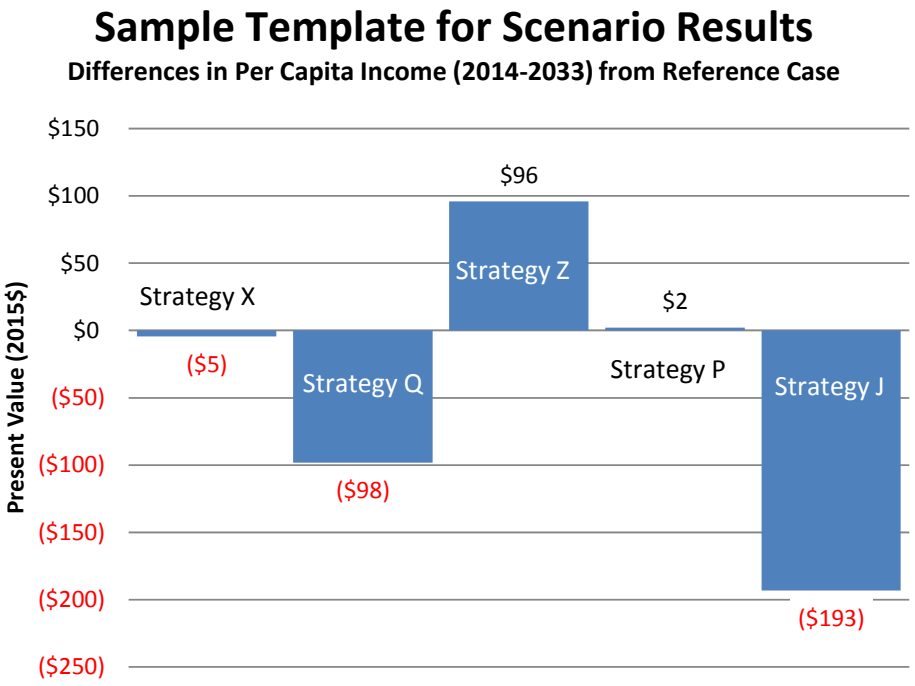
Economic Metric Calculation Process

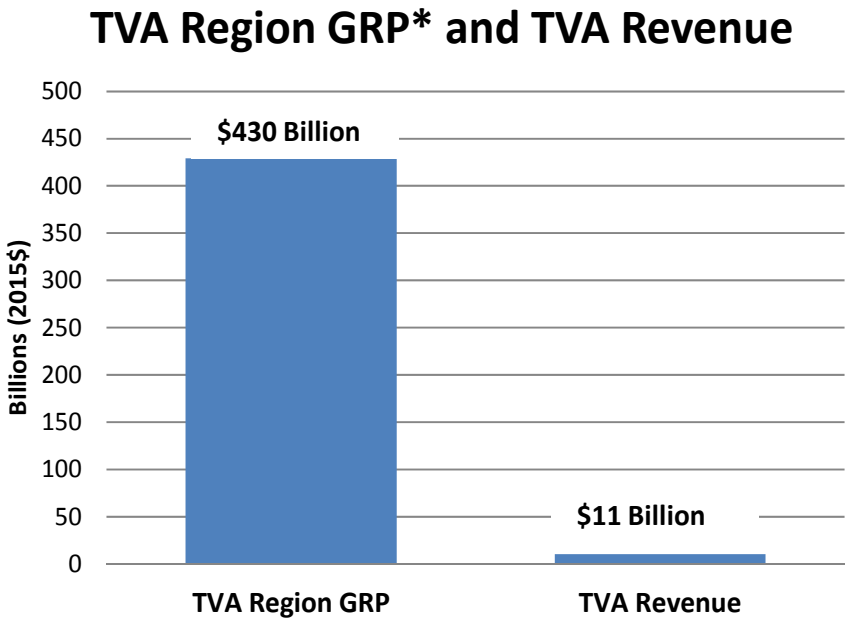


- Within each Scenario, change from Reference Case (Strategy A)
- Renewable Capital Construction Expenses
  - Solar Farm Construction custom industry provided by REMI
- Non-Renewable Capital Construction Expenses
  - Gas Plant Construction custom industry provided by REMI
- Non-Fuel O&M
  - Additional expenditures generate additional employment
- Energy Efficiency Expenditures
  - $1 Million generates 8 *direct* jobs
- Electricity Cost changes to meet strategy's revenue requirements

- 2% discount rate from 2014 through 2033 on constant dollar impacts
- Strategies ranked within each Scenario

Expect Small Impacts Across Strategies





* Gross Regional Product

- **TVA revenue about 2.5% of TVA Region GRP**
- **Differential economic impact across strategies likely small**
  - Impacts measured by present value of dollar differences from Reference Case
  - Nominal Per Capita Income in 2015 forecasted to be about $39,000

