



20-Year Outlook Document 2005 - 2024

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AESO Stakeholder Meeting

June 21, 2005 – Calgary, Alberta

Purpose of 20-Year Outlook Document

- **Provide long term view of how the transmission system might develop for alternative load and generation scenarios.**
- **Set context for more specific 10 year transmission plans and individual facility need applications.**
- **Set stage for shorter term actions to facilitate longer term availability of transmission e.g. provision of rights-of-way.**
- **May be relied upon (AESO option) in course of facility need applications. (EUB approval of facility need applications still required however.)**
- **The AESO must proactively plan the system, including:**
 - **anticipating future demand, generation, and reserves;**
 - **make assumptions about load and generation and other related assumptions; and**
 - **make assessments of transmission facilities required to access other jurisdictions.**



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20-Year Outlook Document - Content

- Balance of document purpose with appropriate expenditure of resources
- Looked at end year i.e. 2024, only; did not attempt to provide timing of specific developments
- Long term load forecast for Alberta
- Alternative generation development scenarios
- Timing and location of future generation – 20-year milestone
- Transmission facilities needed for alternative load and supply scenarios



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20-Year Outlook Document – Load Forecast

- Used AESO's 2004 Forecast (FC-2004-1) as most current at time work started
- Three load growth scenarios – Low, Most Likely, High – for AIES and AIL load
- Low AIL: 8,946 MW (2004) to 12,336 MW (2024)
- Most Likely: 9,321 MW ('04) to 15,617 MW (2024)
- High AIL: 9,695 MW (2004) to 18,907 MW (2024)

