



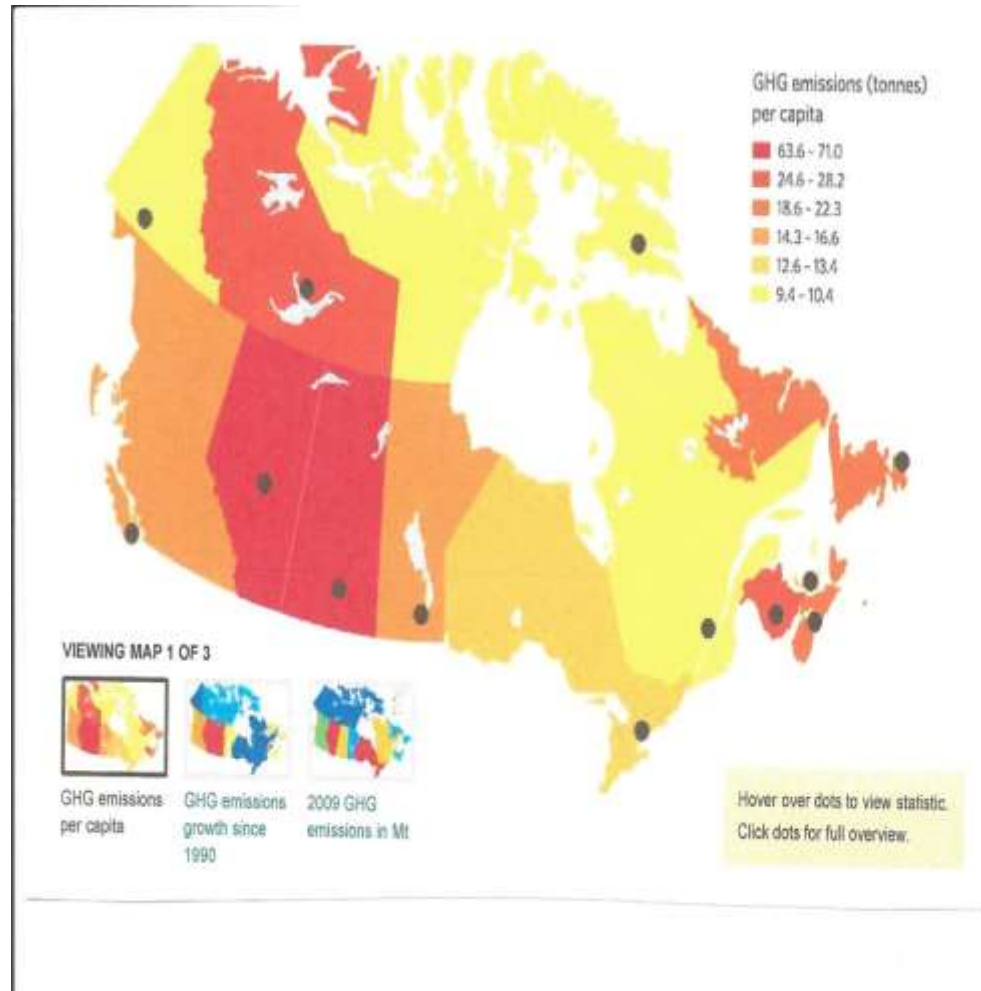
Fuel Choice, Nuclear Energy, Climate and Carbon

Presentation to CNS 2012 SNC

Al Shpyth - Saskatoon

Fuel Choice Matters

- Combustion sources, including electricity generation, contribute 45% of Canada's GHGs
- The energy sector, including combustion sources, contribute 80%
- Both are tied to carbon-based fuels (coal, oil, gas)
- Alberta and Saskatchewan are two of the most coal-powered provinces in Canada
- They have the highest per capital GHG emissions
- They have the largest growth in GHG emissions since 1990



EIA Alone is Ineffective

- Project-specific EIA cannot deal with the climate problem
- Fuel choice matters to the climate problem