Break

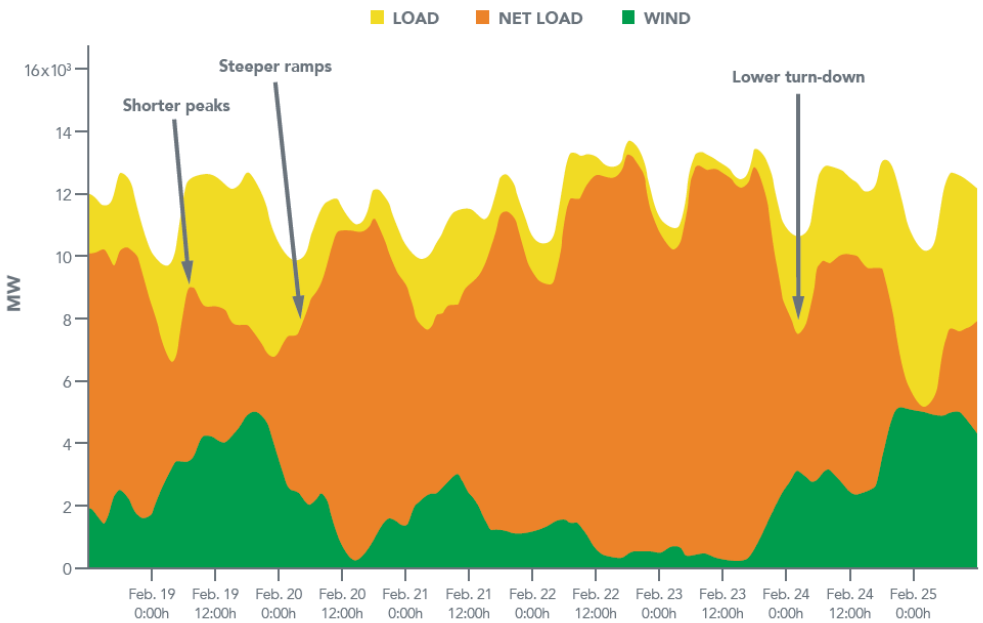
Calculation of the Environmental Metrics

CO_2 Emissions Metric	Water Consumption Metric	Waster Metric
Based on direct emissions from fuel combustion	Calculated as volume of water withdrawn from source – water discharged from facility	Calculated as sum of tons coal ash + tons scrubber residue
Existing and potential energy resources assigned CO_2 emission rate in tons/GWh based on • Heat rate in Btu/kWh • Fuel consumption in tons/MWh and ft^3/MWh • Carbon content of fuels in lbs/ton and lbs/ft^3	Existing and potential energy resources assigned water consumption rate in gallons/MWh based on • Condenser cooling water requirements • Other process water requirements	Existing and potential coal generating facilities assigned ash and scrubber residue production rates in tons/MWh based on • Facility heat rate in Btu/kWh • Heat content of coal in BTU/ton • Fuel consumption in tons/MWh • Sulfur content of coal in lbs/ton • Facility-specific type of scrubber • Limestone or lime required to operate scrubber in tons/MWh
Result presented as a single number for average annual tons (in millions) of CO_2 emitted during planning period	Results presented as a single number for average annual gallons (in millions) of water consumed during planning period	Results presented as single number for annual average quantity produced in million tons

Break

Background on Flexibility of an Electrical System

- We define flexibility as the ability of a system to agilely follow daily load changes
- Flexibility becomes a bigger issue with increasing levels of intermittent resources
- As an example, the chart to the right shows the typical impact of wind on hourly load:
  - The energy required beyond what is produced by variable energy resources (Wind) – the "net load" – has a profile with shorter peaks, steeper ramps and lower turns-down than the original load
  - EE by contrast (not shown) will have the effect of smoothing out the peaks/ramps



- Currently, there is no industry standard method for measuring flexibility of a system, but some examples of methodologies being used or developed include:

Category	Basic Metrics	Time Series Data Based	Most Complex
Purpose	• Simplified communication tool • Highlights the need for further analysis	• Short-term planning (< 3 years horizon)	• Flexibility adapted resource planning • Methodology under development
Metrics	• Variable Energy Resource % • Flexibility Turn Down Factor • System Regulating Capability	• FAST2 (IEA) • Flexibility Resource Adequacy (CAISO)	• Insufficient Ramping Resource Expectation (IRRE) • Bulk System Flexibility Index (BUSFI)

Level of complexity / data requirements — *Minimal* → *Significant*

Methodology selected for the 2015 IRP

Source: Flexibility in 21st Century Power Systems, NREL; May 2014

Selected 2015 IRP Metrics – Flexibility

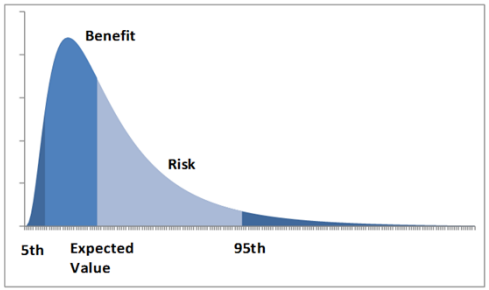
Scoring Metric	**System Regulating Capability**	=	$\frac{\Sigma \text{ (Regulating Reserve + Demand Response + Quick Start)}}{\text{Peak Load}}$
Reporting Metric	**Variable Energy Resource Penetration**	=	$\frac{\text{Ave (2014-2033) } \Sigma\text{(Variable Resource Capacity)}}{\text{Annual Peak Load}}$
	Flexibility Turn Down Factor	=	$\frac{\text{“Must run” + “Non-Dispatachable (Wind/Solar/Nuclear)}_{(2033)}}{\text{Sales}_{(2033)}}$

