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Renewable Energy Jobs in Australia 2020

New South Wales summary

June 2020

Background

The first National survey of Renewable Energy jobs in Australia

Objectives

- Improve estimates and understanding of renewable energy employment
- Facilitate better workforce planning to avoid future skill shortages
- Identify opportunities for regional jobs and managing energy transition
- Fully study and methodology available from https://bit.ly/REjobs_Au

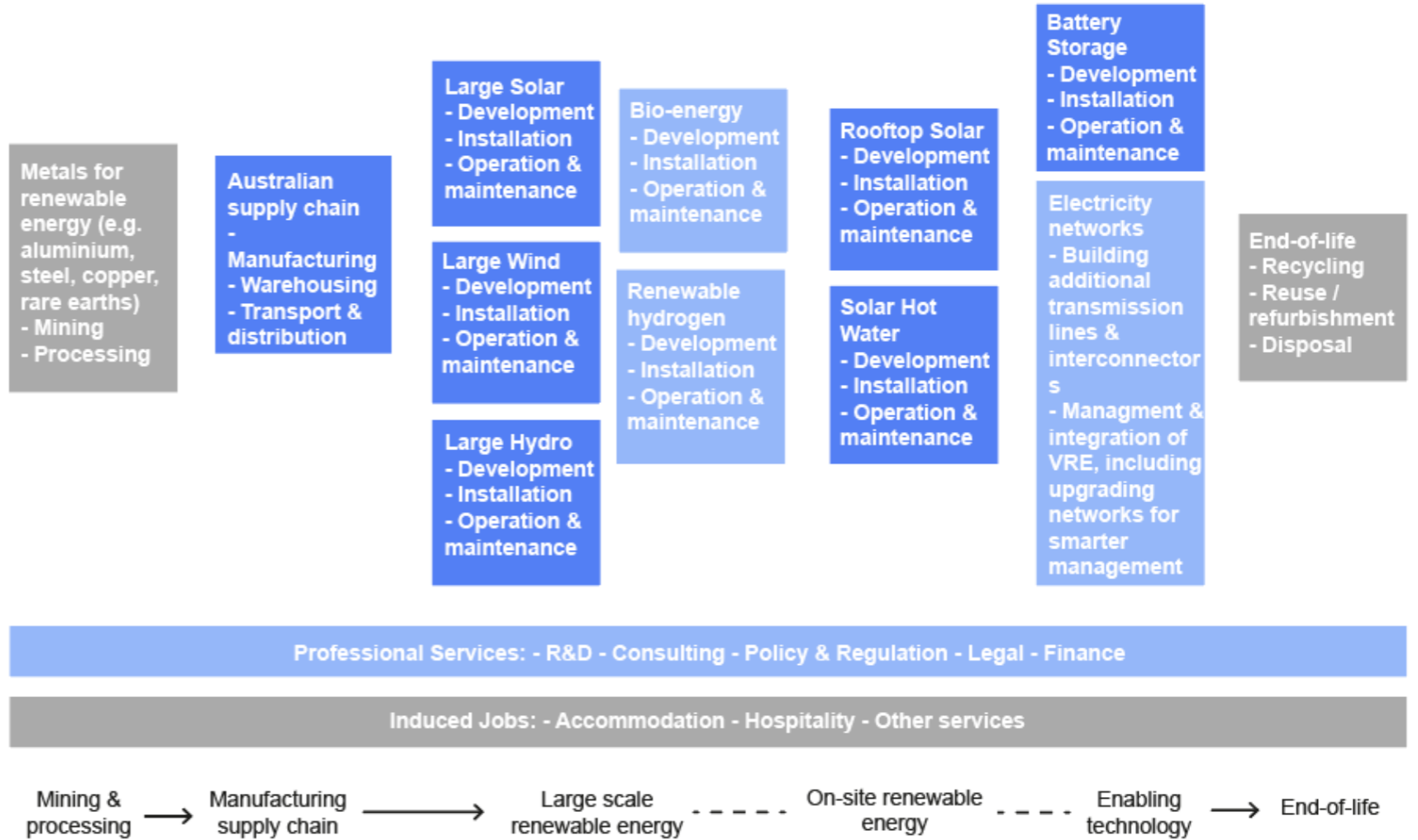


Scope of study

Study scope figure

