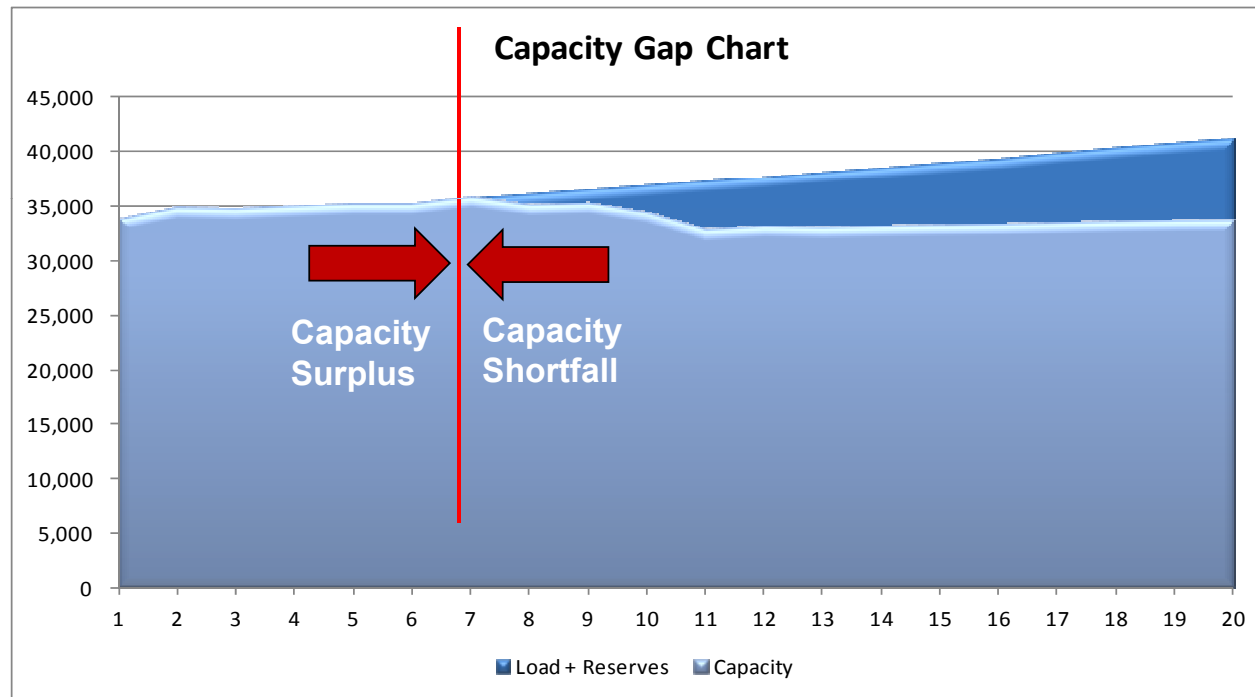


Orientation of Upcoming TVA IRP Process

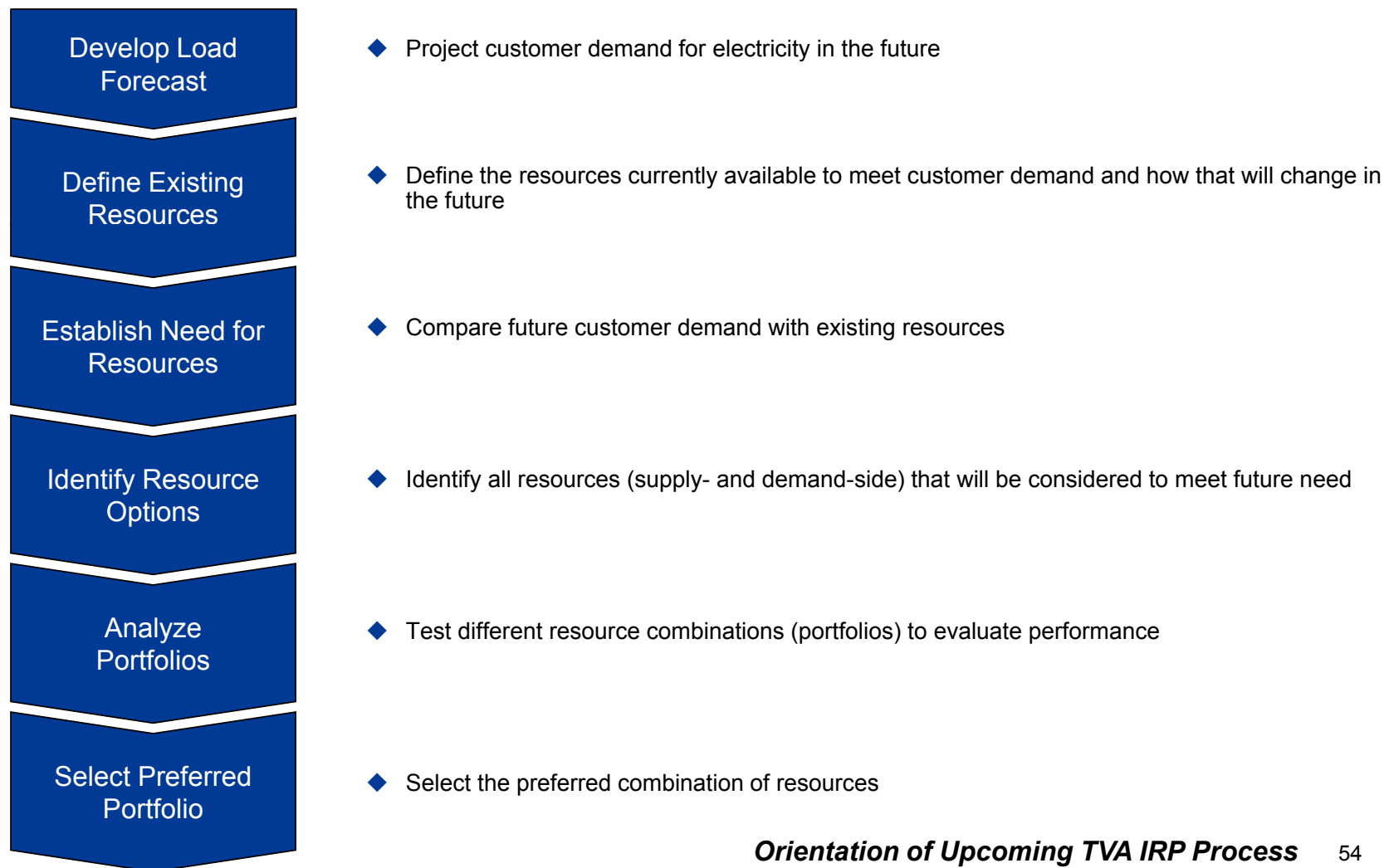
Resource Planning Addresses Future Capacity Needs

Resource planning is about optimizing the mix of future capacity. The planning exercise begins by identifying the point at which new capacity is required to maintain reliability. This capacity need (or gap) is the difference between firm requirements and system capability.

