



Tucson Electric Power IRP Process and Best Practices Reference Case and Electric Power Horizons

September 29, 2009

**Doug Buresh
Sr. Vice President**

Agenda

- ▶ Market Price Drivers
 - ▶ Reference Case (Base-Line)
 - ▶ Market Sensitivities
 - ▶ Cases
 - ▶ Scenarios (Plausible Futures)
 - ▶ Electric Power Horizons

Reference Case Forecast

- ▶▶ An independent point of view and standardized approach:
 - ▶ Fundamental market view
 - ▶ Prepared by seasoned professionals
 - ▶ Refreshed every six months

- ▶▶ An un-conflicted point of view:
 - ▶ Used by all energy sectors
 - ▶ IPPs, utilities, retail end users, regulators, rating agencies, fuel producers, and gas pipelines
 - ▶ No “success fees” to create potential conflicts of interest

Sensitivities and Cases

▶▶ Reference Case Variations

▶ Market Sensitivity

- ▶ Fuel
- ▶ Electricity
- ▶ Environmental

▶ Cases

- ▶ Nuclear Option Availability
- ▶ Coal Retirement
- ▶ Aggressive Carbon Reduction Strategy

Scenarios Are Not Predictions

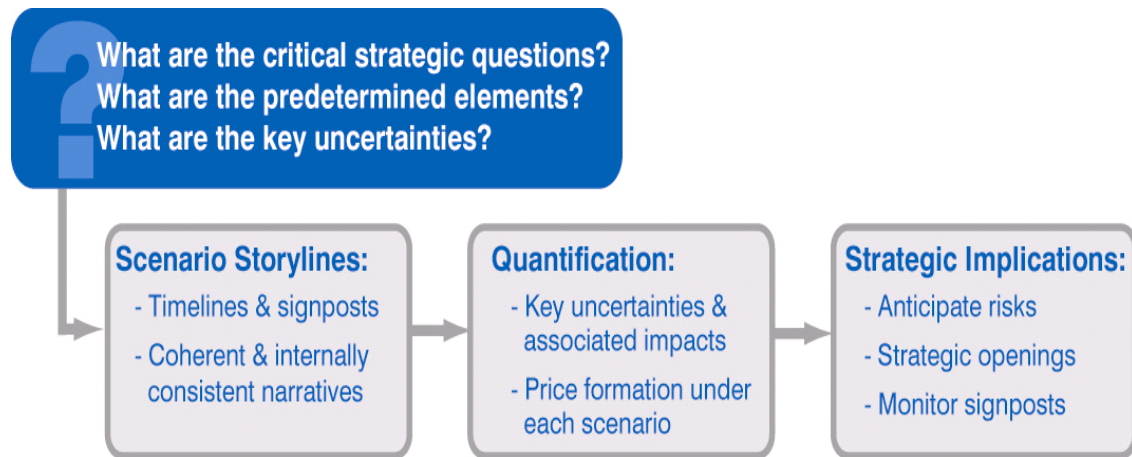
They Are Alternative Views of the Future

Scenario Planning works by iteratively building plausible alternative views of the future given different economic, regulatory, and technological driving forces.

Challenge: Create plausible alternative views of the future and make them actionable.

Best Practice:
Bring together experts and stakeholders to ask the critical questions.

- Challenge participant's mental maps
- Check over-optimism
- Provide strategic insights
- Engender a common strategy language
- Lead to better decision-making



Electric Power Horizons 2009 - Four Plausible Futures



- ▶ Ventyx Advisors with assistance from industry experts identified four distinct themes which are expected to have the greatest impact on the future energy business environment over the next 25 years. The themes were drawn from the key uncertainties.