- The selected metrics reflect the level of exposure of the system to intermittent resources and, also, the behavior of the system under daily load changes:
  - **System Regulating Capability** is a proxy to measure the capacity of the system to respond to ramp-ups (higher is better)
  - **Variable Energy Resource Penetration** is a proxy for the level of exposure to potential flexibility challenges
  - **Flexibility Turn Down Factor** is a proxy to measure the inertia of the system during ramp-downs (higher is worse)

Selected 2015 IRP Metrics – Cost & Risk

Scoring Metrics

Cost	PVRR ($Bn)	=	Present Value of Revenue Requirements over Planning Horizon
	System Average Cost Years 1-10 ($/MWh)	=	$\frac{\text{NPV Rev Reqs}_{(2014\text{-}2023)}}{\text{NPV Sales}_{(2014\text{-}2023)}}$
Risk	Risk/Benefit Ratio	=	$\frac{95^{th}_{(PVRR)} - \text{Expected}_{(PVRR)}}{\text{Expected}_{(PVRR)} - 5^{th}_{(PVRR)}}$
	Risk Exposure ($Bn)	=	95^{th} Percentile $_{(PVRR)}$



Reporting Metrics

Cost	System Average Cost Years 11-20 ($/MWh)	=	$\frac{\text{NPV Rev Reqs}_{(2024\text{-}2033)}}{\text{NPV Sales}_{(2024\text{-}2033)}}$
Risk	Cost Uncertainty	=	$95^{th}_{(PVRR)} - 5^{th}_{(PVRR)}$
	Risk Ratio	=	$\frac{95^{th}_{(PVRR)} - \text{Expected}_{(PVRR)}}{\text{Expected}_{(PVRR)}}$

- The selected cost metrics measure the financial impact of a strategy in the short and long terms
- The risk metrics represent different views of financial risk exposure for each strategy
- The combination of cost and risk of a particular strategy is the primary evaluation criteria in the IRP

2015 IRP Scorecard

Example: 2011 Planning Strategy C - Diversity Focused Resource Portfolio

Raw Values	Cost		Risk		Environmental Stewardship			Flexibility	Valley Economics
Scenarios	PVRR	Sys Avg Cost (Yr 1-10)	Risk/Benefit Ratio	Risk Exposure	CO2	Water	Waste	N/A	% Change in Per Capita Income
1. Economy Recovers Dramatically	169.13	78.76	1.38	208.65	1,673	4,663	438	N/A	0.60
2. Environmental Focus is a National Priority	132.04	75.36	1.29	158.90	1,418	4,214	427	N/A	N/A
3. Prolonged Economic Malaise	114.02	77.40	0.89	123.48	1,210	3,749	382	N/A	N/A
4. Game-Changing Technology	134.93	76.00	1.14	155.66	1,408	4,256	397	N/A	N/A
5. Energy Independence	131.23	75.64	1.16	152.91	1,422	4,200	424	N/A	N/A
6. Carbon Regulation Creates Economic Downturn	104.81	75.55	0.91	117.48	1,035	3,503	315	N/A	0.10
7. Spring 2010 Baseline	130.06	75.94	1.14	149.58	1,427	4,305	414	N/A	N/A