SEA is Better Suited

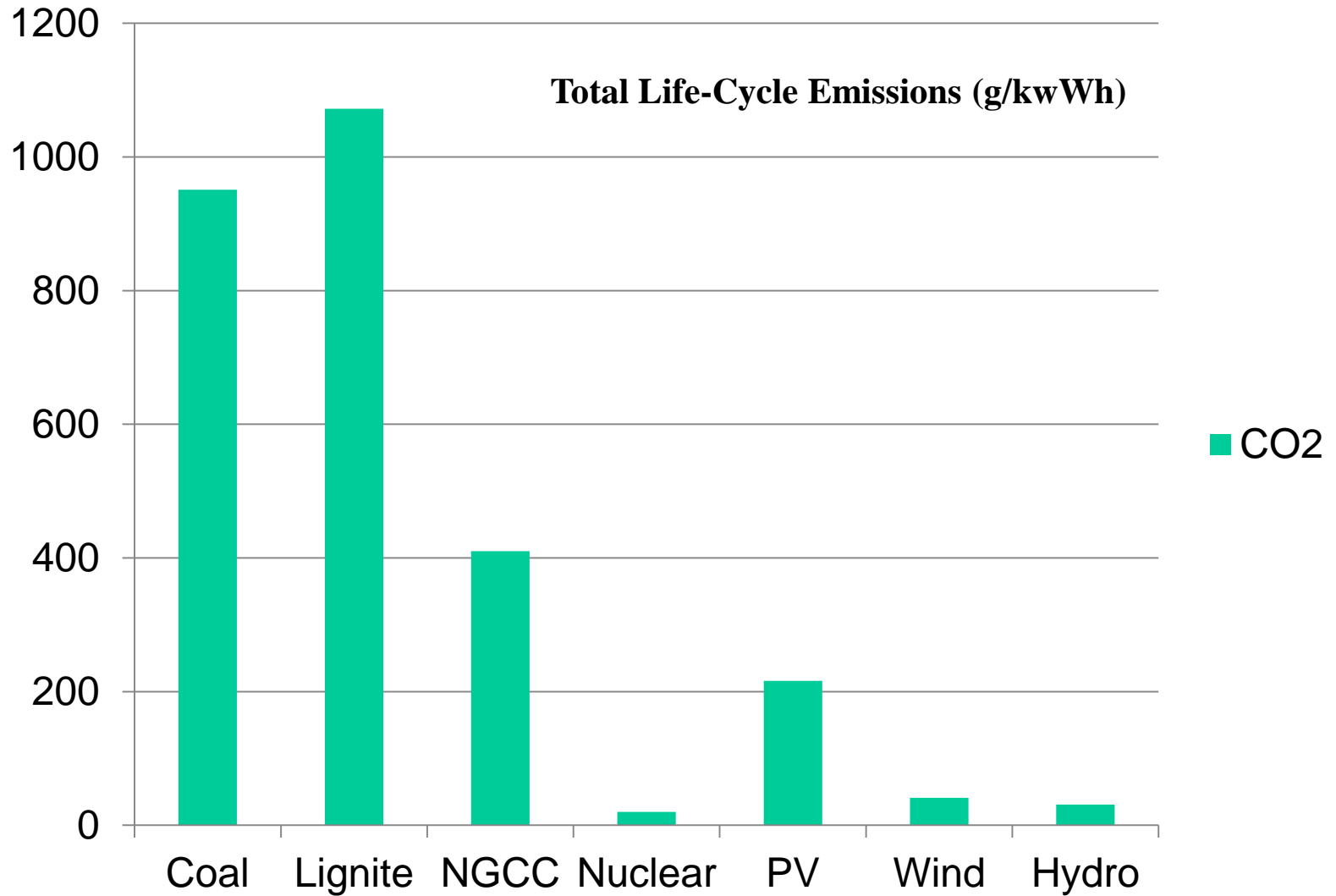
- Complexities of energy developments challenge IA
- SEA extends the aims and principles of EIA
 - Major alternatives are still open
 - Greater scope to integrate environmental considerations
- SEA can address “sources” rather than “symptoms”