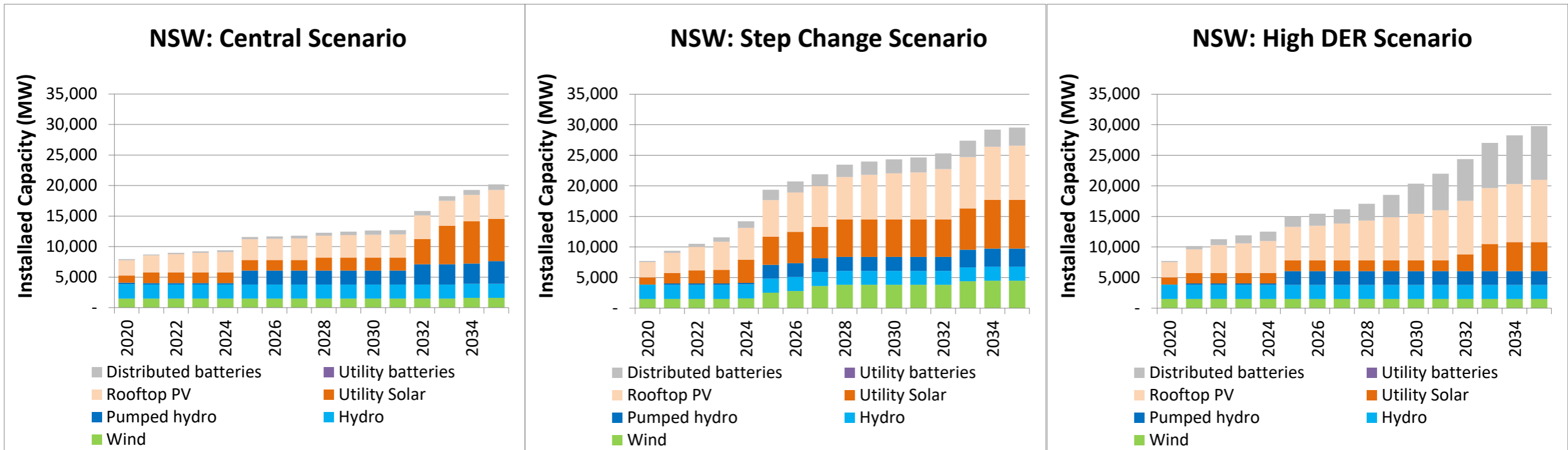
Legend: Phase One Phase Two Out of scope

1. All direct jobs (development, construction/installation, operation and maintenance, manufacturing)
2. Some indirect jobs are included (transport, warehousing, but not professional services, or R&D)
3. Induced jobs are not included (e.g. expenditure of construction workers in regional towns)
4. Some areas were not covered
 - Renewable hydrogen
 - Metals for renewable energy
 - Bio-energy
 - Electricity networks
 - Professional services (R&D etc)
 - End of life recycling, reuse and disposal