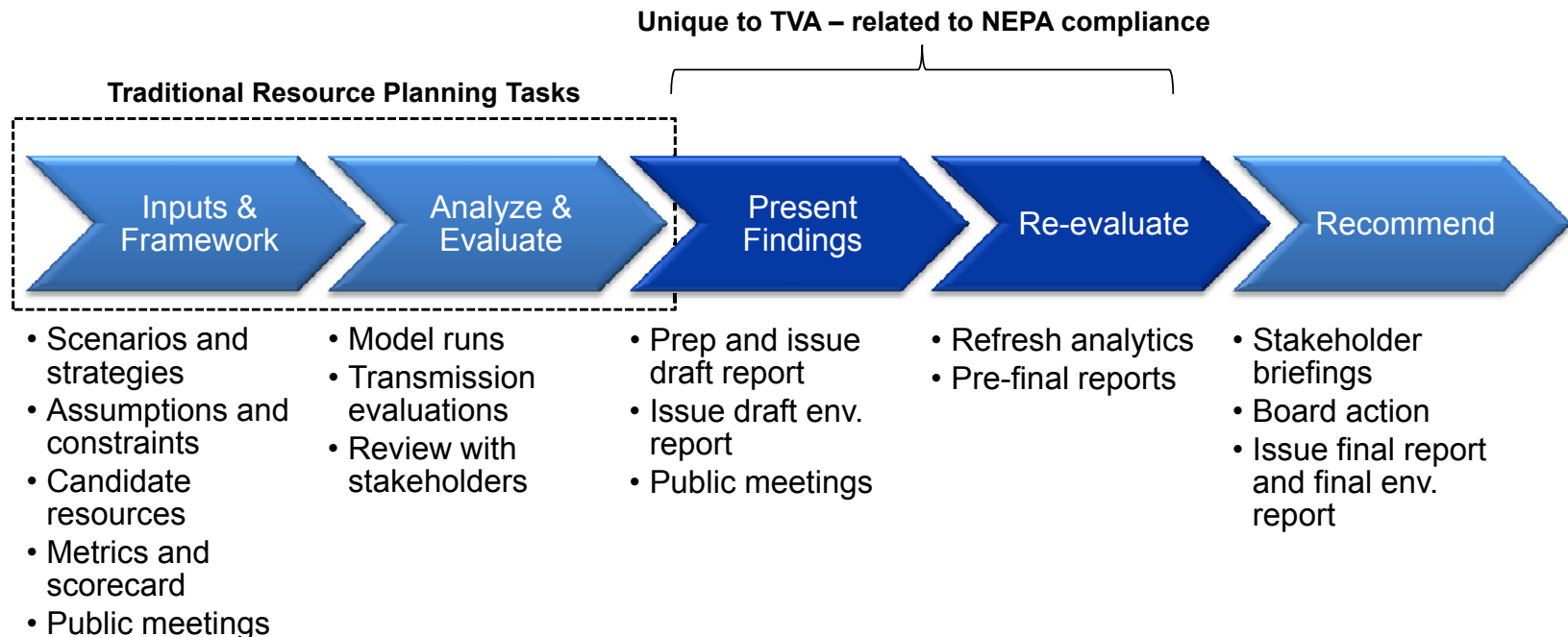


Projections of capacity needed (demand + reserves minus existing capacity) are filled by the most cost-effective resource such that total cost to customers is minimized over the 20-year planning horizon.

Resource planning processes are a common planning tool employed throughout the utility industry to identify the least cost solution to meet customer demand over a long horizon (usually 20 years)



An IRP is a special form of resource planning that seeks to optimize supply-side and demand-side contributions to make up a least cost plan. TVA's process for conducting an IRP differs slightly from what's typical in the industry. In addition, many utilities take a least cost planning approach, while TVA's IRP study uses a least regrets planning approach that yields a more robust recommended plan.