N/A: 2011 data not available

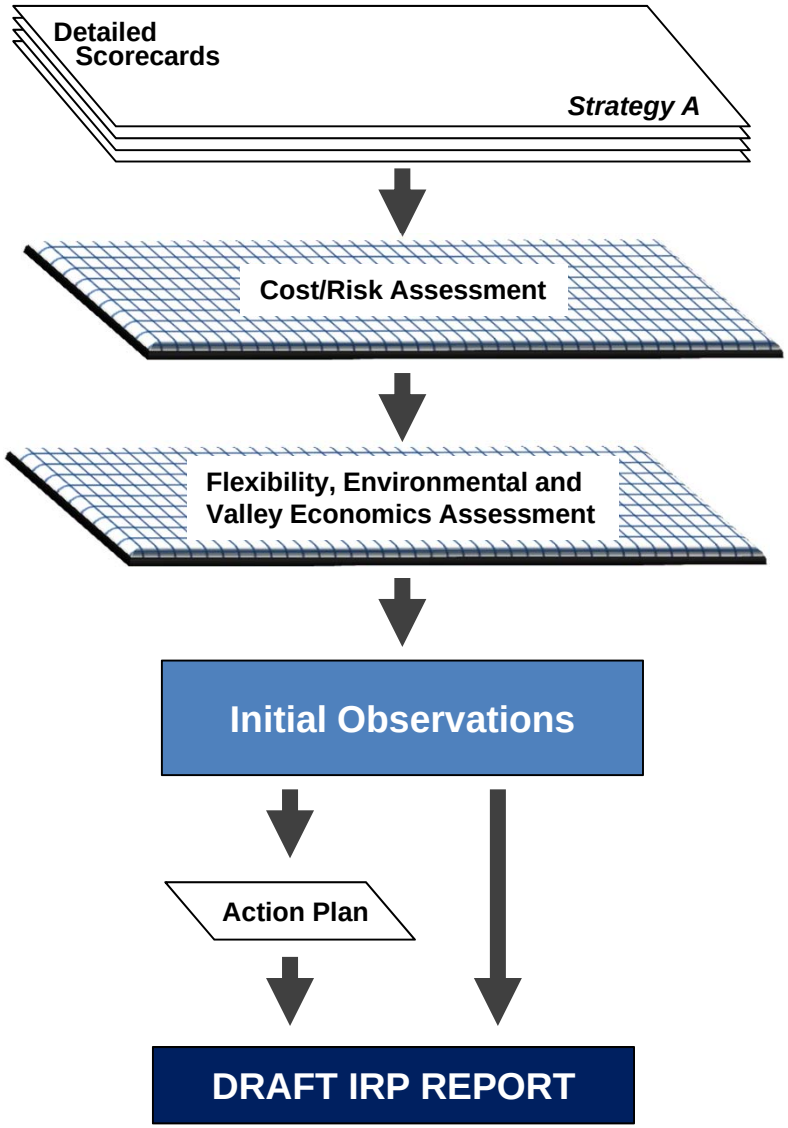
DESIGN

- A scorecard will be created for each strategy showing how it performs in the different scenarios. As an example, the graphic above shows the proposed 2015 IRP Detail Scorecard using the results of Strategy C from the 2011 IRP
- Scorecard metrics will be presented in tables showing the results in the original raw values

USE

- The initial scorecards will be presented to the IRPWG during the January meeting for discussion

Strategies Assessment Process



- Scorecard data will be used to conduct assessments on how strategies perform in the five evaluation categories
- The assessments will be conducted in two sequential phases
  - First, strategies will be evaluated from a cost/risk perspective
  - Second, TVA will assess relative performance across the three remaining categories
- The assessments will provide comparisons of the relative performance of strategies in the different evaluation categories but are not intended to produce an overall ranking

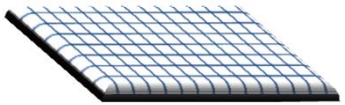
- Based on the results of the assessments, TVA will develop initial observations for inclusion in the Draft IRP
- The observations will consist of detailed commentary on how each strategy performs as well as questions or findings that will require future research or refinement of the analysis
- The initial observations will not include a recommended strategy
- The requirements for future research will be integrated into an action plan that will be included in the Draft IRP
- The intention is to execute the activities of the action plan in the period between the Draft and the Final IRP reports

Strategies Assessment Process (Cont.)

Not actual data

- The assessments will help TVA and stakeholders understand how the strategies perform in the different scenarios and how they compare across the five evaluation categories
- Assessment will inform the initial observations and identify areas that will require further analysis

Cost/Risk Assessment



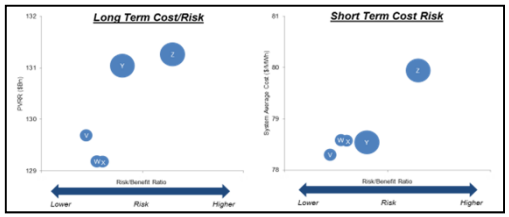
- Cost and Risk will be assessed together, using two evaluation tools

Weighted cost/risk score

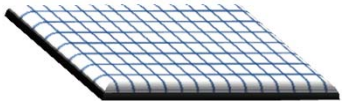
V. Example Strategy

Normalized Values	Cost		Risk		
Scenarios	PVRR ($Bn)	System Average Cost ($/MWh)	Risk/Benefit Ratio	Risk Exposure ($Bn)	Ranking Metric Score
1. Scenario 1	99.99	99.72	95.87	100.00	99.43
2. Scenario 2	100.00	99.64	92.30	100.00	98.98
3. Scenario 3	99.96	99.96	97.20	99.96	99.62
4. Scenario 4	100.00	99.67	100.00	100.00	99.92
5. Scenario 5	100.00	99.53	97.91	100.00	99.64
				Total Ranking Metric Score	497.58

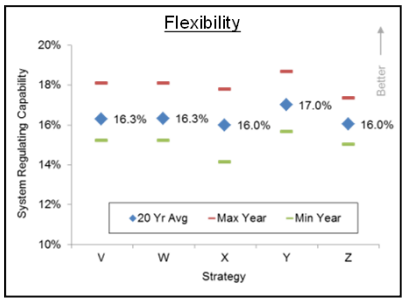
Cost/Risk Trade-off Graphs

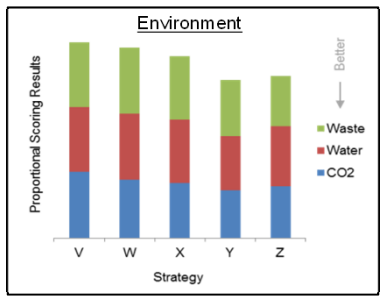


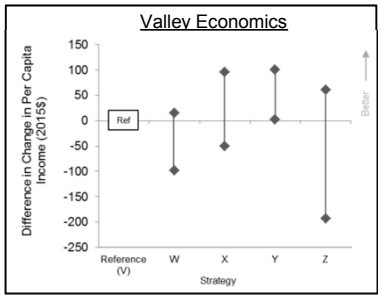
Flexibility, Environmental, and Valley Economics Assessment



