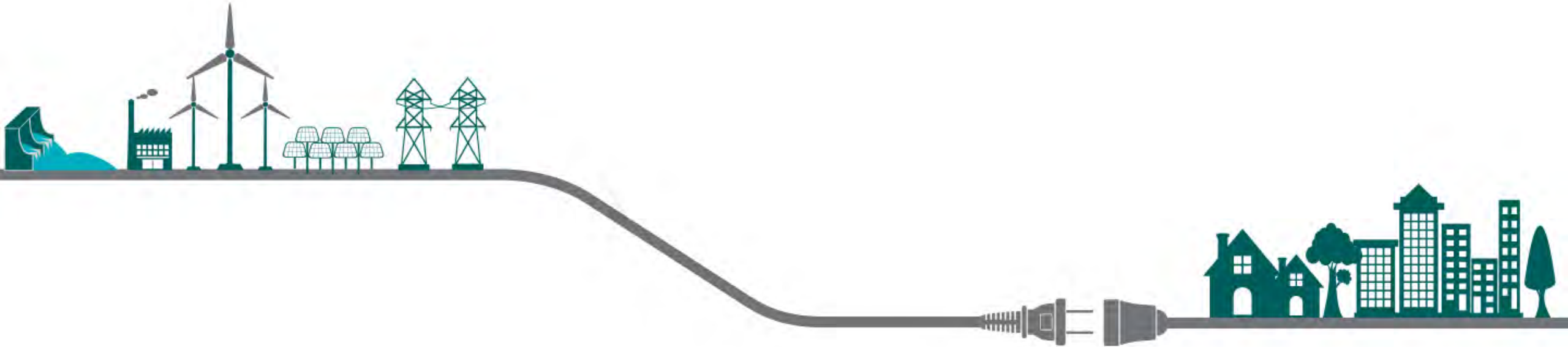


Carbon Forecast



John Carstensen, Joint Projects Leader

Aug. 10, 2021, IRPAC Workshop

Carbon Assumptions in 2021 IRP



- Carbon Adder
 - Carbon adders are used to assign cost/risk of carbon emitting generation in portfolios
 - Cost imposed on carbon emitting resources
 - Planning Case: what we assume will happen if there is a carbon adder
 - High/Low Case: what could happen
- Emission Standards – Reduced Emissions
 - No carbon adder
 - Selection of new resources to replace carbon-emitting resources

