



LCA of electricity from fossil fuels in Chile

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Identifying sustainable electricity options for Chile

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1. Context

- The electricity system in Chile is dominated by fossil fuels (Figs. 1&2) which are largely imported¹.
- As a result, electricity costs have been increasing together with its consumption¹⁻³ (Figs. 3&4).
- This also affects energy security and increases climate change as well as other environmental impacts.
- Therefore, more sustainable options need to be identified for a future electricity system in Chile.

Fig. 1. Location of electricity systems in Chile and their installed capacity in 2014 (3).

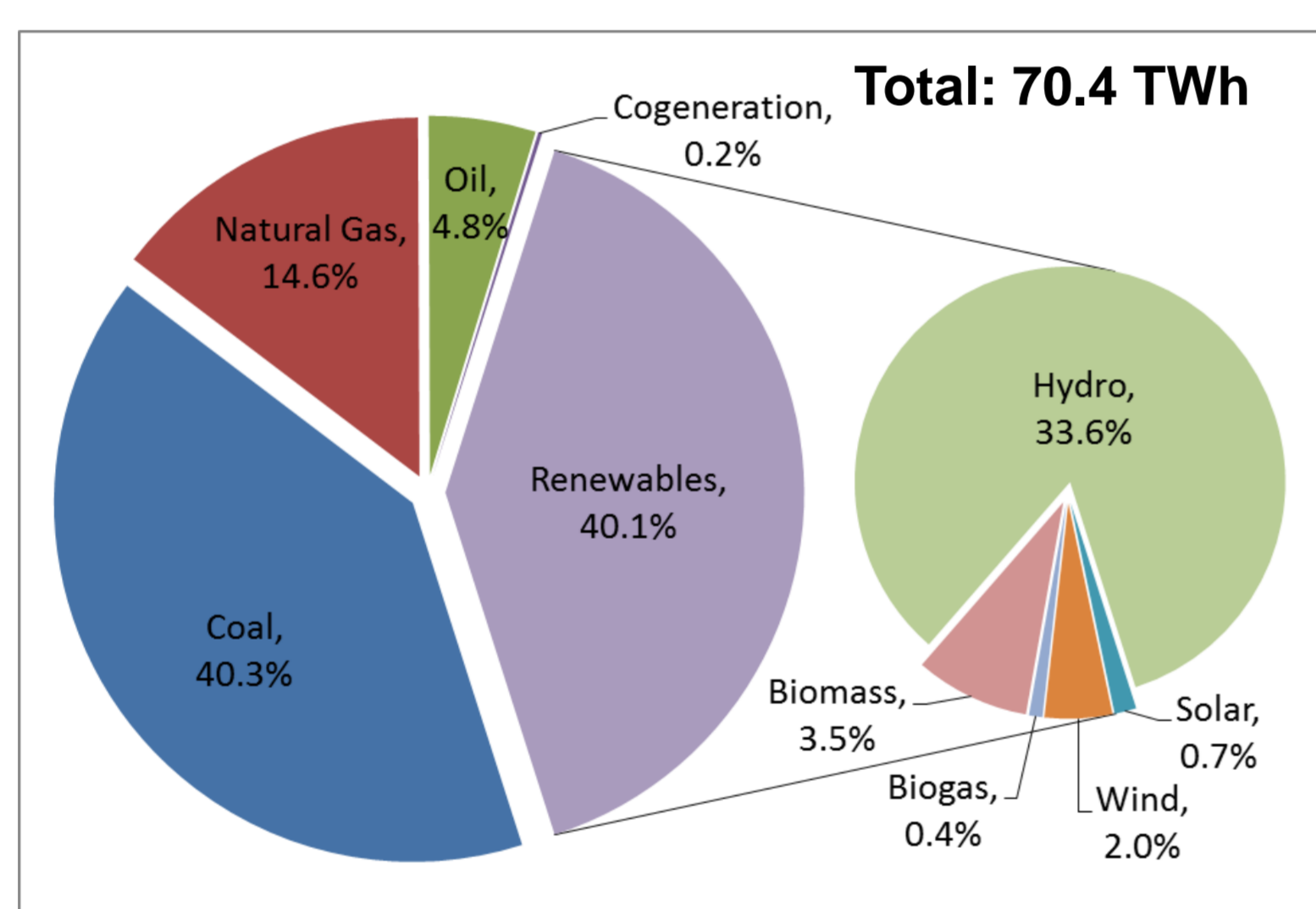


Fig. 2. Electricity mix in Chile in 2014 (3).