- Relative performance will be evaluated across each category separately







Assessment of Cost and Risk

Not actual data

- Ranking metric scorecards will be one assessment to help us understand how strategies compare
- In the example shown on the right, the score is calculated on a weighted combination of the four cost/risk metrics :
  - Normalized values are used when combining metrics that measure different aspects of a strategy (like cost & risk).
  - Normalized cost: 65% PVRR + 35% System average Cost
  - Normalized risk: 65% Risk Benefit ratio + 35% Risk Exposure
  - Rankin Metric Score: 60% Cost + 35% Risk
- This cost & risk ranking is similar to the approach used in the 2011 IRP Study

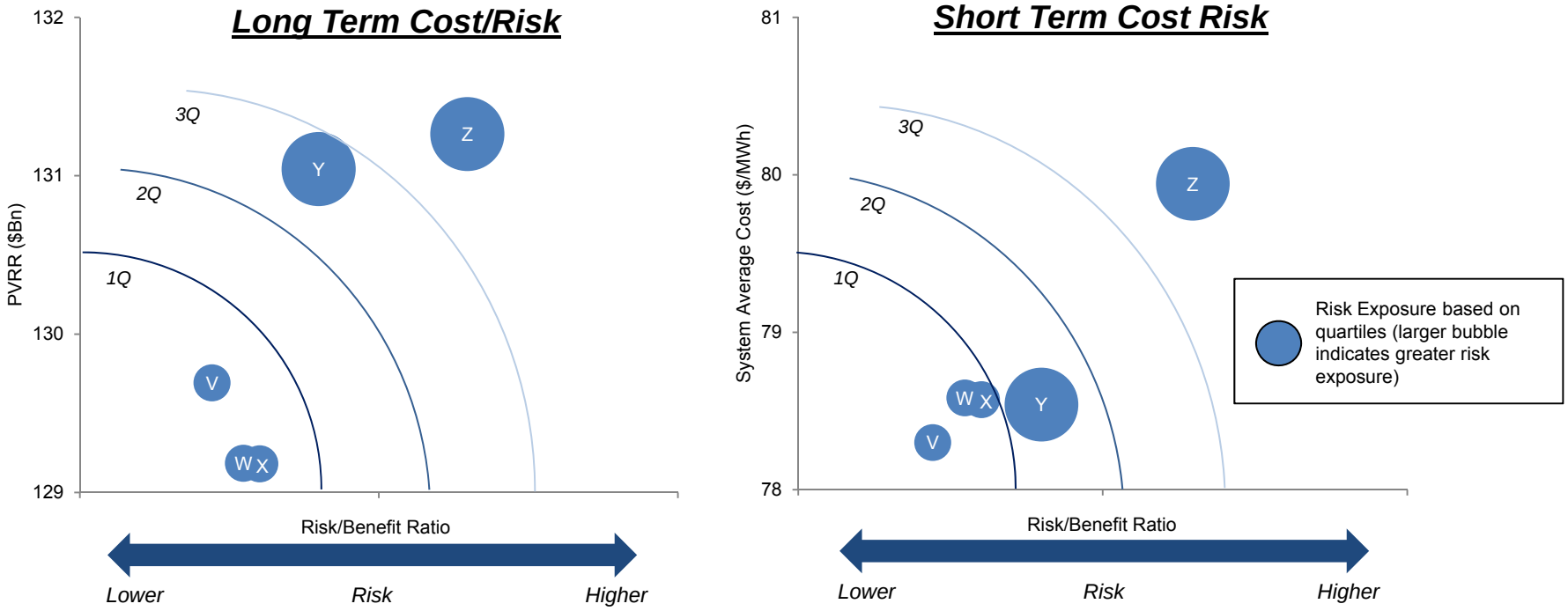
Example Strategy V

Normalized Values	Cost		Risk		
Scenarios	**PVRR ($Bn)**	**System Average Cost ($/MWh)**	**Risk/ Benefit Ratio**	**Risk Exposure ($Bn)**	**Ranking Metric Score**
1. Scenario 1	99.99	99.72	95.87	100.00	99.43
2. Scenario 2	100.00	99.64	92.30	100.00	98.98
3. Scenario 3	99.96	99.96	97.20	99.96	99.62
4. Scenario 4	100.00	99.67	100.00	100.00	99.92
5. Scenario 5	100.00	99.53	97.91	100.00	99.64
Total Ranking Metric Score					497.58

In the example above, Strategy V is the best performer (lowest PVRR) in Scenarios 2, 4 & 5 and so it receives a score of 100. The results for all other strategies are assigned an appropriate value that maintains the relative relationship between the strategies within that metric category. Once all the metrics for a strategy have been normalized, the values can be weighted and combined for a ranking score. A more detailed explanation of the normalization process was provided as part of the briefing package for the October 7th meeting.