Carbon Considerations

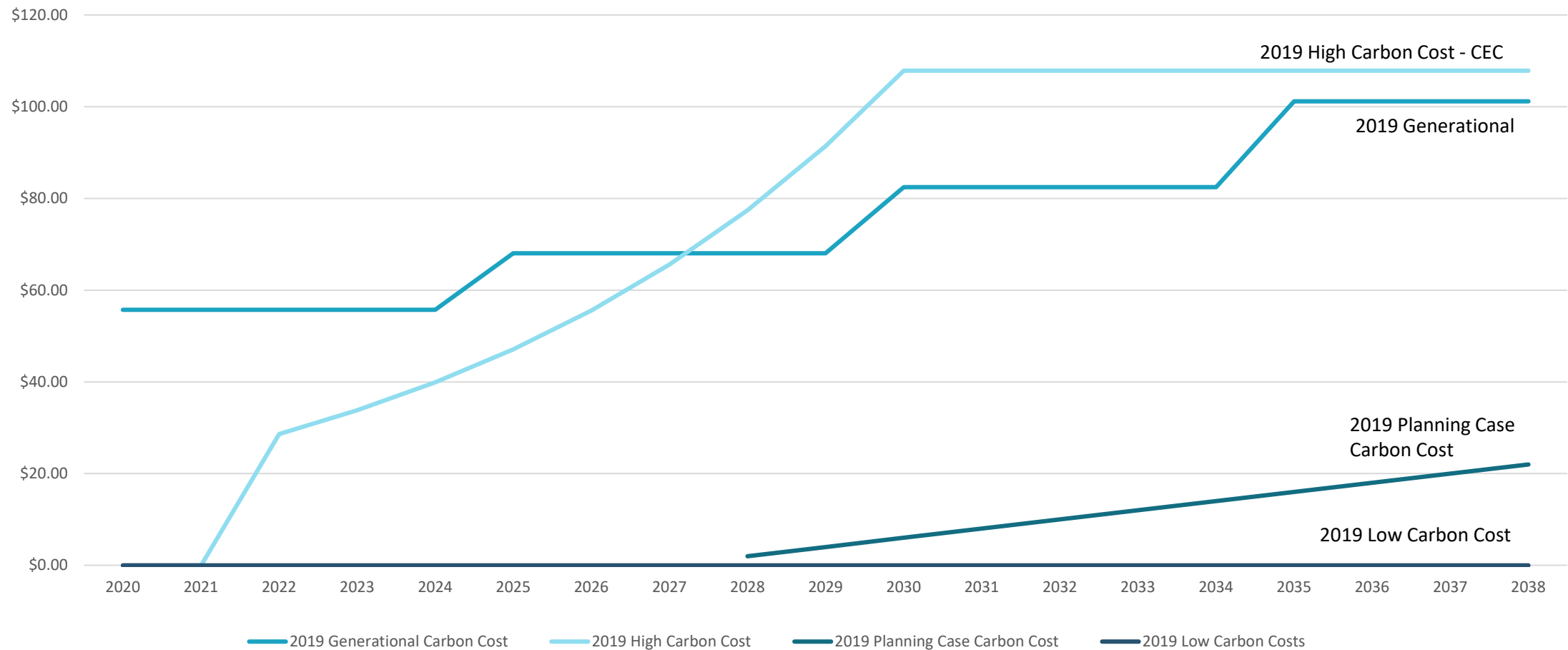


- Carbon Price Projections
 - State programs
 - Regional programs
 - Federally proposed programs (116th Congress)
 - Social Cost of Carbon (SCC)
- Carbon Emission Standards
 - Clean energy goals

Idaho Power's 2019 Carbon Price Assumptions

- Adder on CO₂ Emissions for Planning Purposes
- High Carbon Costs
 - California Energy Commission's Integrated Energy Policy Report (IEPR): *Revised 2017 IEPR GHG Price Projections*
 - High-price scenario
 - Start in 2021
- Generational Carbon Costs
 - Technical Support Document: *Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (May 2013, Revised Aug. 2016)
 - Start in 2019
- Planning Carbon Costs
 - Wood Mackenzie North America Power and Renewables. Long term outlook: *Charting the Likely Energy Transition Path, the Federal Carbon Case* (July 2018)
 - Start in 2028
- Low Carbon Costs
 - Zero dollars per ton

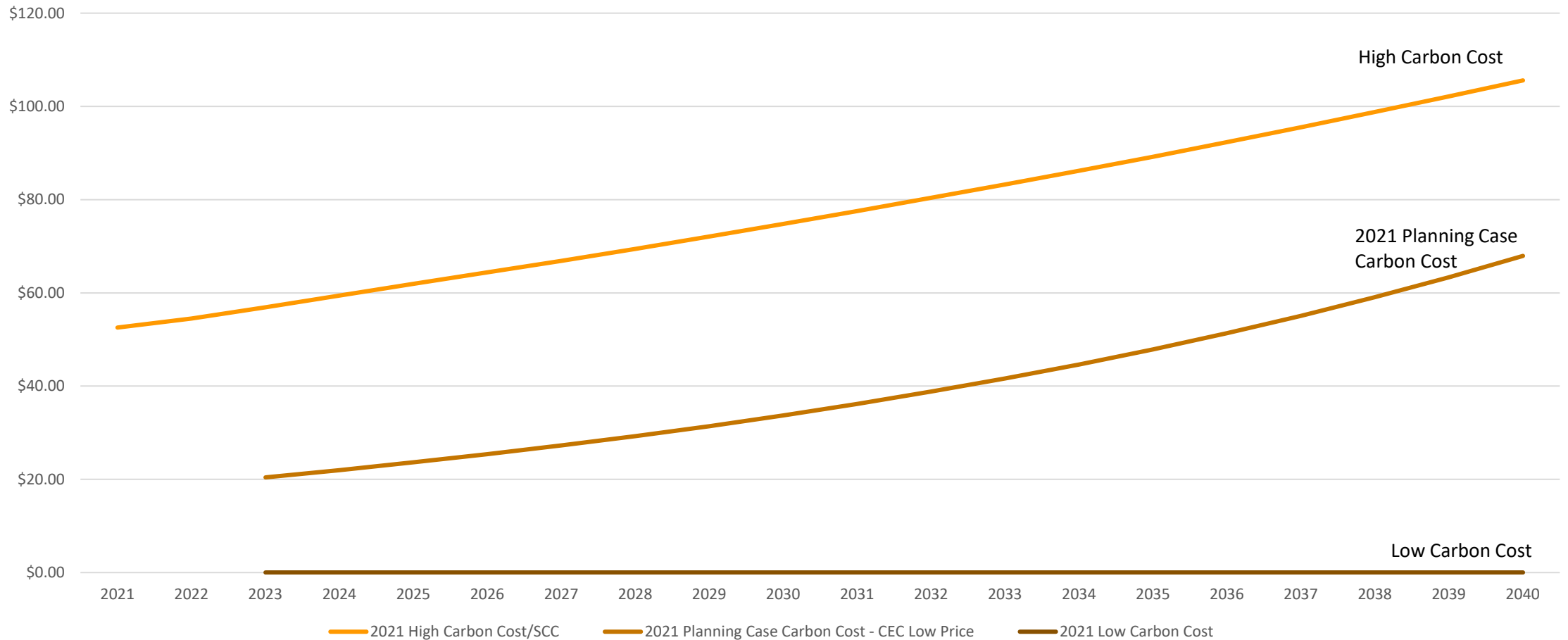
2019 IRP Carbon Forecasts (Nominal Dollars per Ton CO₂)