- ▶ **Global Turmoil** due to gas supply disruptions the domestic policy shifts to energy independence and protectionism

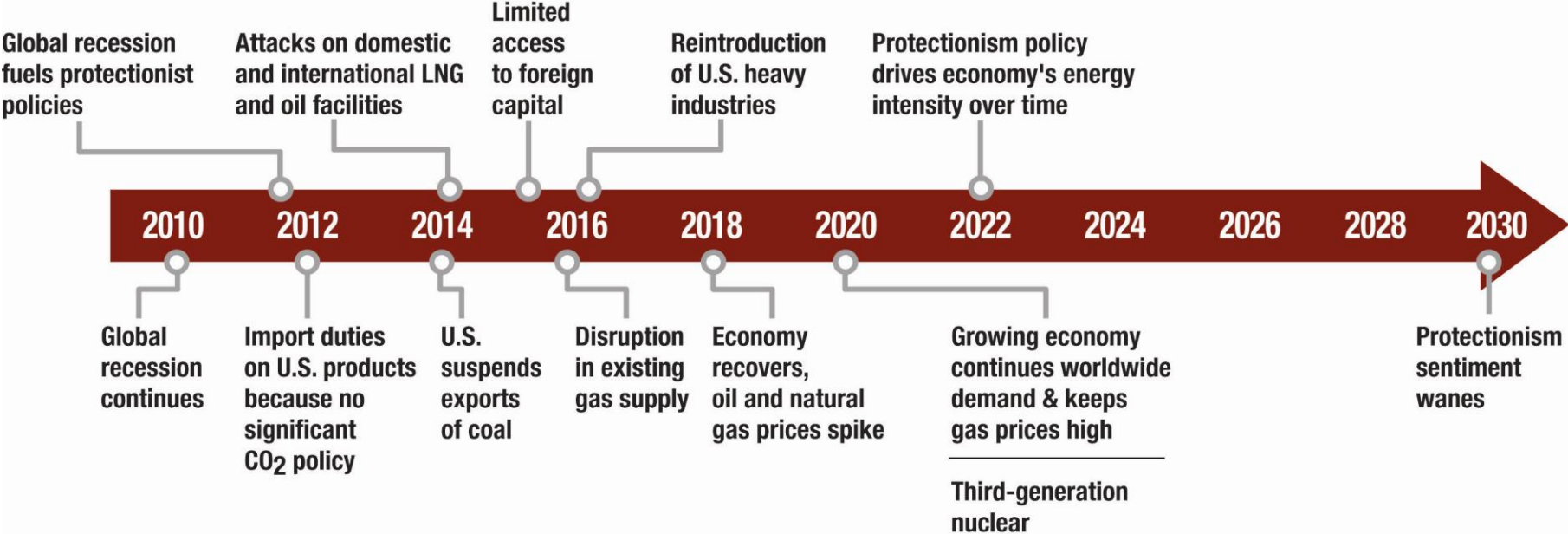


- ▶ **Technology Evolution** driven societal shift to reduce CO₂ through greater energy conservation and “zero emission” supply-side technologies