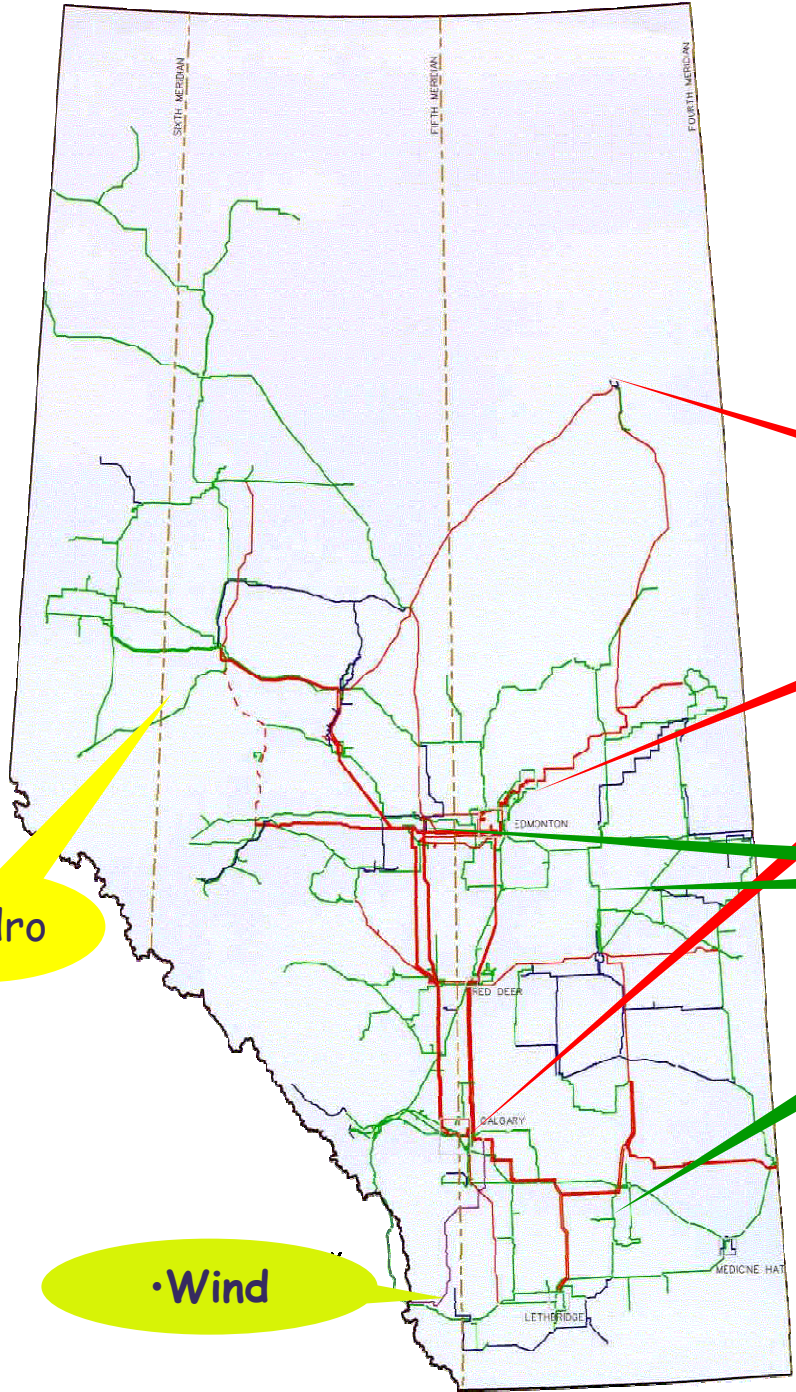


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- 500kV
- 240kV
- 138/144kV
- 69/72kV

•Hydro

•Wind

•Gas

•Coal

20-Year Outlook -
Generation Additions

20-Year Outlook – Transmission Development Scenarios

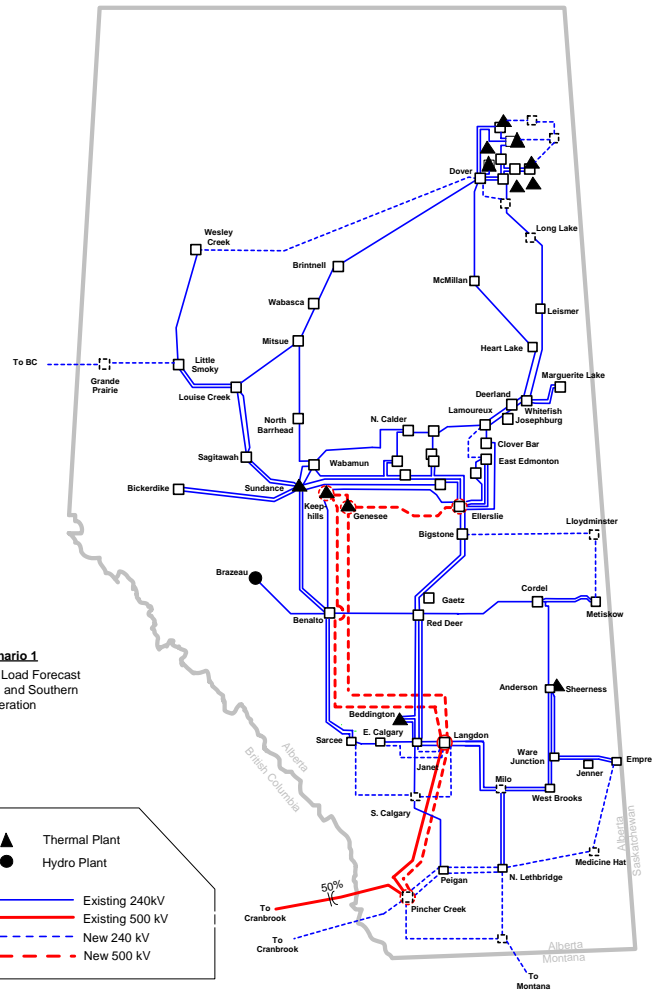
- Considered main (“bulk”) portion of 240 and 500 kV system only.
- Very many different operating conditions; different stresses on system at different times.
- Looked at three operating conditions:
 - Winter Peak, No Wind, No Imports/Exports
 - Summer Daytime, No Wind, Exports
 - Spring, Maximum Wind, Imports
- High level analysis; no detailed technical studies.