Assessment of Cost and Risk

Not actual data

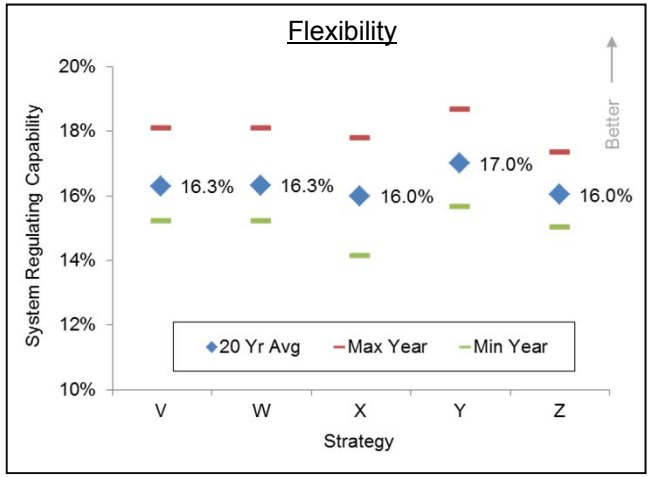


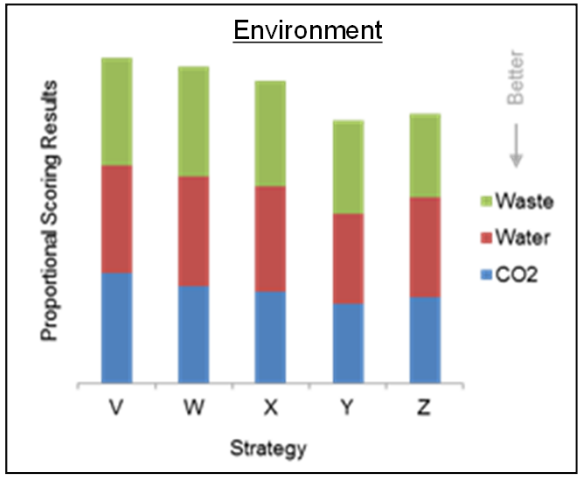
- Cost/Risk trade-off graphs provide insight into how cost and risk interact with each other
- The Long Term Cost/Risk graph reflects the total cost implications of the strategy while the Short Term is a proxy for the potential short term rate impact

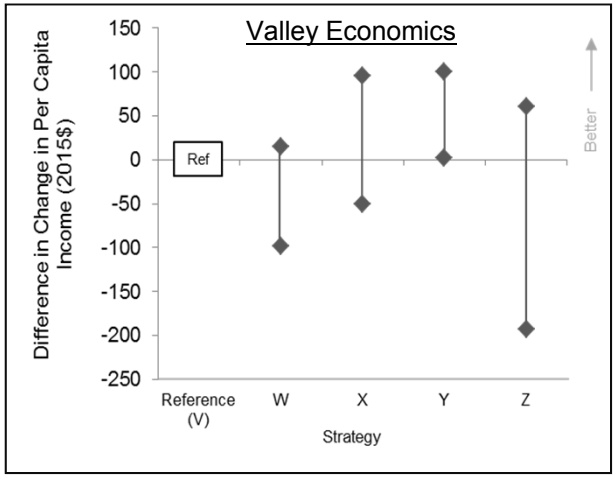
(*) Quartile performance based on combination of cost and risk metrics with Cost accounting for 65% and Risk for 35%

Assessment of Flexibility, Environment, Valley Economics

- Each of these 3 metric categories will be presented in a graphical format
- The objective of this assessment is to make observations about each of the categories independently (no composite scoring)