LCA Adds Value

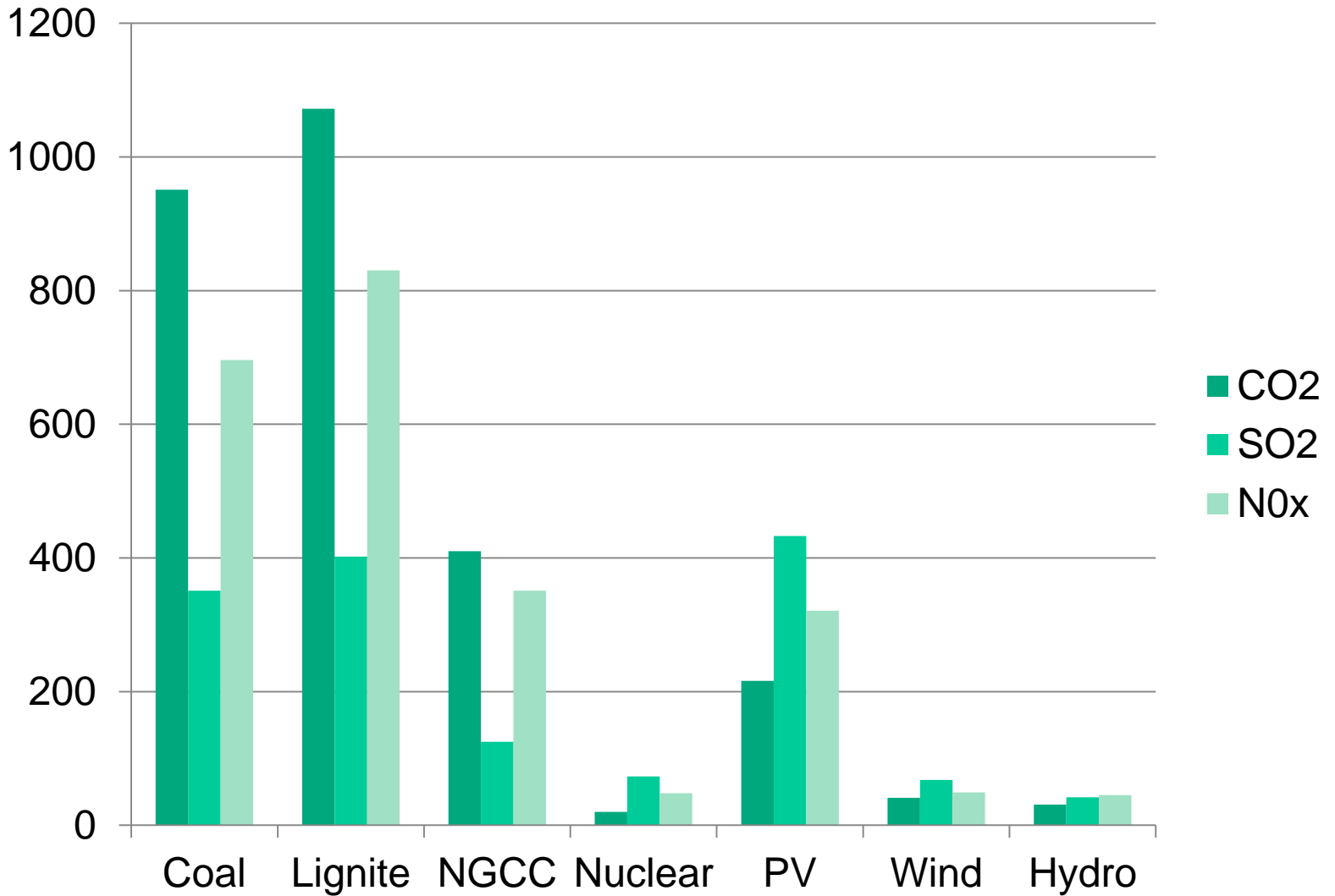
- Choose the least burdensome
- Can assist SEA with
 - The comparison and assessment of alternatives
 - The identification of strategic options



LCA and Fuel Choice



Total Life-Cycle Emissions (g/kwWh)