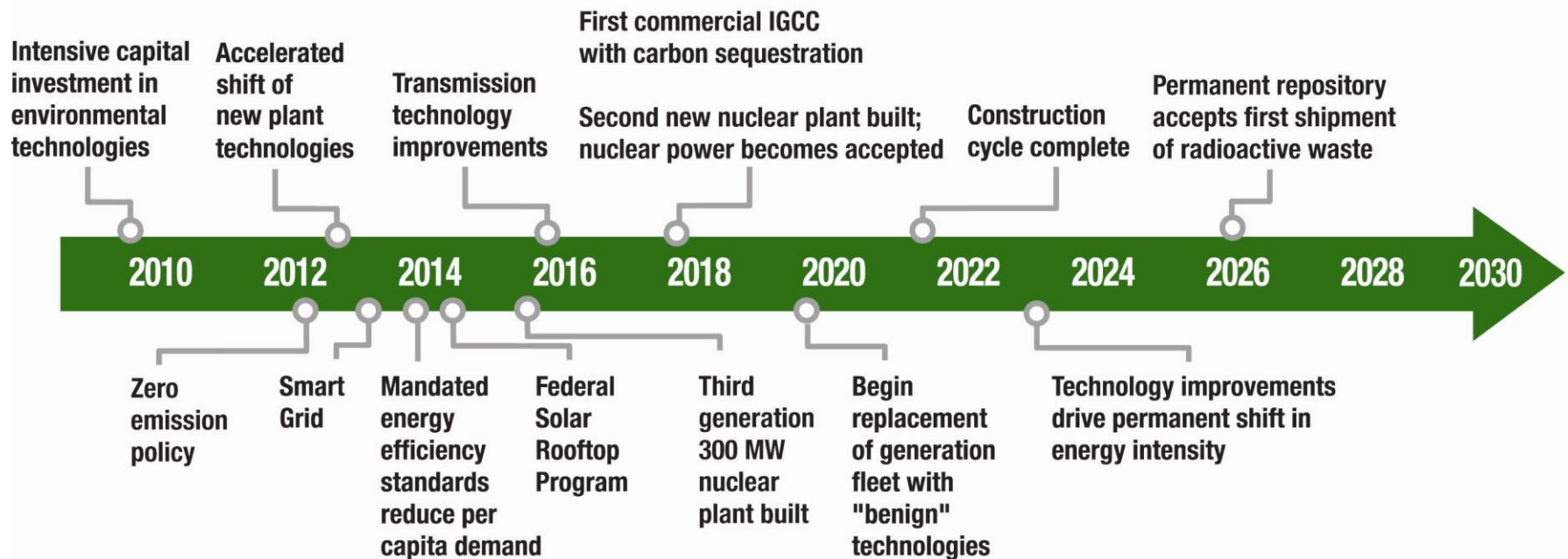


- ▶ **Global Economy** movement due to collapse of major industries in U.S. and global consolidation
- ▶ **Return to Reliability** for both generation and transmission