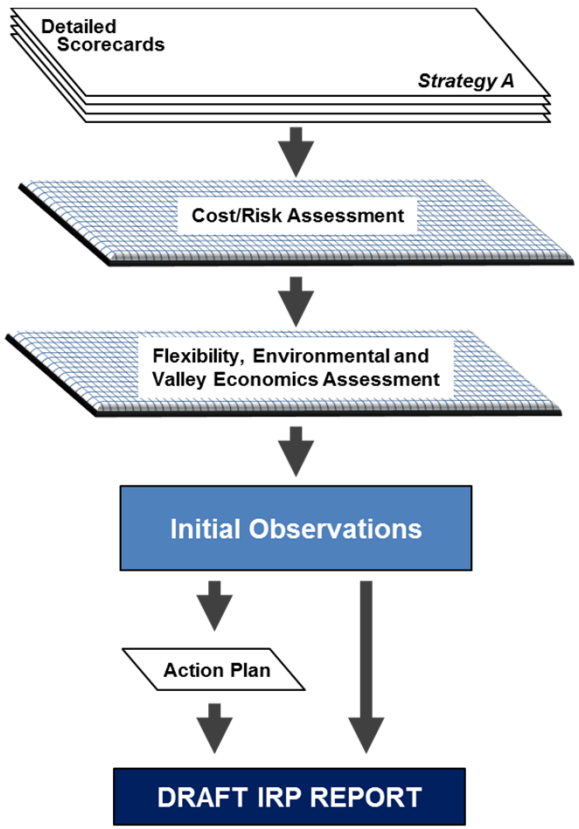




- The format for each of these categories is still being refined

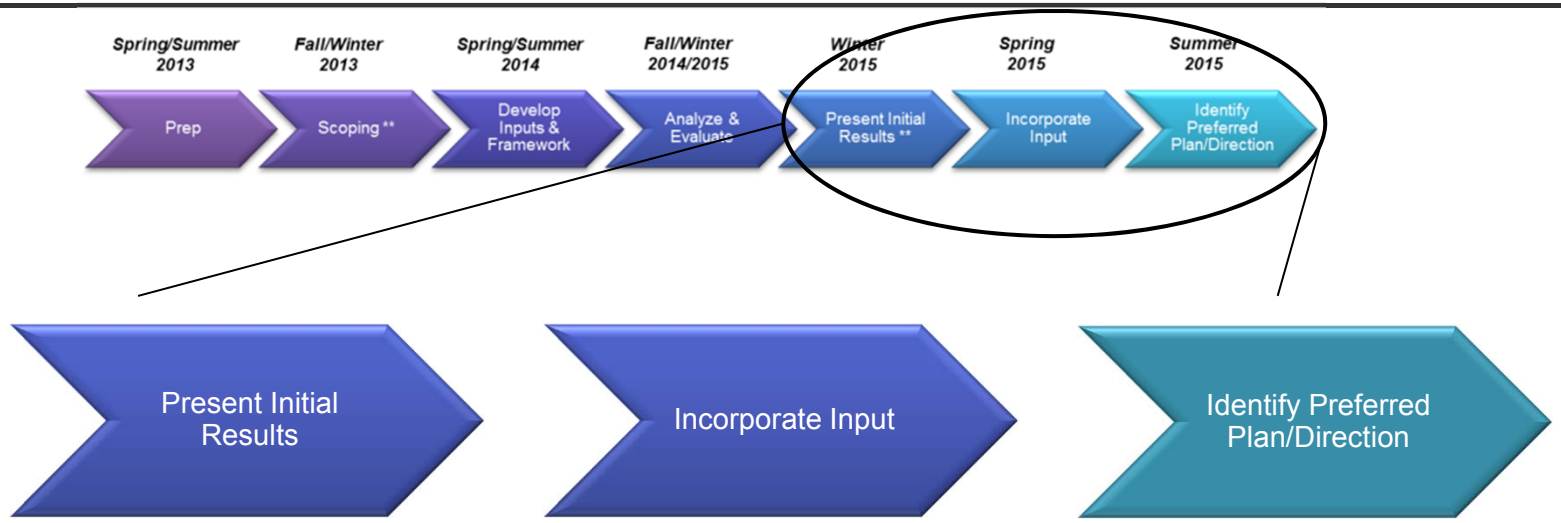
IRPWG Input and Participation in the Initial Assessment Process

The outlined assessment process provides transparency and facilitates the participation and input from the IRPWG before the release of the Draft report



- In January, the IRPWG will review scorecards and assessments, with the objective of providing observations, and make suggestions regarding the action plan for further analysis to TVA
- The comments and feedback received from the working group during January session will be an additional input for consideration of TVA during the elaboration of the Draft report
- By request of the IRPWG, we are also organizing a workshop to clarify the modeling methodology around energy efficiency. We expect this will take place sometime during January
- In February, the IRPWG will review the draft IRP (including the final version of the initial observations and action plan) prior to release to the public for comments

IIRPWG Input and Participation – Draft IRP Through Final Recommendation



- Release Draft IRP
- Conduct public meetings

IRPWG to review Draft IRP and provide input during February meeting prior to publication

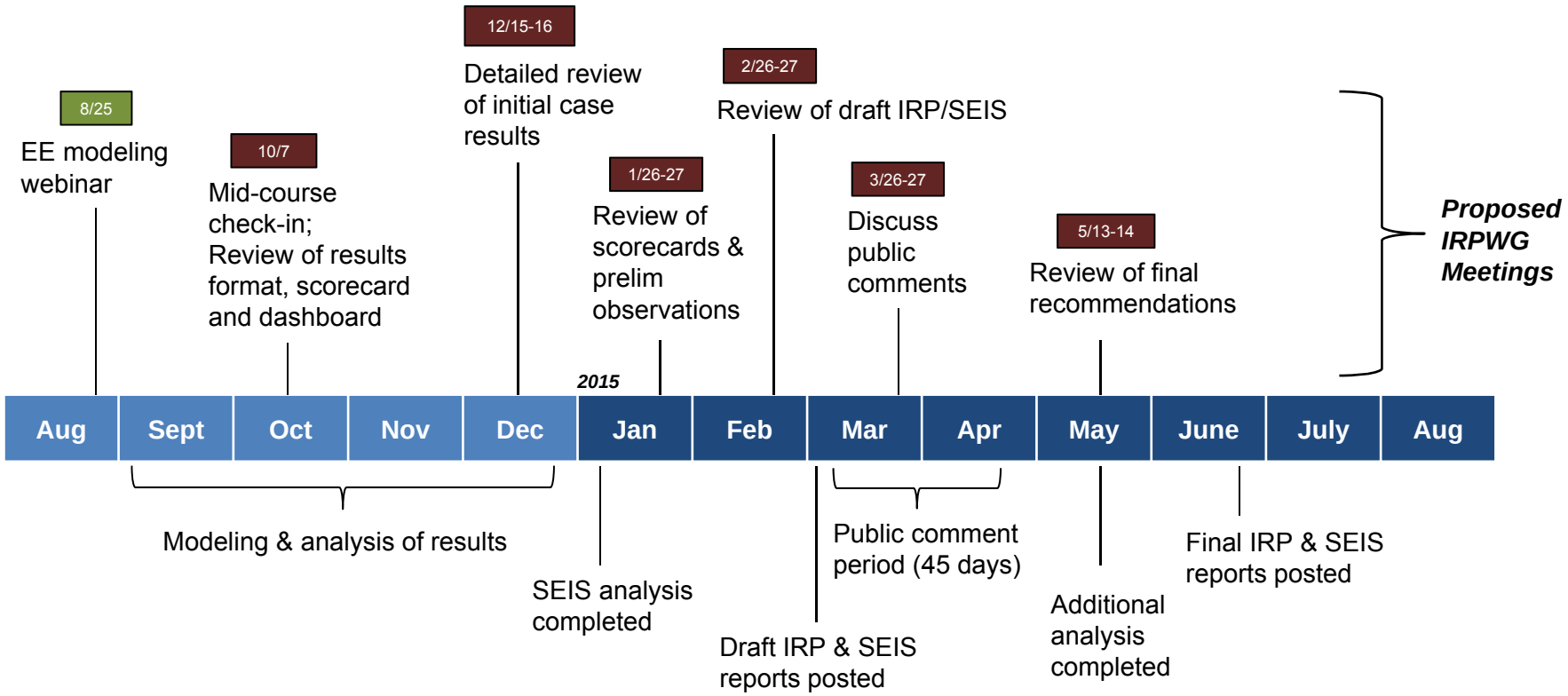
- Execute action plan
- Incorporate public comments
- Revise scorecards and conduct new assessments
- Develop final observations