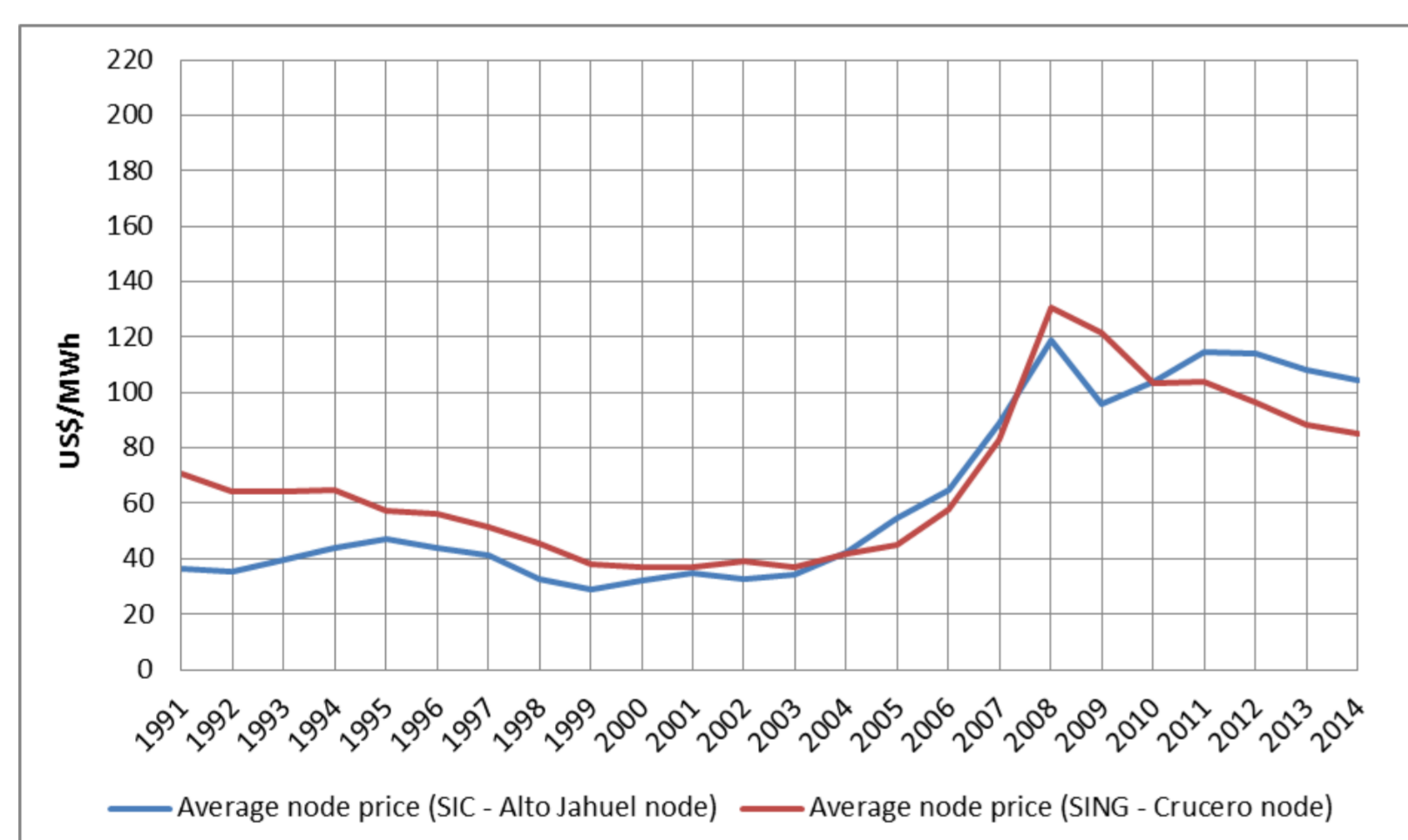


Fig. 3. Electricity cost trends in Chile (3).