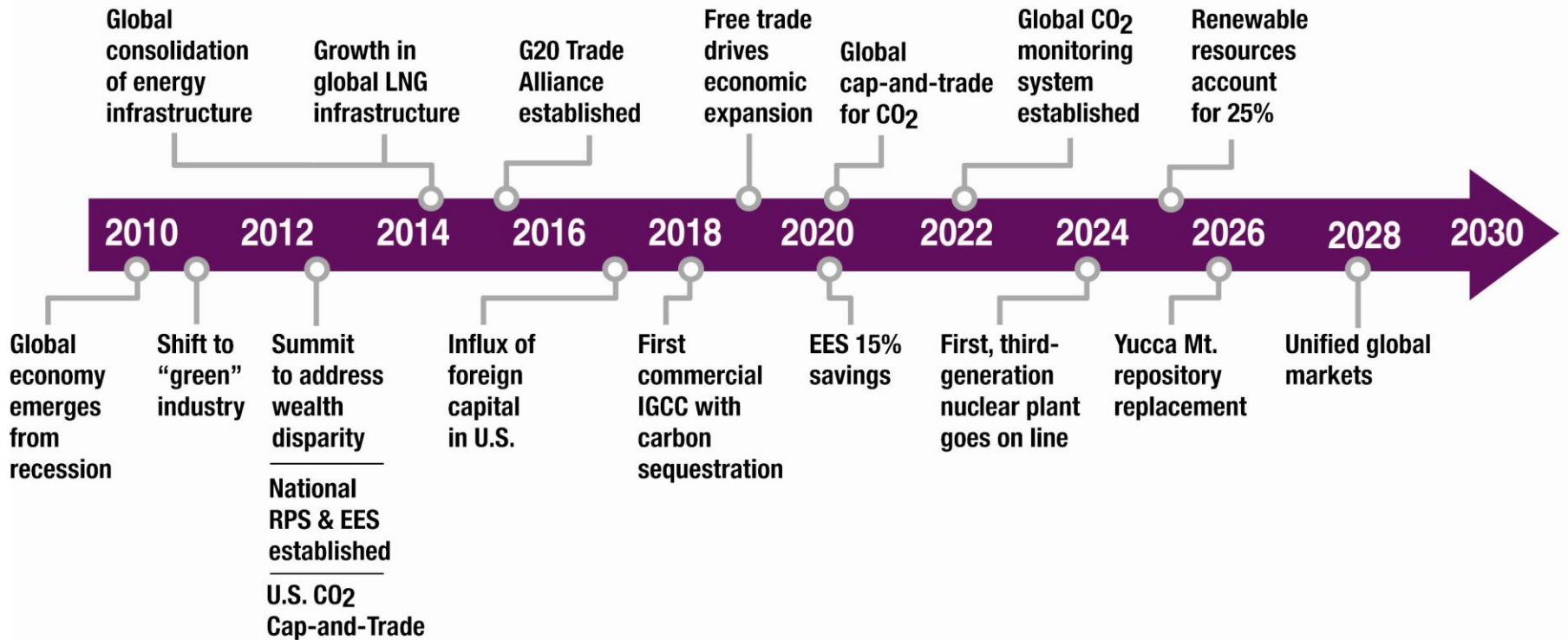
GLOBAL TURMOIL



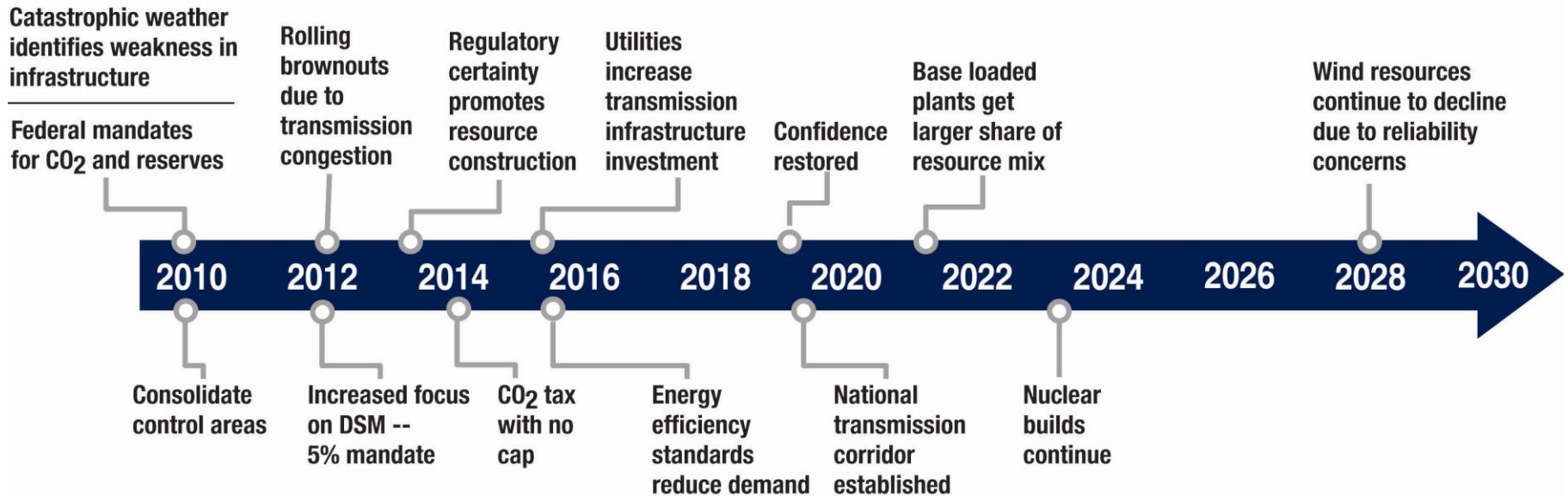
TECHNOLOGY EVOLUTION