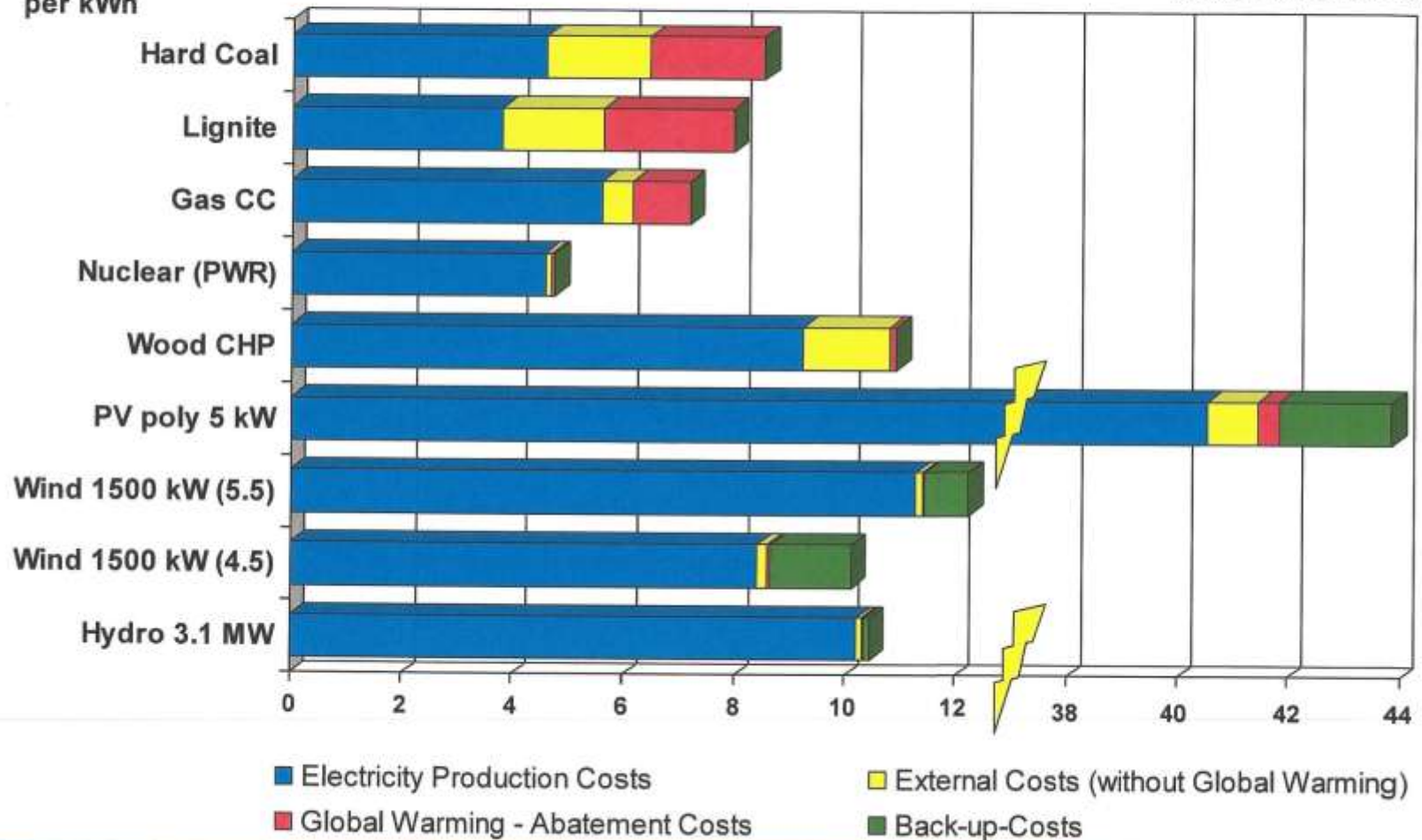




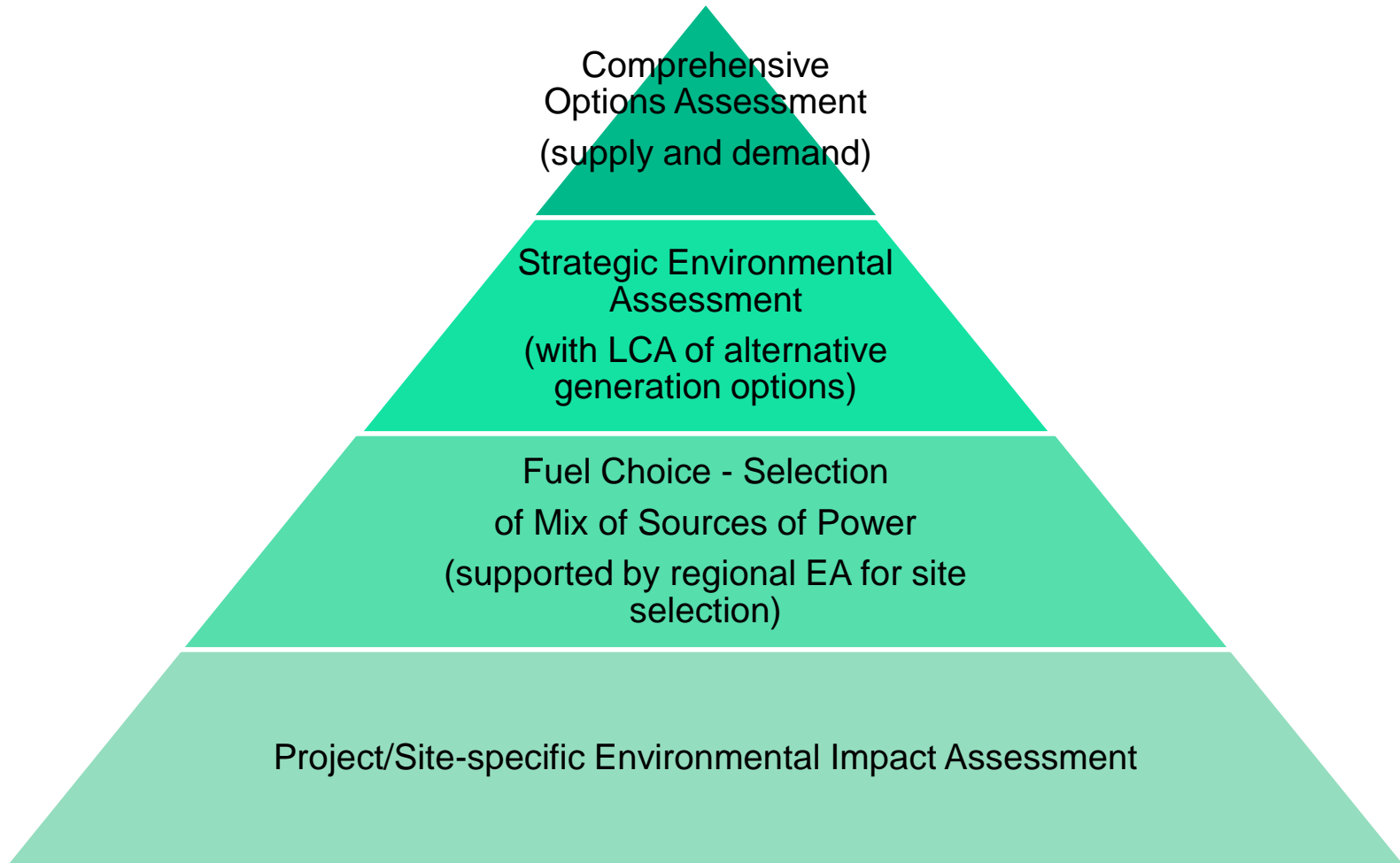
Total Costs of Electricity Generation Technologies

