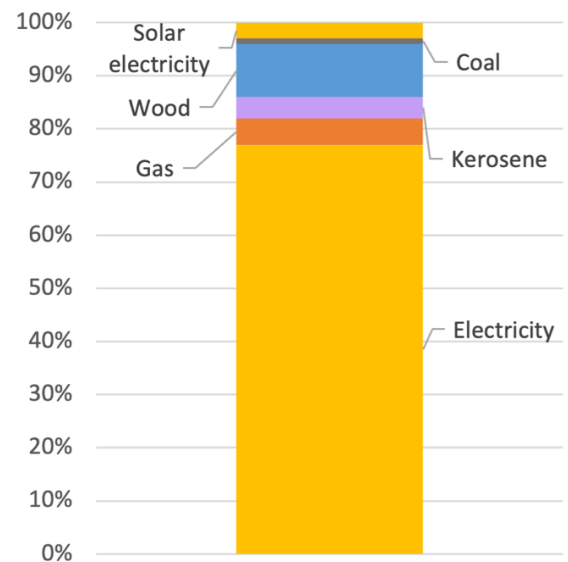
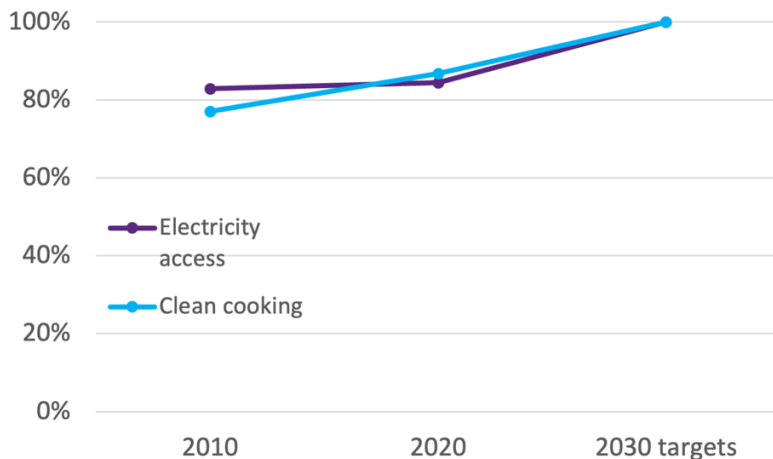


Current Situation: Electricity Access, Clean Cooking

- 84% have access to electricity.
- Most people cook with electricity (77%). 5% cook with commercialized polluting cooking fuels (kerosene and coal); and 13% cook with polluting cooking fuels.



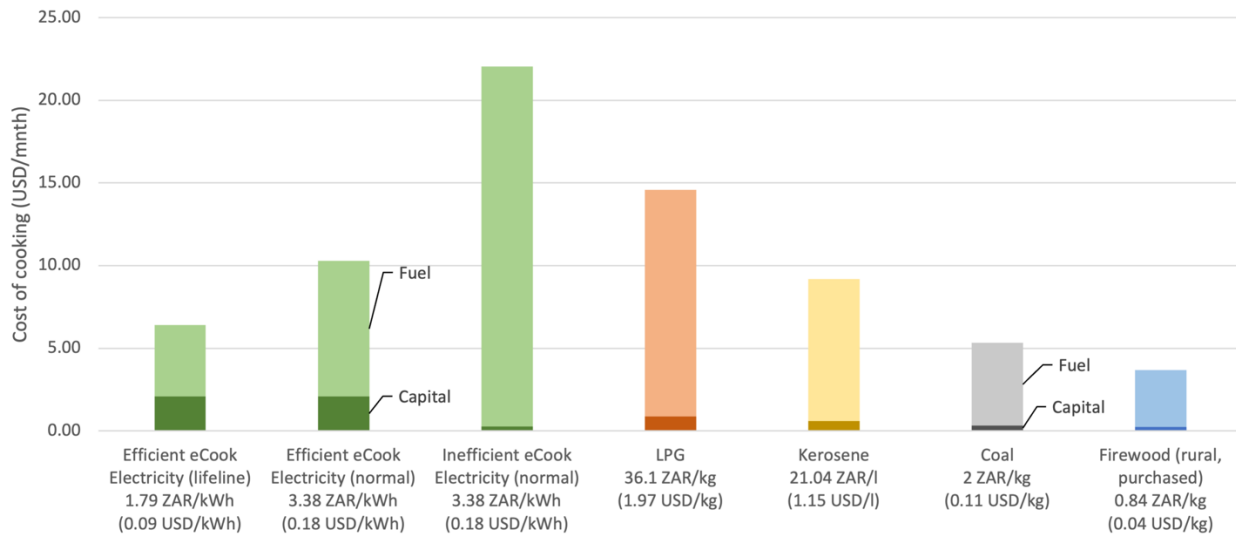
Above: Electricity and clean cooking access from: WDI, World Bank.
 Right: Primary cooking fuel use from: [Market inquiry into the LPG Sector](#), Competition Commission South Africa, 2017.