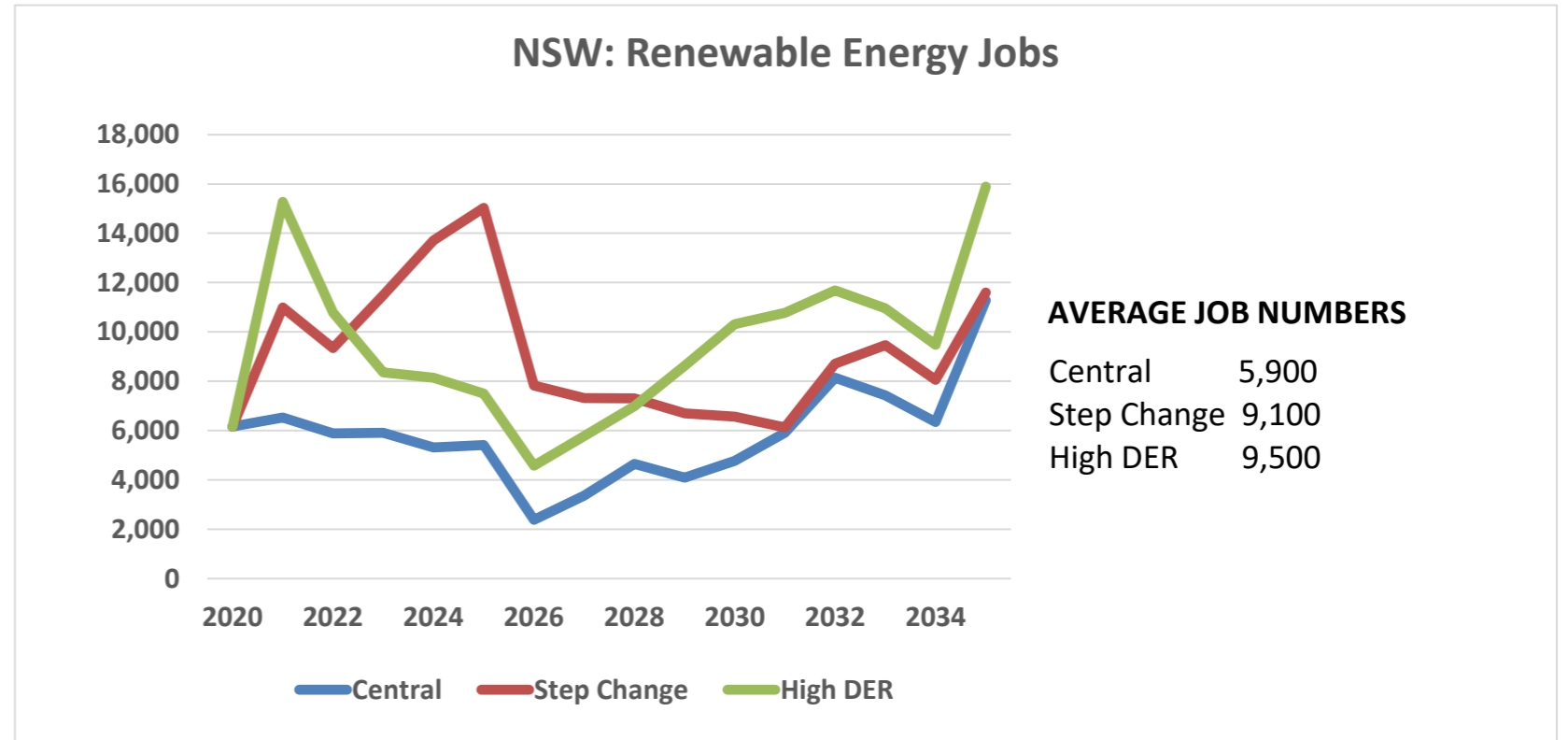
Renewable Energy Scenarios – New South Wales

- Under the Central scenario (i.e. BAU), there is modest incremental growth in renewable energy over time to around 12.5 GW
- Under the Step Change scenario, there is sharp growth in renewable energy in the early 2020s – almost doubling capacity
 - before a steadier growth profile to 30GW by 2035
- Installed capacity under High DER grows strongly but steadier than in the Step Change Scenario also to 30 GW by 2035

