



# Scenario Development

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# Develop Business As Usual Scenario

## **Goal: Develop long range (20 yr) transmission plan**

- **Start with 5YTP and parts of LTSA**
  - CREZ
  - Houston Import
  - Other transmission improvements – Board approved
  - Generation additions – with I/A
- **Transmission system will be ready for 18 GWs of wind generation**

## **Question: What would cause a change to the transmission configuration?**

- **Major considerations will be:**
  - Excessive load growth
  - Additional intermittent generation – wind, solar
  - New green-field generation

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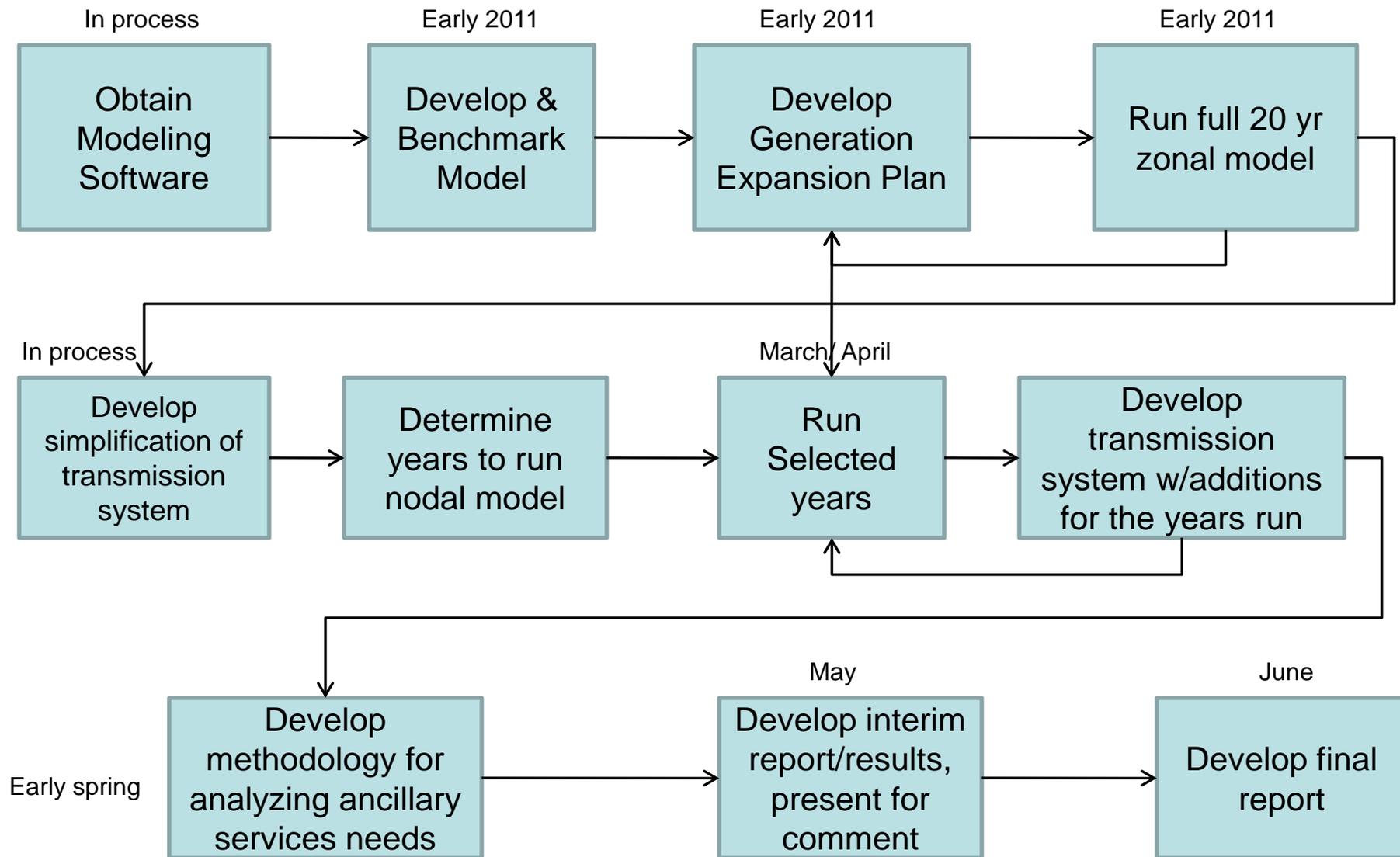
- **Business as Usual scenario (BAU) – BAU Scenario is characterized by continuation of historic market trends and policies**
- **This scenario will assist in the development of processes and procedures to be used in later analysis**
- **Will include:**
  - All info from 5YTP and parts of LTSA
  - Expand intermittent capacity to full 18 GWs
  - Additional capacity will be based on current generation configuration, by percent

| Fuel type   | 2015  |
|-------------|-------|
| Biomass     | 0.2%  |
| Coal        | 26.7% |
| Natural Gas | 63.6% |
| Nuclear     | 6.6%  |
| Other       | 1.0%  |
| Hydro       | 0.7%  |
| Wind        | 1.2%  |

- New generating technologies will also be considered based on economics
- Use market intelligence to fine tune generation expansion
- Initial fuel price assumptions will be based on latest EIA forecast

- **Will the production tax credit for wind be extended past 2012?**
- **Will wind development reach 18 GWs or more, and by when?**
- **Will national/state environmental legislation be enacted for CO2 emissions?**
- **How should generation expansion be done?**
  - Percent based on current mix
  - Economics
- **Other outstanding questions?**

# Development of BAU Case



# Potential Sensitivities for Additional Scenarios

- **Higher load growth assumptions**
  - 1%, 2%, and 3% growth rates
- **High amounts of EE, DG, and DR**
- **More intermittent generation than initially planned**
  - Set intermittent capacity to 30%, 50% of total capacity or amount of generated energy
  - Combinations of wind and solar
- **Strict environmental regulations/policies**
  - CO<sub>2</sub> price at \$15, \$25, \$50, \$75
  - others (HG, NO<sub>x</sub>, SO<sub>2</sub>, water (CWA 316(b)))
- **Changes in fuel price assumptions**
  - Natural Gas at \$4, \$6, \$8, and \$10/mmbtu
  - Coal at \$1, \$2, \$3, and \$4/mmbtu
- **Low water availability**