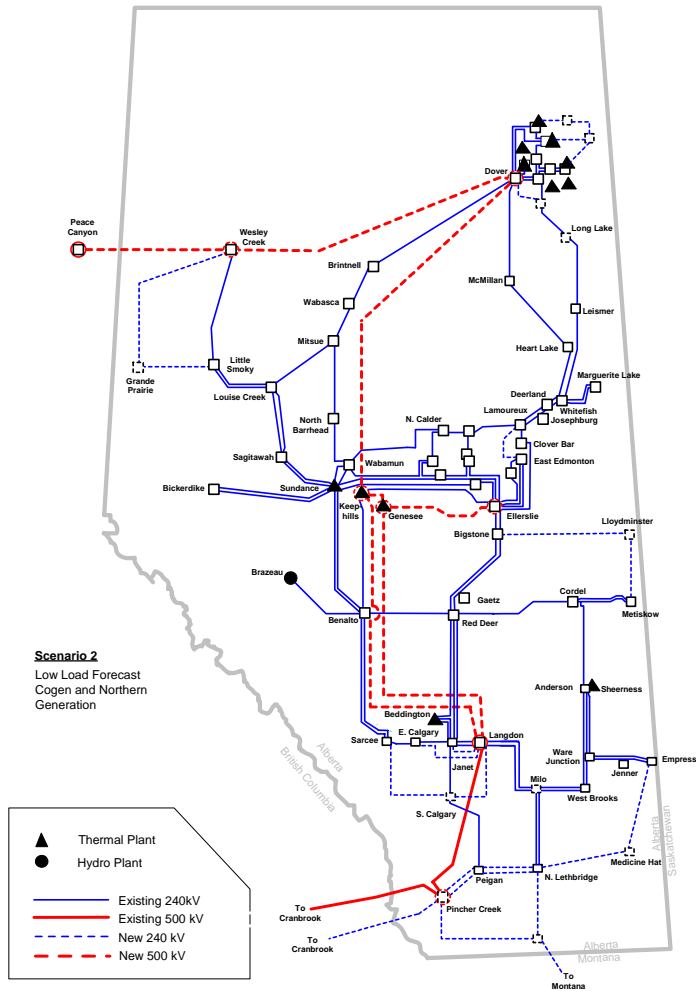
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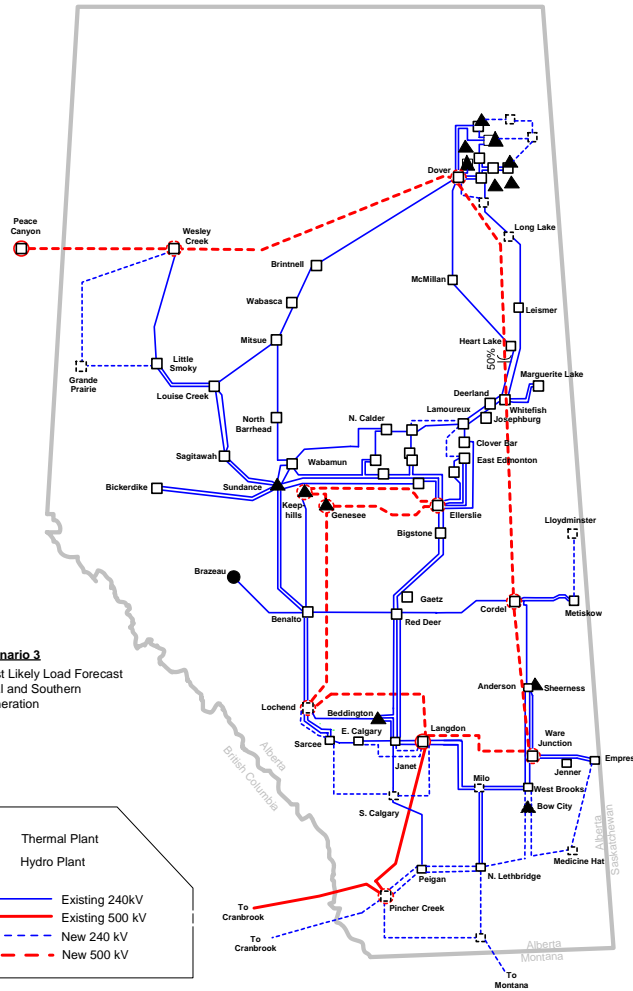
Potential Transmission Development – Scenario 1