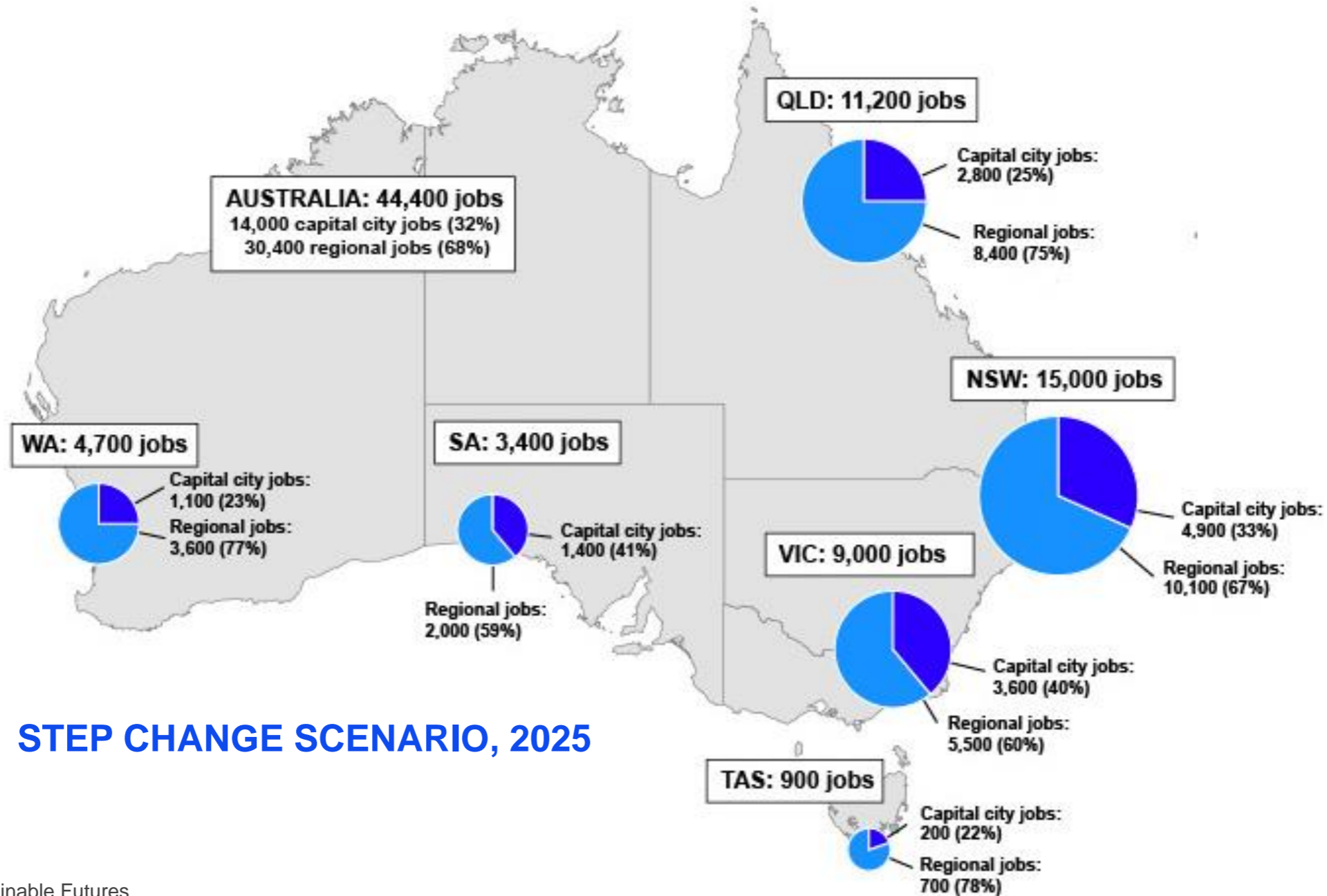


How many Renewable Energy jobs?