IRPWG to discuss public comments and provide input during March meeting

- Create dashboard to communicate final results
- Develop recommended planning direction
- Present recommendations to the Board for final decision
- Publish Final IRP

IRPWG to review final recommendations in May prior to Board presentation

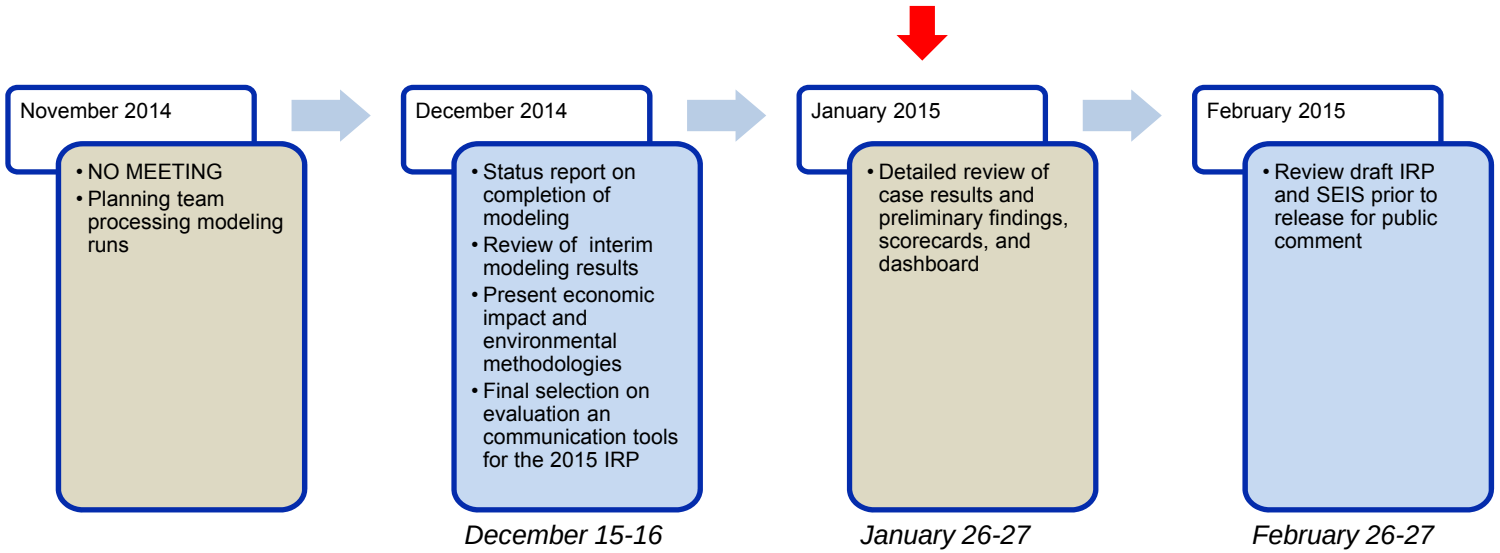
2015 IRP/SEIS Schedule: Major Milestones & Stakeholder Sessions



Some meeting dates could change depending on the outcome of the case review session in January

Next-Steps

- IRP Process Schedule:



- EE Workshop to be held in January, final date TBD
- Next IRPWG meeting will be in Chattanooga on the 26th and 27th of January
- The agenda of the meeting will be to share final results of the model runs and stochastic analysis
- The results will be presented using the scorecard and metrics discussed during today's session
- Any additional concerns / questions

Adjourn