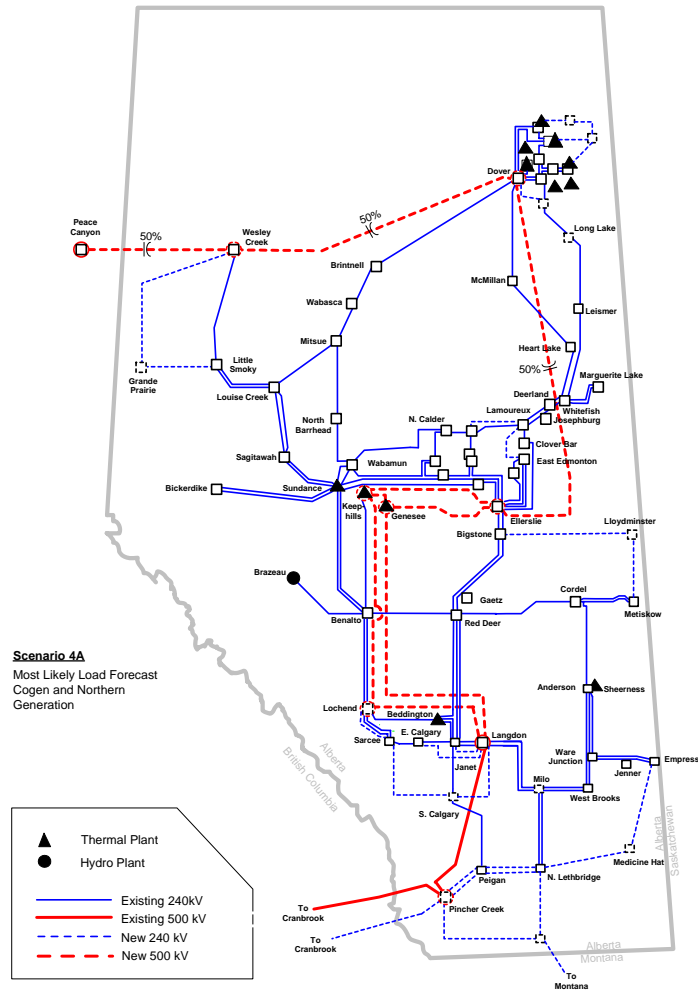
Potential Transmission Development – Scenario 2



