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**IPCC 6th Assessment Report: Trajectory for Australia**

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The recently released IPCC Assessment Report 6 contains a new set of potential scenarios for future climate change at the global scale, based on the latest modelling. Of these scenarios only one (SSP1 1-9) is projected to keep global surface temperatures "well below 2.0°C above preindustrial levels", the stated objective of the Paris Agreement (Figure 1).

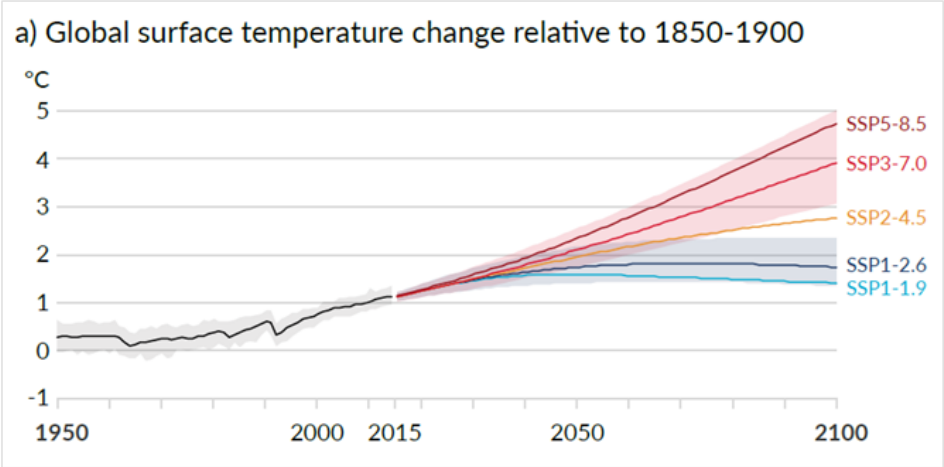


Figure 1 [Source: Source: IPCC AR6 Figure SPM.8]

SSP1 1-9 assumes "very .... low GHG emissions .... declining to net zero around or after 2050, followed by .... net negative CO2 emissions". SSP1 – 2.6 does not see net zero until around 2080 and carries more risk of temperatures exceeding 2°C. The other scenarios will see CO2 concentrations and global temperatures rising to dangerous levels throughout the 22nd century.

Therefore, adopting the emissions reduction trajectory in SSP1 1-9 (Figure 2) is what is required at the global level to deliver on Paris. Of course, there will be significant differences between what nations do, and also differences between sectors in each jurisdiction. Nevertheless, the emissions trajectory for SSP1 1-9 can be used to provide general guidance on what is required. If everyone in the world adopted that trajectory, the goal of keeping temperatures below 2°C would be achieved.

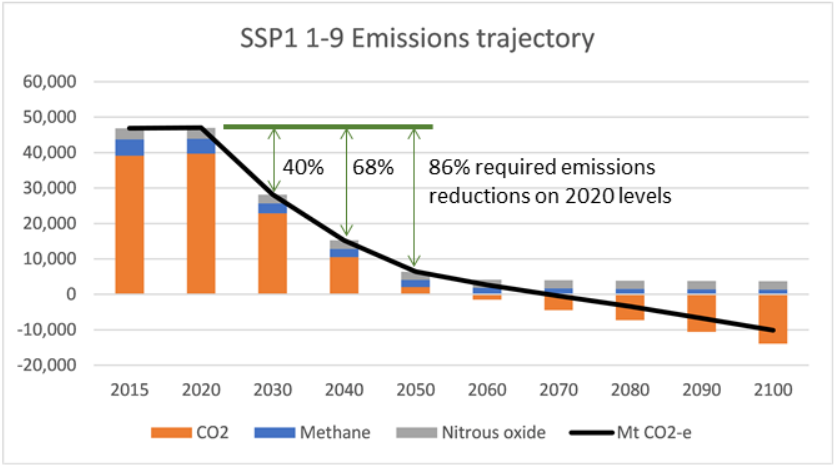


Figure 2 [Source: Derived from SSP1 1-9 emissions trajectories by the author]

If we apply those emissions reductions to the Australian (Figure 3) and Western Australian (Figure 4) context, we can identify in broad terms what policies will need to deliver by 2050.