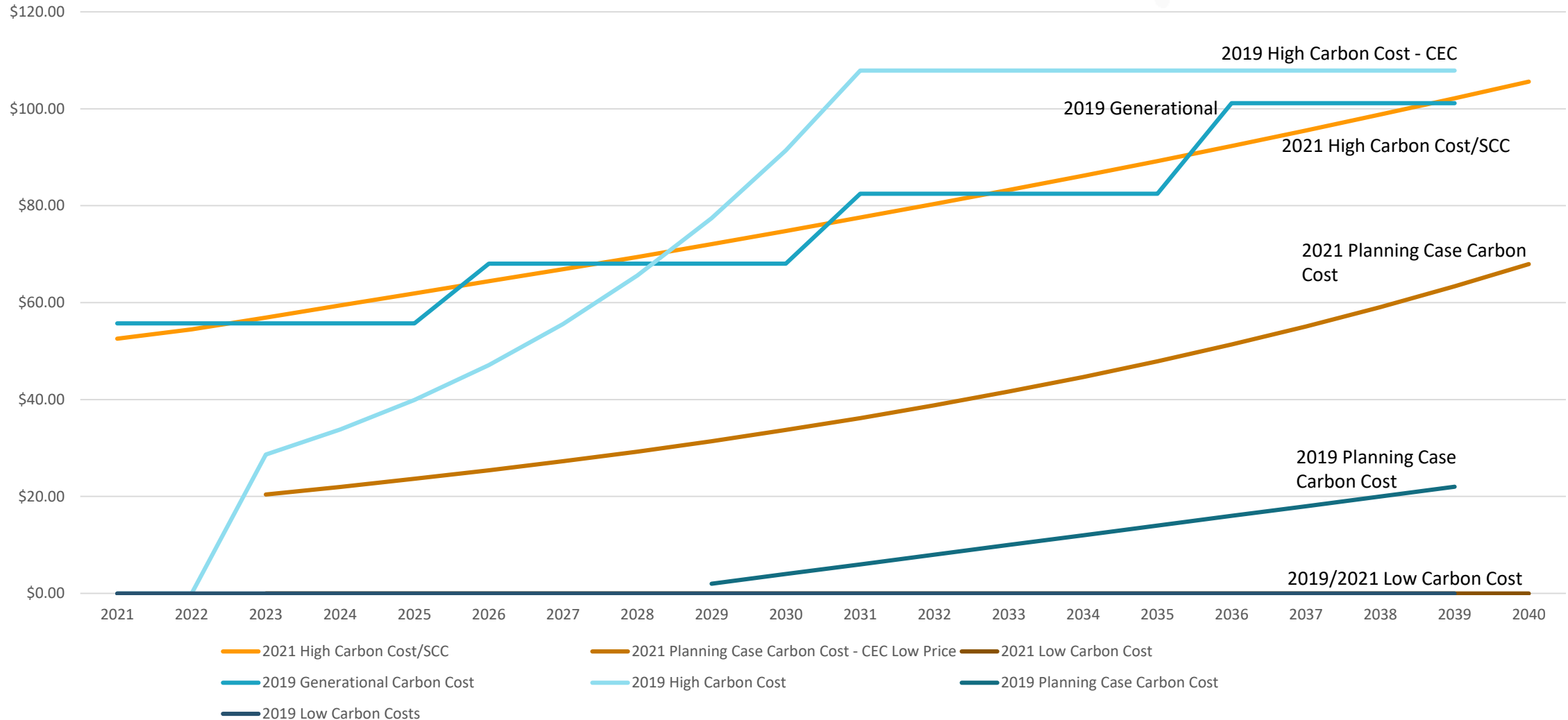
Idaho Power's 2021 Carbon Price Assumptions

- Adder on CO₂ Emissions for Planning Purposes
- High Carbon Forecast
 - Technical Support Document: *Social Cost of Carbon, Methane, and Nitrous Oxide. Interim Estimates under Executive Order 13990*. Interagency Working Group on Social Cost of Greenhouse Gases, United States Government. (Feb. 2021)
 - Start in 2021
- Planning Carbon Forecast
 - 2020 California Energy Commission's *Integrated Energy Policy Report (IEPR) Preliminary Green House Gas Allowance Price Projections*. Energy Assessment Division (Aug. 13, 2020)
 - Low-price scenario
 - Start in 2023
- Low Carbon Forecast
 - Zero dollars per ton – emission constraints

2021 IRP Carbon Forecasts (Nominal Dollars per Ton CO₂)



2019 vs 2021 IRP Carbon Forecasts (Nominal Dollars per Ton CO₂)



Thank you!

Questions?