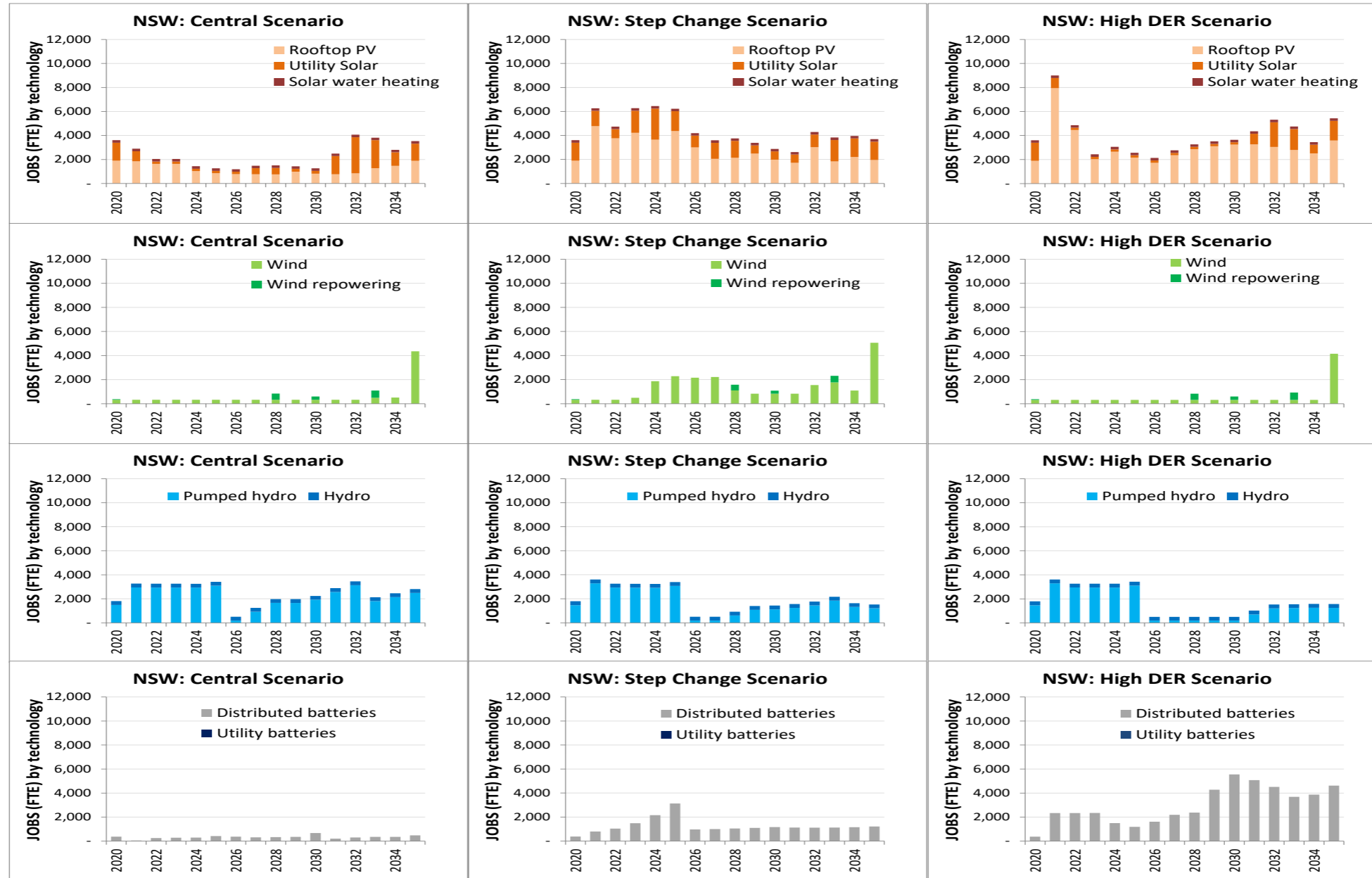
- Under the Central scenario (i.e. BAU), jobs will stay almost level at around 6,000, before falling sharply in the mid-2020s and resume growth towards 2030. Jobs average 5,900 over the period.
- Under the Step Change scenario, jobs will more than double to over 14,000 around 2025, and then drop sharply before further coal retirements occur from the late 2020s. Jobs average 9,100 over the period.
- High DER has a quicker build up, to around 14,000, and then a sharp fall until the mid 2020s. After that the profile is similar to the Step Change scenario, with somewhat higher numbers. Jobs average 9,500 over the period.