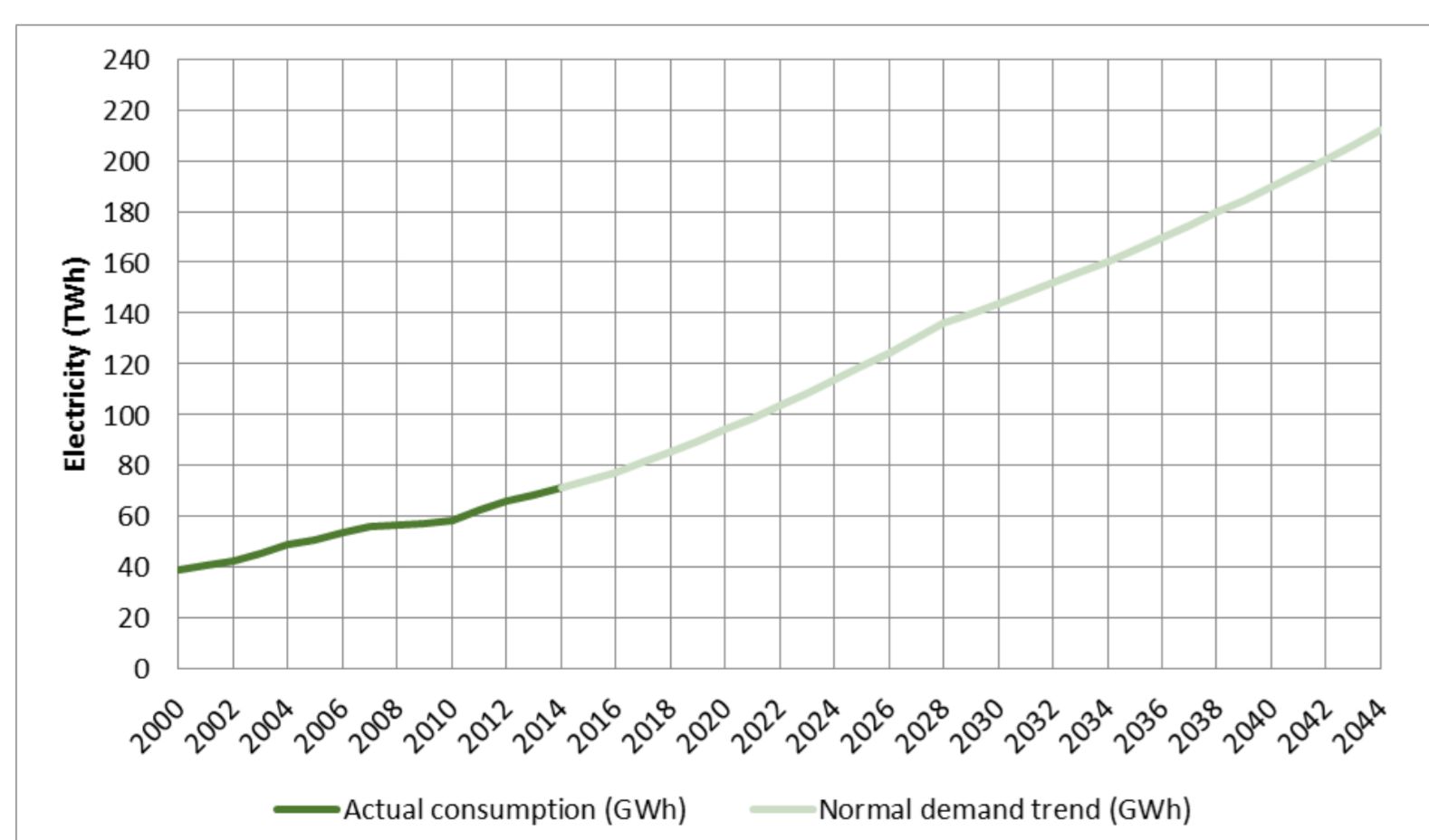


Fig. 4. Electricity consumption trends in Chile (3).

2. Aim and scope

- To assess the sustainability of current electricity system in Chile and identify pathways for its sustainable development in the future.
- The scope is from 'cradle to grave', considering extraction of fuels and materials, electricity generation and construction and decommissioning of electricity plants.
- A range of current and future electricity technologies and scenarios will be considered.