euro cent₂₀₀₅
per kWh

7.5% interest rate



Energy Developments and IA



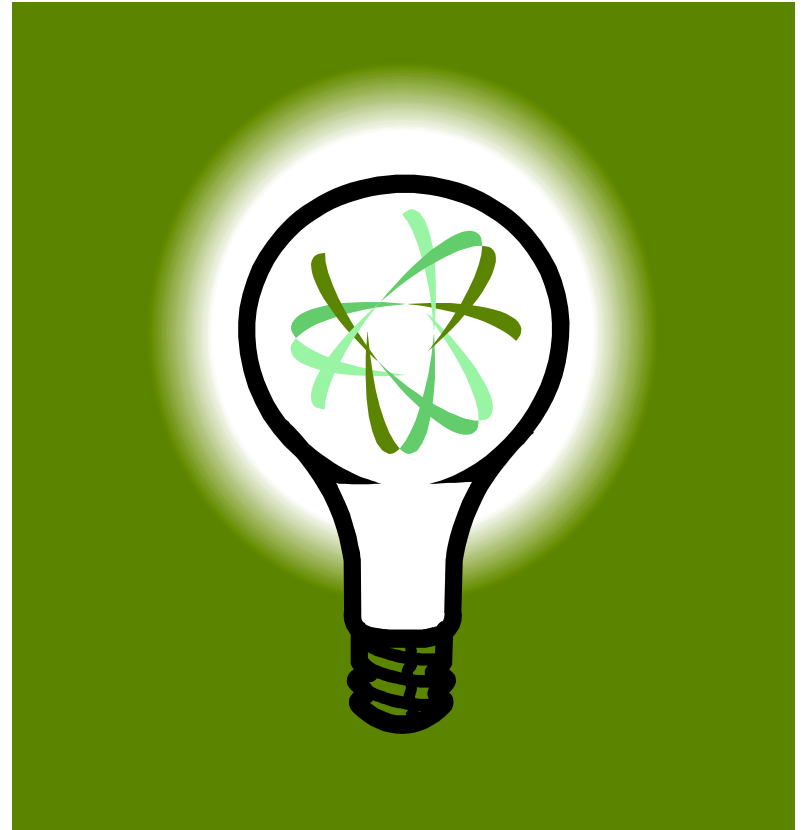
Conclusion

- SEA + LCA = good practice
- Help deal with the climate problem by helping us make our fuel choice
- Help nuclear by increasing public support



Recommendation

- Invest in an industry-wide data collection effort
- Provide a more detailed and complete base for the use of LCA



Additional Slides



Env'l Assessment & Management

Development Phase	Impact assessment/management tool
Policy/strategy (fuel choice)	Strategic environmental assessment (sector) or policy appraisal with input into project selection and environmental assessment
Project design (power station) and approval	Environmental impact assessment with input into environmental protection plans
Project construction/early operation	EPPs with input into environmental management systems
Project operational period (and reclamation)	“Progressive” environmental management systems with a focus on continuing environmental improvements (and liability reduction)
Decommissioning	EIA update or new EIA with links to “progressive” EMS



LCA and Accidents at NPPs