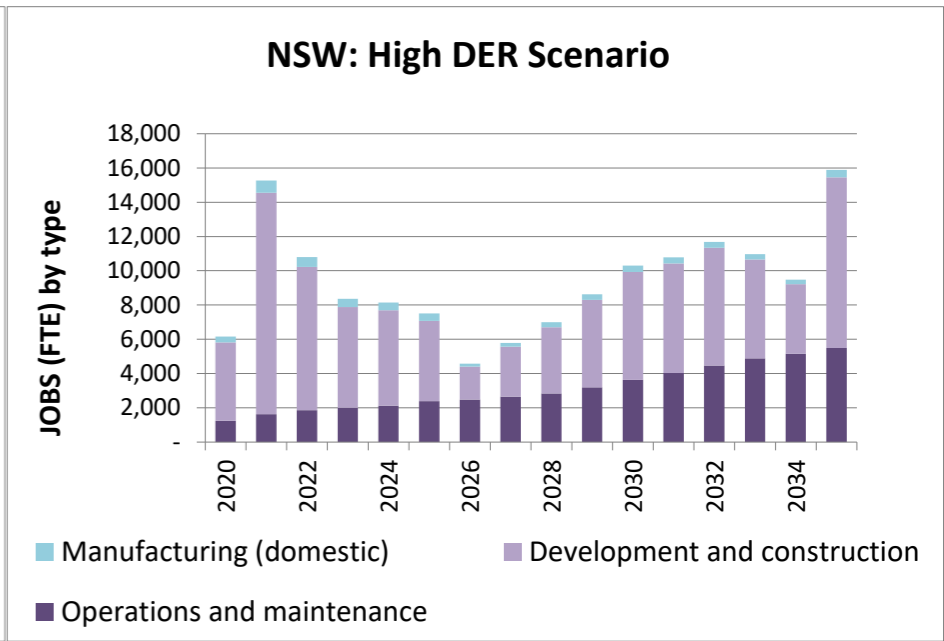
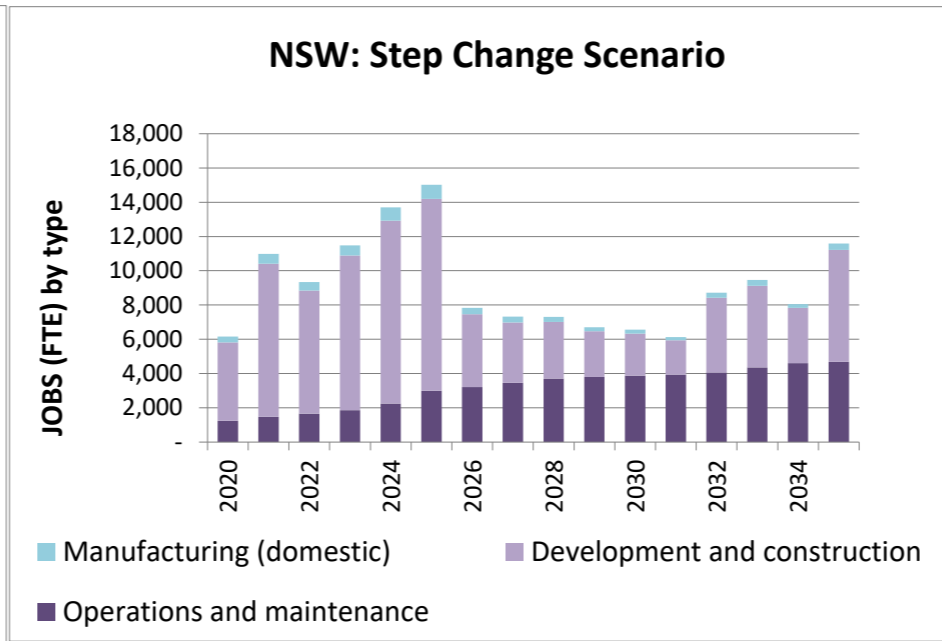
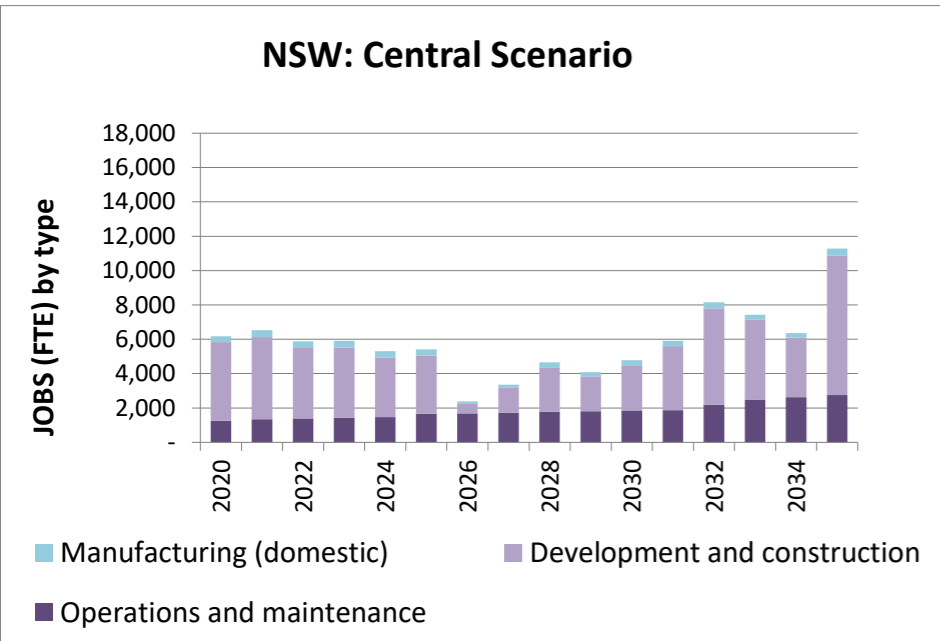
New South Wales would have the most jobs under a Step Change scenario



