



## Levelized Production Cost Savings

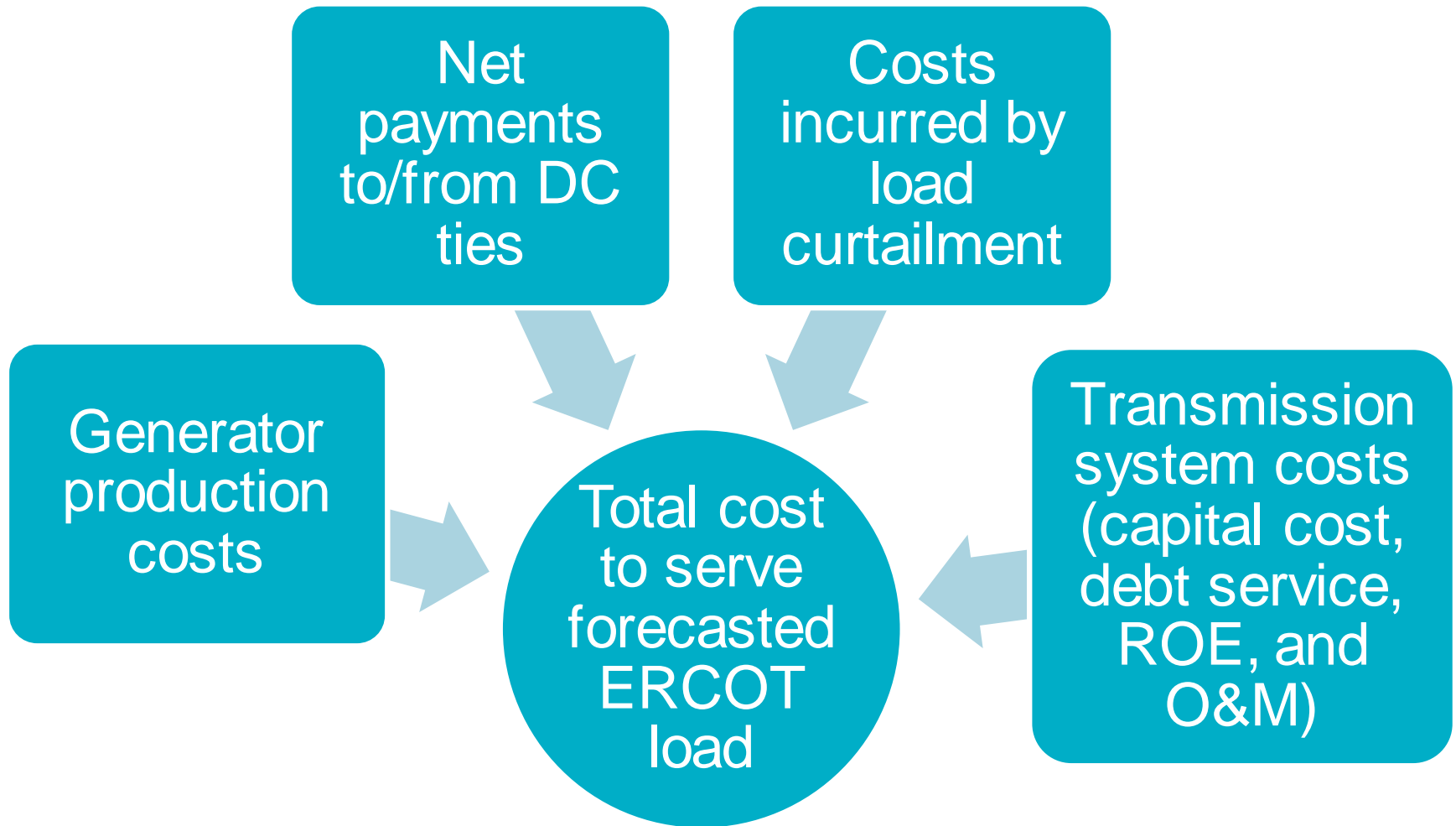
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# Economic Planning Criteria

- The economic criteria used to evaluate economic-driven projects is defined by PUCT Substantive Rules Section 25.101 and ERCOT Protocols Section 3.11.2
- Projects are recommended if they are reasonably expected to result in positive net societal benefits
- In general, annual production cost savings are compared to the first-year annual revenue requirement of the proposed project

# Societal Benefit = Total Cost Savings



# Levelized Production Cost Savings Calculation

- If a project is tested in multiple years, annual production cost savings are levelized to a single value
  - First-year levelized annual production cost savings to compare to first-year annual revenue requirement
  - Reflects the trend in production cost savings, rather than just considering the in-service year
- RTP economic analysis considers two study years (e.g., 2022 and 2025 for the 2020 RTP)
  - 2022 was considered the “first year” for comparing annual production cost savings to first-year annual revenue requirement

# Levelized Production Cost Savings Calculation

$$PCS_1 = \left[ \sum_i \frac{PC_i - PC'_i}{(1+r)^{i-1}} \right] \frac{E_1}{\sum_i E_i}$$

where:

$PCS_1$  is first-year levelized annual production cost savings

$PC_i$  is annual production costs in year  $i$  without transmission improvements (nominal \$M)

$PC'_i$  is annual production costs in year  $i$  with transmission improvements (nominal \$M)

$E_i$  is the annual energy for year  $i$  (GWh)

$r$  is the assumed inflation rate

# Levelized Production Cost Savings Example

Study Year	$i$	Production Cost Savings (Nominal \$M)	Annual Energy (GWh)
2022	1	2	458,000
2025	4	4	491,000

Assumed inflation rate ( $r$ ) of 2%

$$PCS_1 = \left[ \$2M + \frac{\$4M}{(1.02)^3} \right] \frac{458,000}{949,000}$$

$$PCS_1 = \$2.8M$$

# Questions

- Please send questions to [John.Bernecker@ercot.com](mailto:John.Bernecker@ercot.com)