3. Methodology

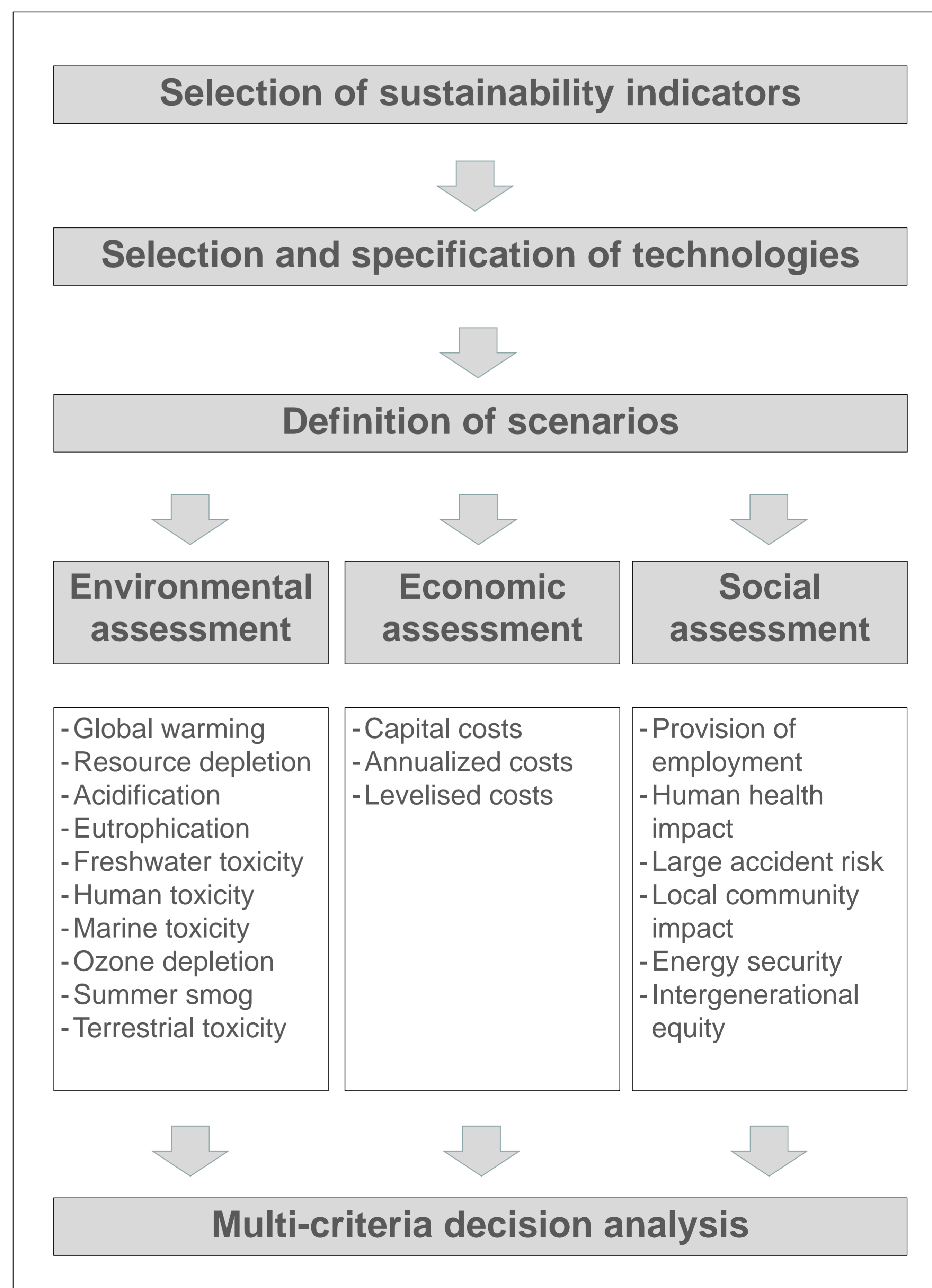


Fig. 5. Methodology for sustainability assessment of electricity (4).

References

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3. National Energy Commission (2014). Online database.
4. Santoyo-Castelazo, E. and A. Azapagic (2014). Sustainability assessment of energy systems: Integrating environmental, economic and social aspects. J Cleaner Prod. 80 119-138.

Acknowledgments

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