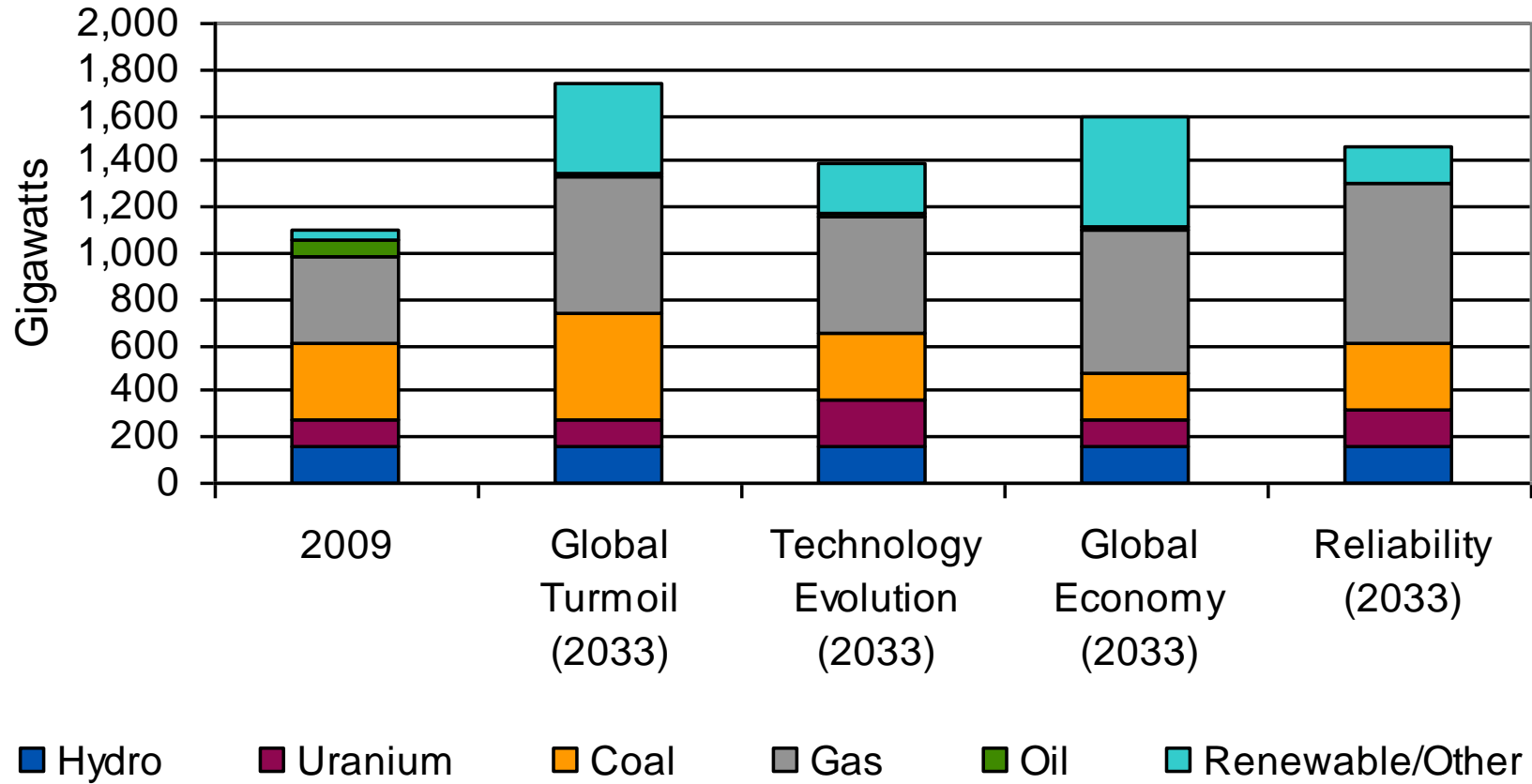
GLOBAL ECONOMY



RELIABILITY



2033 Generation Mix



CO₂ Emissions

