

BC HYDRO RESOURCE PLANNING

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FOR GENERATIONS

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OVERVIEW

- BC Hydro is crown corporation, overseen by BC Utilities Commission
- Mandate to generate 93% of electricity from renewable energy
- Currently 90% generation from hydroelectric facilities
- Legislated that IPPs will develop new resources going forward, with exception of Site C dam and upgrades to existing facilities
- Long term resource planning group develops Integrated Resource Plan
 - Long term system studies
 - Resource Options Report
- Firm energy and dependable capacity/effective load carrying capacity
- Cost adder applied to wind projects in planning and acquisition processes to account for additional cost of integrating wind into the system

UEC & UCC AT POI USED IN PORTFOLIO MODELLING

- UEC and UCC provide high level cost for each resource in common units (\$/MWh and \$/kW-yr)
- Cost includes road and transmission up to POI
- Resource Options Report



X \$/MWh



Y \$/MWh

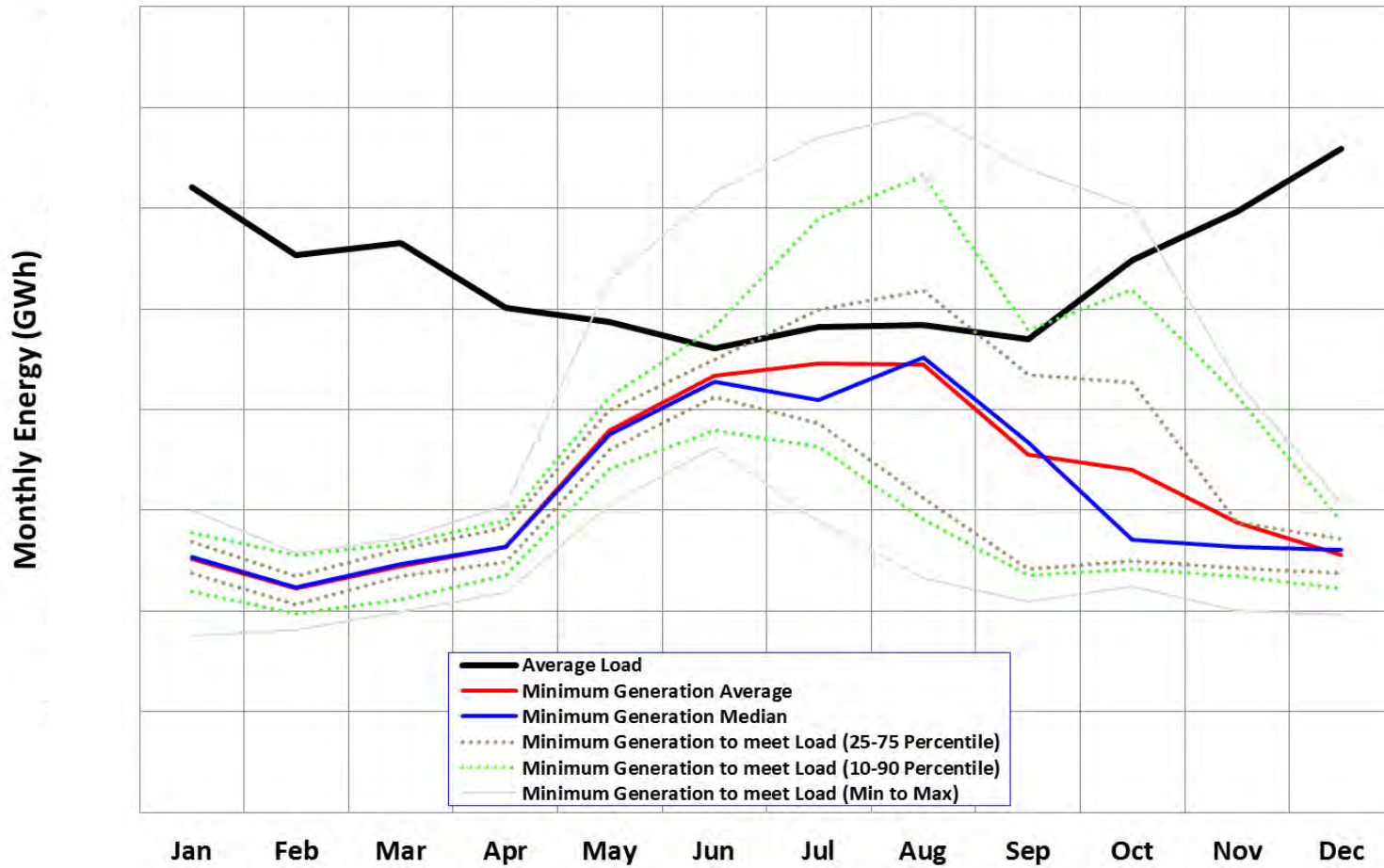


Z \$/MWh

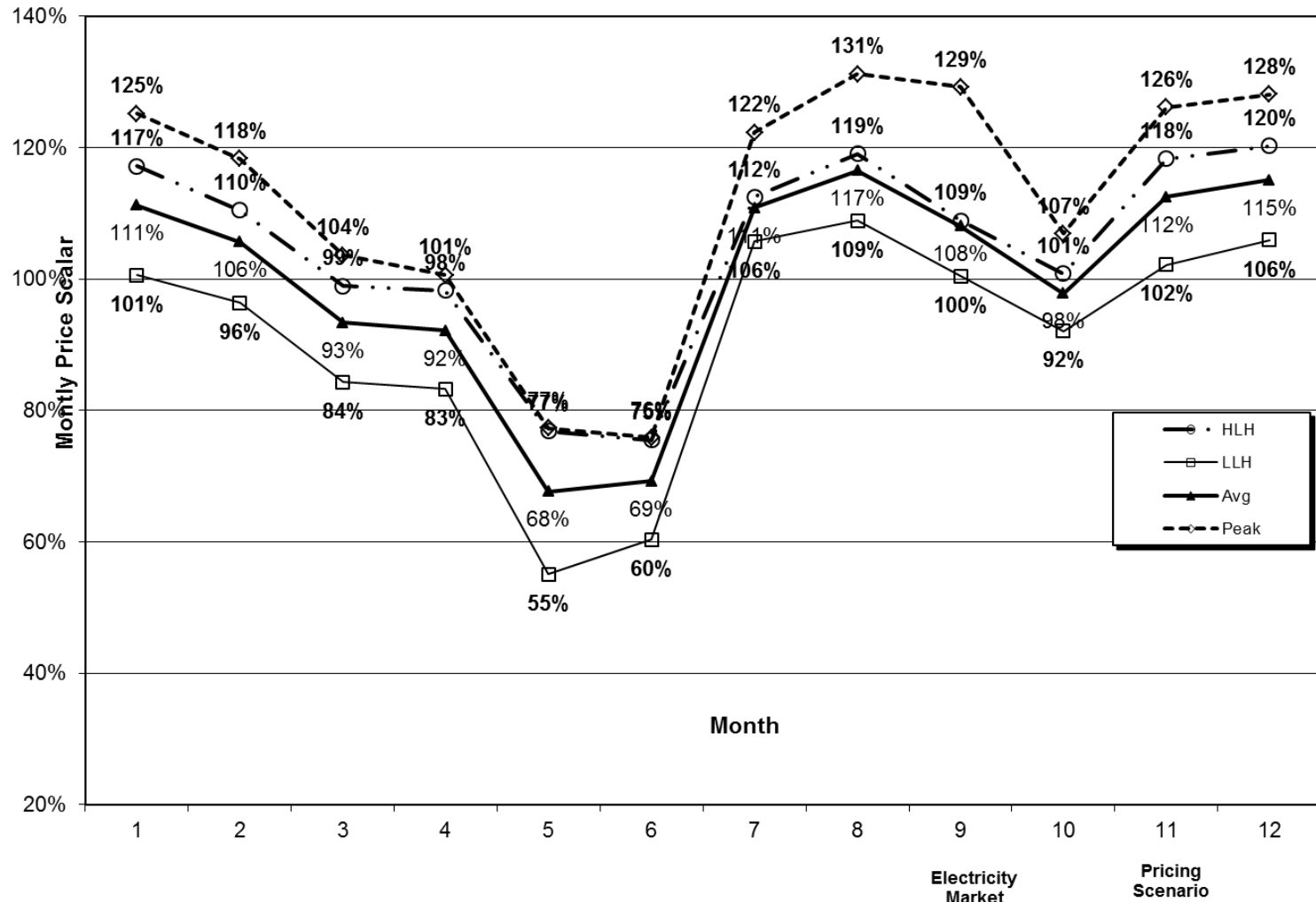
$$UEC = \frac{PV(\text{Total Annual cost})}{PV(\text{Annual Average Energy})}$$

$$UCC = \frac{PV(\text{Total Annual cost})}{PV(\text{Dependable Capacity of Resource})}$$

FRESHET – WATER VARIABILITY



TIME-OF-DELIVERY PRICE ADJUSTMENT



Notes:

1. Scalars represent an average price shape from modelled prices for 2012 to 2031.
2. Monthly Shape Factor = Monthly Price ÷ Average Annual Price

Questions?