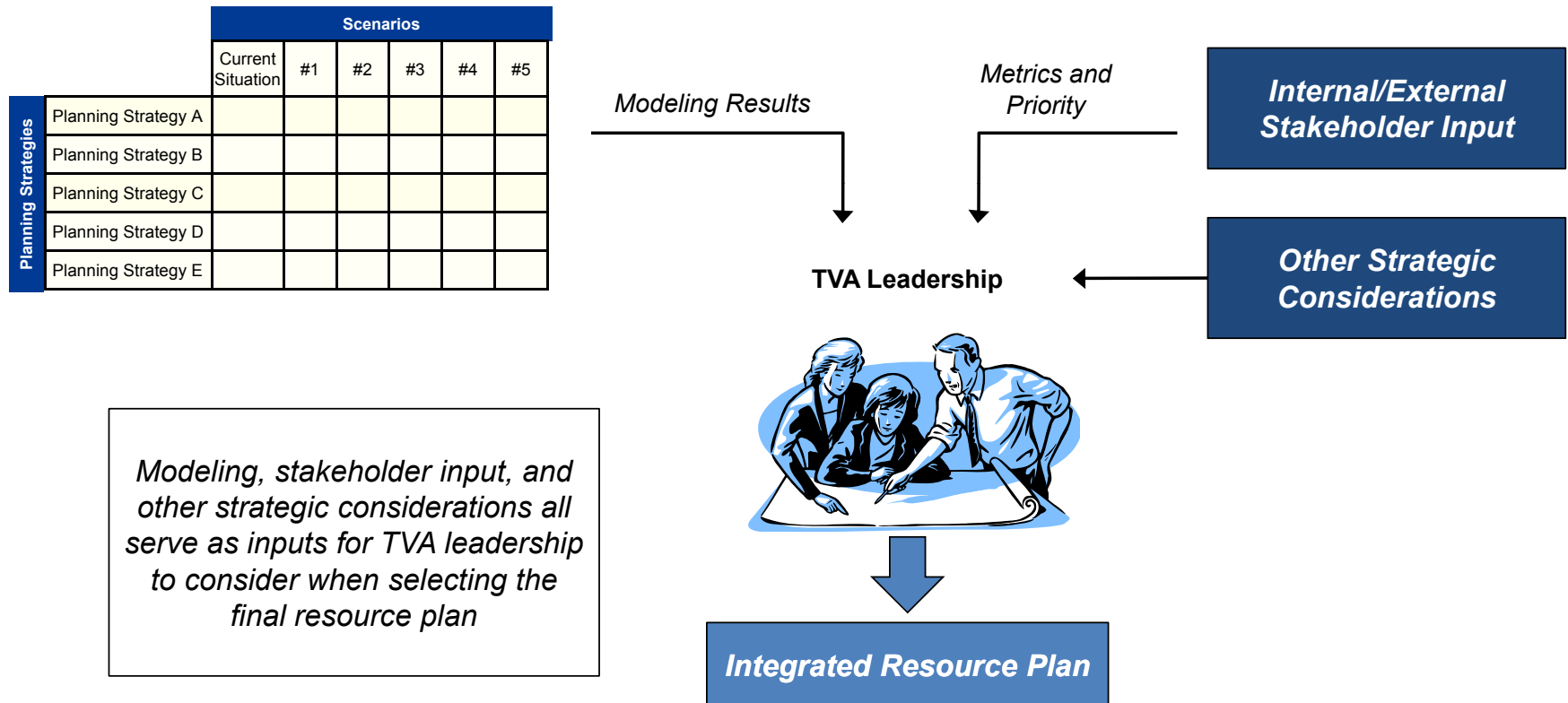
Least regrets planning requires selecting scenarios based on a range of plausible futures rather than probable futures as are used in traditional scenario analysis (least cost planning).



Measures of Success: 2015 IRP

- ◆ Conduct a transparent and fair study that recognizes TVA's broader mission (power production, stewardship, economic development) while balancing long-run and short-term goals for the Agency
- ◆ Build on the 2011 IRP stakeholder engagement success by enabling robust participation from multiple stakeholder communities while ensuring that TVA's power customers are supportive of the process and the outcome
- ◆ Produce a report that provides a refresh of the broad strategic direction for long-range TVA resource planning efforts
- ◆ Engage the TVA Board members on a regular basis for input and direction
- ◆ Conduct this IRP study in a way that will enhance TVA's reputation both in the Valley and the industry

The study will use the scenario and strategy framework, with enhanced modeling techniques to capture possible impacts from renewables (solar), distributed generation alternatives, energy efficiency programs, and optimized transmission investments.



About Scenarios

- ◆ Scenario analysis looks at a set of “plausible futures” or different situations in which the utility might find itself. The current outlook on the future is one scenario
- ◆ Scenarios paint a complete picture of an alternative world view and are not like sensitivities that test only one assumption (like the price of natural gas)
- ◆ Because the future is uncertain, utilities use scenario analysis to identify a resource plan (strategy) that ensures success in many different plausible futures

About Strategies

- ◆ Planning strategies are designed to test the various business decisions and portfolio choices that TVA has control over and might consider
- ◆ In the end, a well-designed strategy should perform well in many possible scenarios (plausible futures)
- ◆ Strategies are typically designed independently from any scenarios that might be considered by the utility

- ◆ Modeling results need to be presented in a way that facilitates a discussion/debate about trade-offs that lead to the selection of the preferred resource plan. Key metrics are used to enable this trade-off discussion
- ◆ At TVA, we use a scorecard approach to packaging the metrics, so that stakeholders and decision-makers can be fully engaged in the identification of what makes a resource plan “preferred”
- ◆ IRP scorecards were developed to reflect components of TVA’s mission and strategic principles
 - **Cost and risk metrics** evaluated quantitative values that reflect traditional utility measures
 - **Environmental and economic metrics** considered possible impacts of both quantitative and qualitative assessments