Potential Transmission Development – Scenario 3

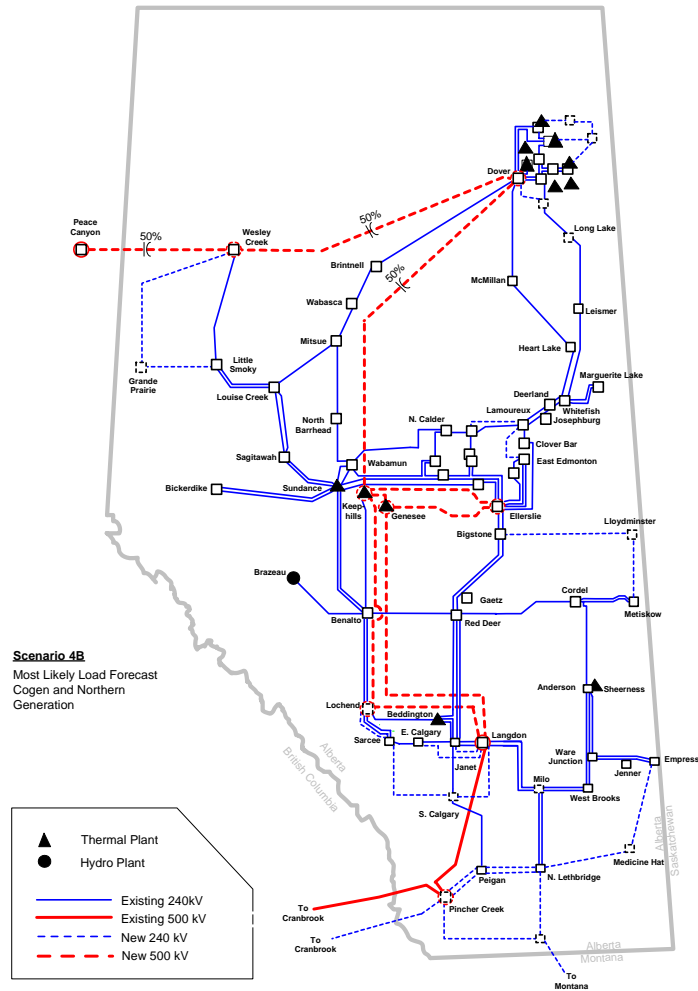


Potential Transmission Development – Scenario 4A



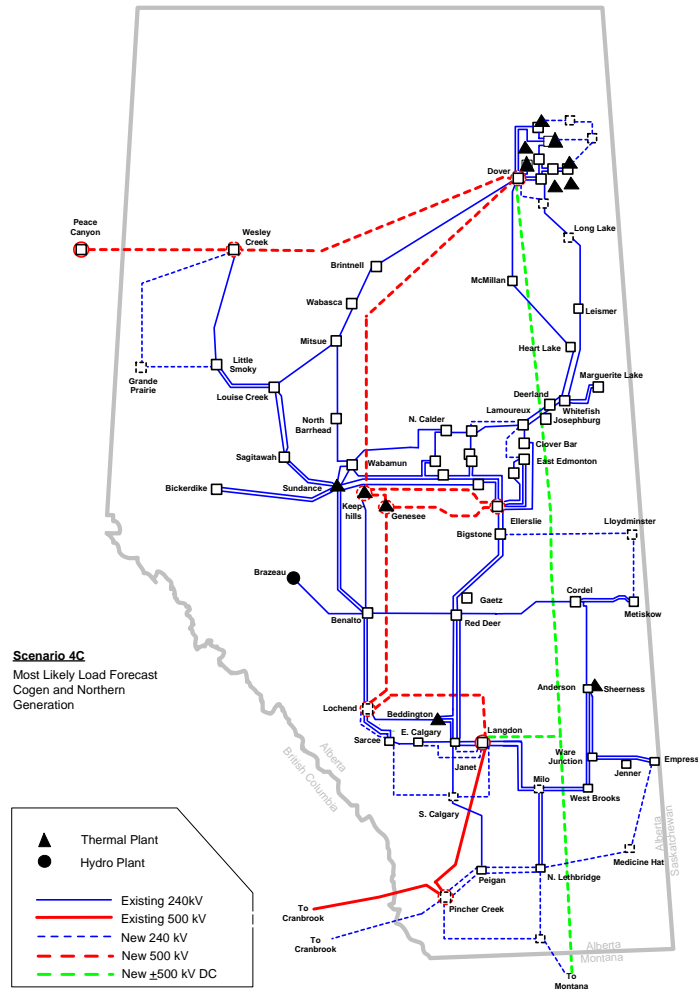
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Potential Transmission Development – Scenario 4B

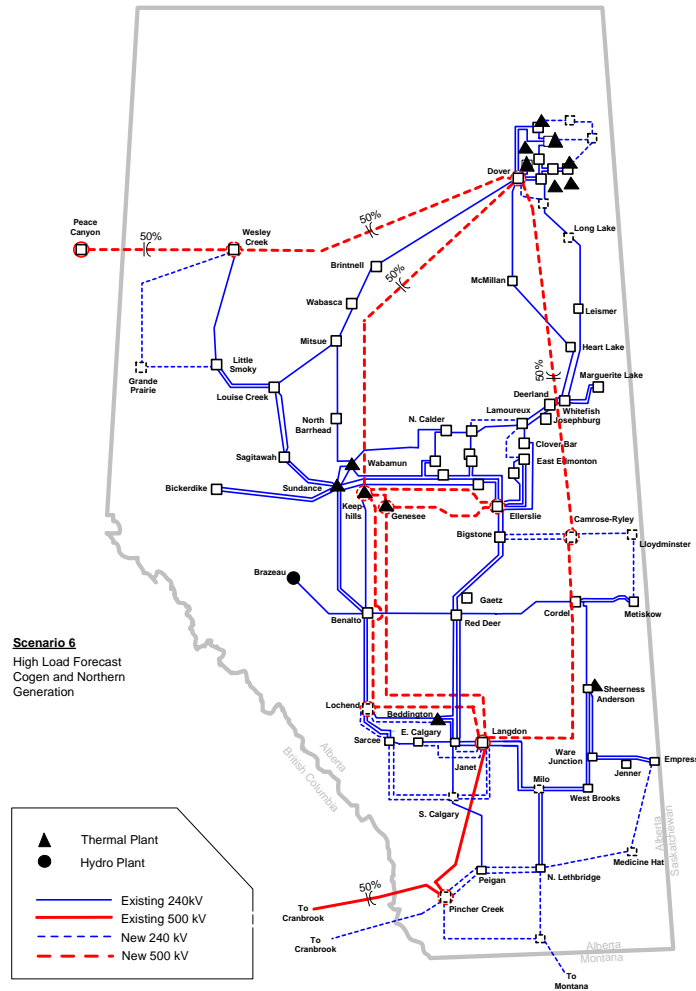


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Potential Transmission Development – Scenario 4C