Potential for eCooking

- 77% people already cook on electricity in South Africa, but there are challenges with load shedding. By **switching to highly efficient electric cooking appliances, cooking loads would be reduced and the cost of cooking much reduced** (see graph).
- **Highly efficient appliances** include electric pressure cookers (EPCs) and rice cookers, and induction hobs are also more efficient than standard electrical hotplates.
- **It is cheaper to cook with electric pressure cookers:** Evidence from MECS programme studies on eCooking in various African countries show that it is cheaper to cook staple foods like beans on an EPC compared to charcoal and LPG¹.
- Further evidence from the MECS programme shows that for other African countries, EPCs can be used to cook most of the local dishes – up to 90% of the menu in some countries.
- These devices are already available in the supply chain, but they need promotion to end users, highlighting their **affordability, convenience, and time-saving aspects**.
- There is **additional electricity generation coming on board** – the first of more than 100 privately owned power plants will connect to the grid in 2023. In total, the planned projects could produce 9,000 megawatts, much of it for the companies' own use, which could help relieve load shedding.

¹ [MECS eCookbooks](#)

Cost of Cooking, South Africa



Cost of cooking over a month, using international averages for cooking energy demand from ESMAP (2020)² and local electricity/fuel prices and including cost of appliance levelized over stove lifetime. Electric appliances assumed to be an EPC and a single induction plate for efficient eCook scenario, and a 2 burner hotplate for inefficient eCook scenario. Appliance costs from websites loot, takealot, and yuppiechef. Fuel prices: coal (2007)³; wood (2022 but synthesised from a range of earlier publications)⁴; kerosene (2023)⁵, LPG (2023)⁶, electricity from Eskom (2023)⁷ and NERSA (2022/23)⁸. Current market prices would be welcome to update and validate the above results.

MECS programme activity

- The most recent visit to the Indaba Conference in Cape Town, March 2023, by MECS staff indicates there is significant interest in more efficient forms of electric cooking. The electric cooking market already exists in two market segments – the middle classes who are looking for more reliable energy sources, and off-grid low-income households.
- Electric cooking on mini-grids and solar home systems is targeting these two groups with the middle classes acting as prosumers. MECS is working with partners in the supply chain and manufacturing sectors to service these customers.
- There is existing interest in Indian technology for storage backup in both grid and off grid projects.
- MECS has strong links to University of Cape Town (UTC) and Stellenbosch University.
- Meetings were held with Sustainable Energy Africa in Cape Town in March.
- Strong links with African Forum for Utility Regulators (AFUR) in Cape Town with co-hosting of a session at the Indaba conference.
- Prof. Ed Brown spoke at session organised by the Export Credit Insurance Corporation.

This material has been funded by UKAid from the UK government; however the views expressed do not necessarily reflect the UK government's official policies.

² Energy Sector Management Assistance Program. 2020. Cooking with Electricity: A Cost Perspective. World Bank, Washington, DC. © World Bank. License: CC BY 3.0 IGO.

³ Balmer, Household coal use in an urban township in South Africa, 2007, <http://dx.doi.org/10.17159/2413-3051/2007/v18i3a3382>

⁴ Shackleton et al, Fuelwood in South Africa Revisited: Widespread Use in a Policy Vacuum, 2022, <https://doi.org/10.3390/su141711018>

⁵ <https://www.energy.gov.za/files/esources/petroleum/March2023/Illuminating-Paraffin.pdf>

⁶ <https://www.energy.gov.za/files/esources/petroleum/March2023/LPG-Regulations.pdf>

⁷ <https://www.eskom.co.za/distribution/tariffs-and-charges/>

⁸ <https://www.nersa.org.za/wp-content/uploads/bsk-pdf-manager/2022/10/Approved-Municipal-Electricity-Tariffs-2022-23.pdf>