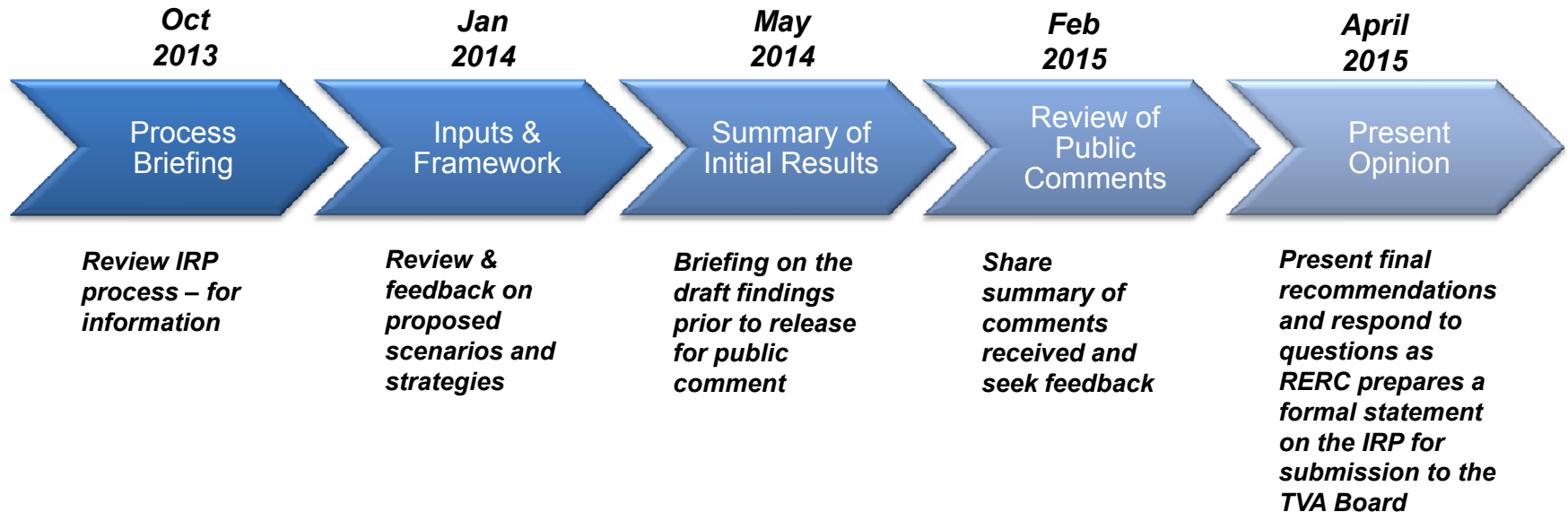
Scenario Analysis

		Scenarios						
		#1	#2	#3	#4	#5	#6	#7
Strategies	A							
	B							
	C							
	D							
	E							

Scorecards evaluate the performance of a strategy across many different scenarios

Example Scenario Scorecard

Scenarios	Ranking Metrics					Strategic Metrics		
	Energy Supply					Environmental Stewardship		
	PVRR	Short-Term Rate Impact	PVRR Risk/Benefit	PVRR Risk	Total Plan Score	CO ₂ Footprint	Water	Waste
1	99.00	95.13	100.00	99.53	98.36	●	●	●
2	100.00	95.58	99.40	95.30	97.85	●	●	●
3	100.00	100.00	99.81	89.37	97.56	●	●	●
4	100.00	97.40	100.00	95.37	98.36	●	●	●
5	100.00	96.43	100.00	100.00	99.19	●	●	●
6	100.00	100.00	100.00	86.69	96.97	●	●	●
7	100.00	97.24	100.00	97.03	98.70	●	●	●
8	99.84	96.66	98.35	97.93	98.50	●	●	●
Total Ranking Metric Score					785.49			



Role of the RERC:

- ◆ Be kept apprised of the IRP process
- ◆ Provide informal advice/council to the IRP effort
- ◆ Provide formal (consensus) advice to the Board External Relations Committee on policy matters