Potential Transmission Development – Scenario 6



20-Year Outlook – Comments Rec'd

- Received comments from five stakeholders
- Comments related to load growth – amount, distribution
- Comments related to generation scenarios – impacts of new technology, types, capital costs, gas price forecasts, reserves, operating considerations
- Comments related to transmission developments – project specific questions, technologies, interconnections to other jurisdictions

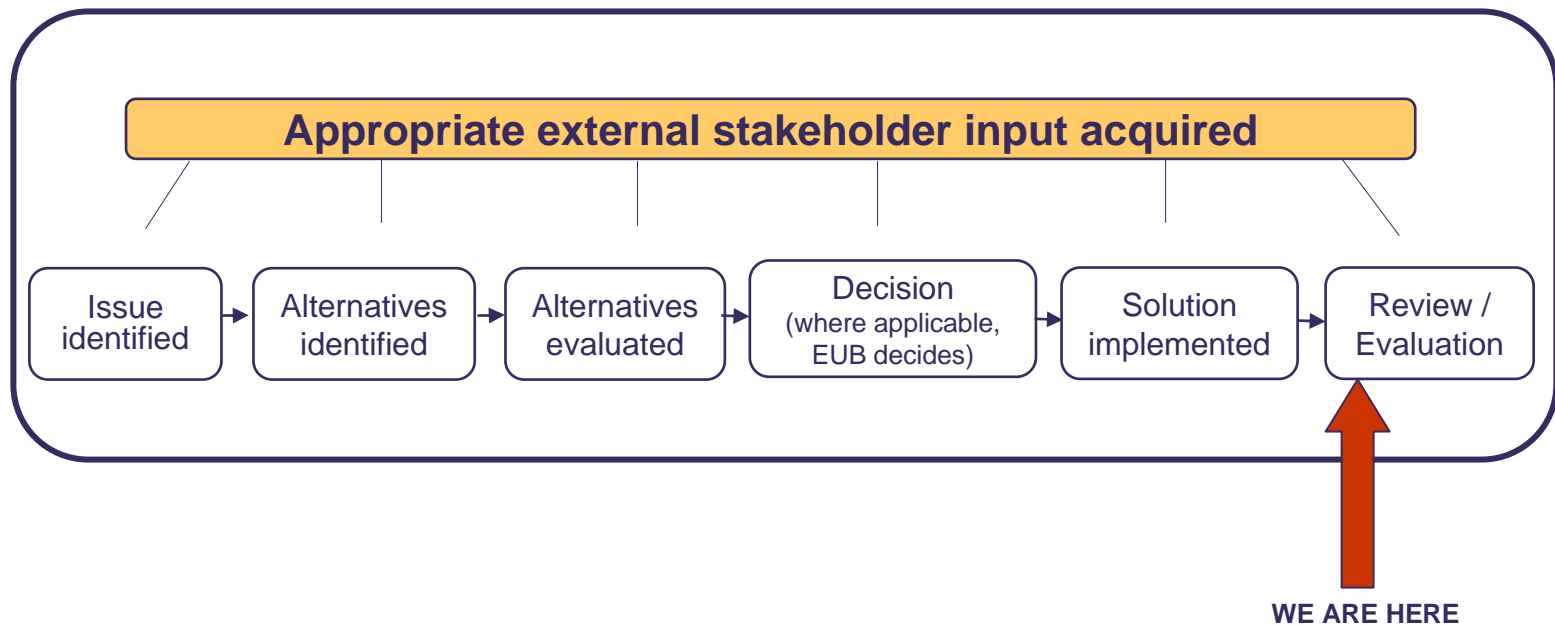


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The AESO Consultation Process

20-Year Outlook Document



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Next Steps

June 30 – Filed with AEUB (for information)

June 15 – Comments returned to AESO

June 3 – Draft posted on AESO website for comment



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Questions?



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