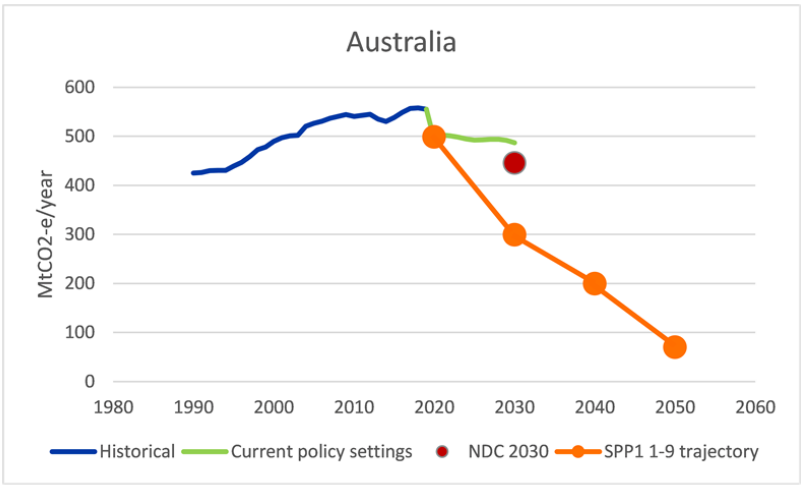


Figure 3 [Source: Derived by the author from State and Territory Greenhouse Gas Inventories 2019, Current policy settings from Climate Action Tracker Assessment for Australia, Australia's National Determined Contributions (average of range, SSP1 1-5]

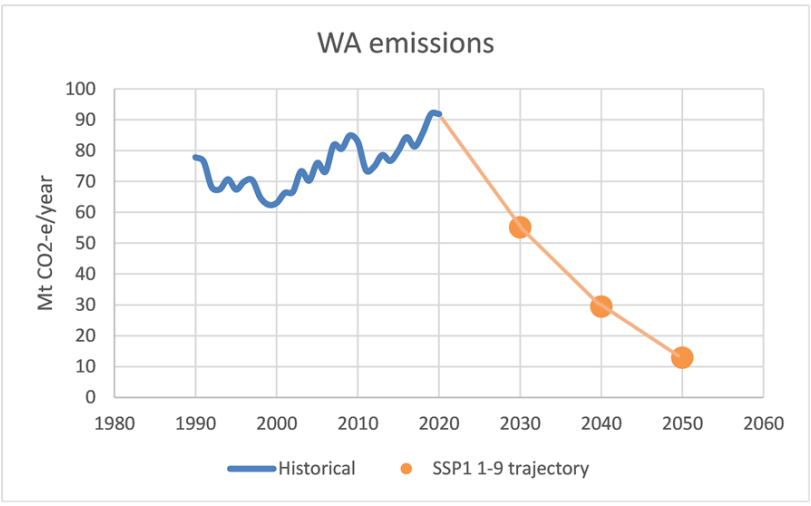


Figure 4 [Source: Derived by the author from State and Territory Greenhouse Gas Inventories 2019, SSP1 1-5]

While these trajectories are challenging enough, it must be remembered that Net Zero by 2050 is not sufficient to deliver SSP1 1-9. That requires negative emissions beyond then and well into the 22nd century.

The Federal Government seems to be edging towards some kind of Net Zero commitment but is so far not showing any interest in improving on our current Paris NDC for the Glasgow conference in November. It must be remembered that what is important for climate is the overall concentration of CO2 in the atmosphere. Delaying emissions reductions delay the stabilisation of atmospheric CO2, meaning higher temperatures and worse climate change impacts.

Although we are looking for a Net Zero commitment from government, the most recent modelling confirms some simple conclusions:

Keeping temperature below 2°C means:

- immediate and ongoing emissions reductions are necessary, with emissions at (near) zero by 2050 and negative beyond that and into the next century
- achieving the necessary emissions trajectory must follow the path of SSP1 1-9 which includes reductions of 40% below 2020 levels by 2030.

This proximate target must remain the most urgent policy priority and pressure must be retained on the Federal and State Governments to deliver on that goal of 40% below 2020 levels by 2030.