Jobs growth by technology



O&M jobs will grow in importance

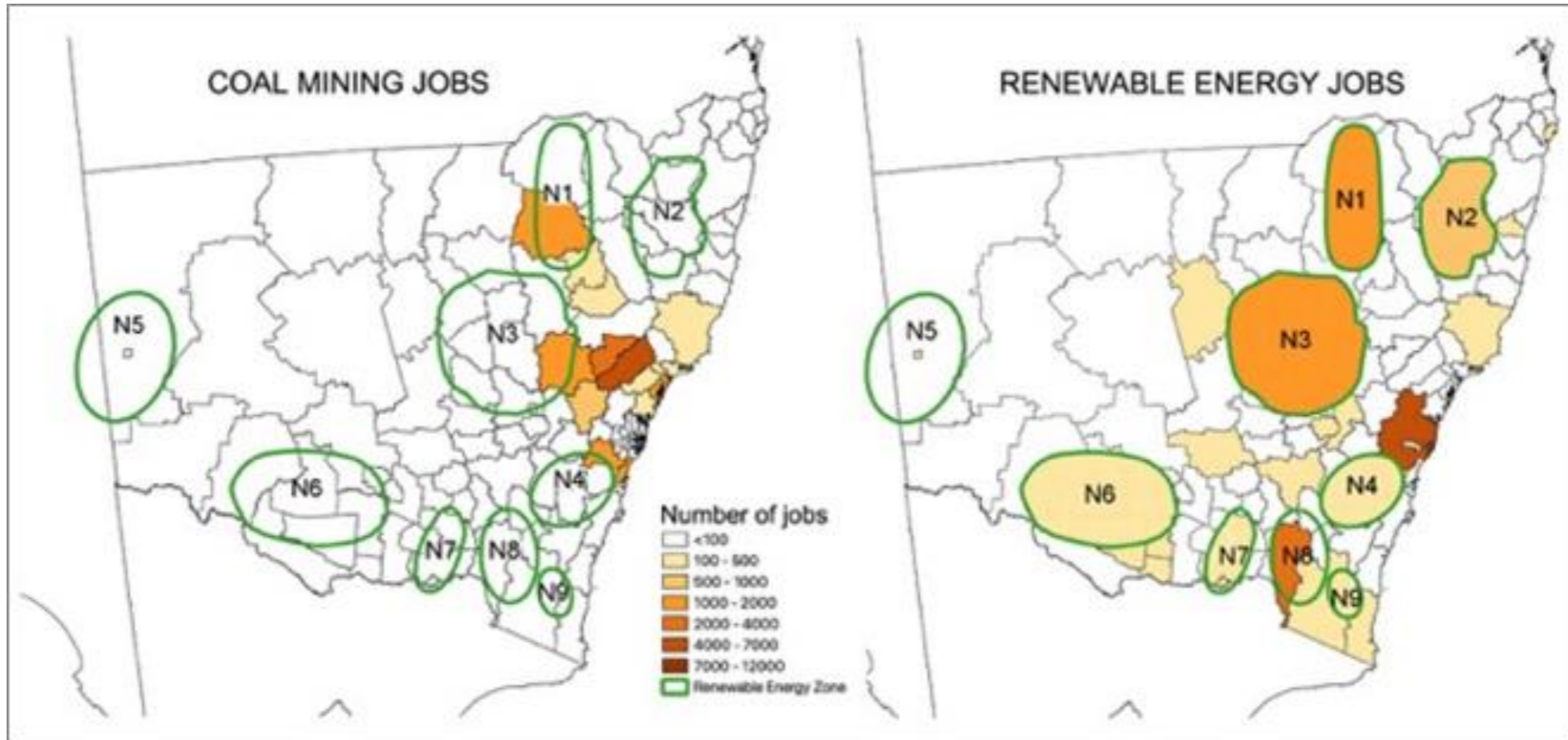


- By 2035, O&M jobs could be almost half of renewable energy jobs
- Trend driven by wind farms – good quality blue-collar jobs
- O&M a growing trend in rooftop solar, lower proportion of jobs in solar farms
- The Step Change scenario performs best: by 2035 O&M jobs are 40% of RE jobs, compared to 35% in the High DER and only 24% in the Central scenario

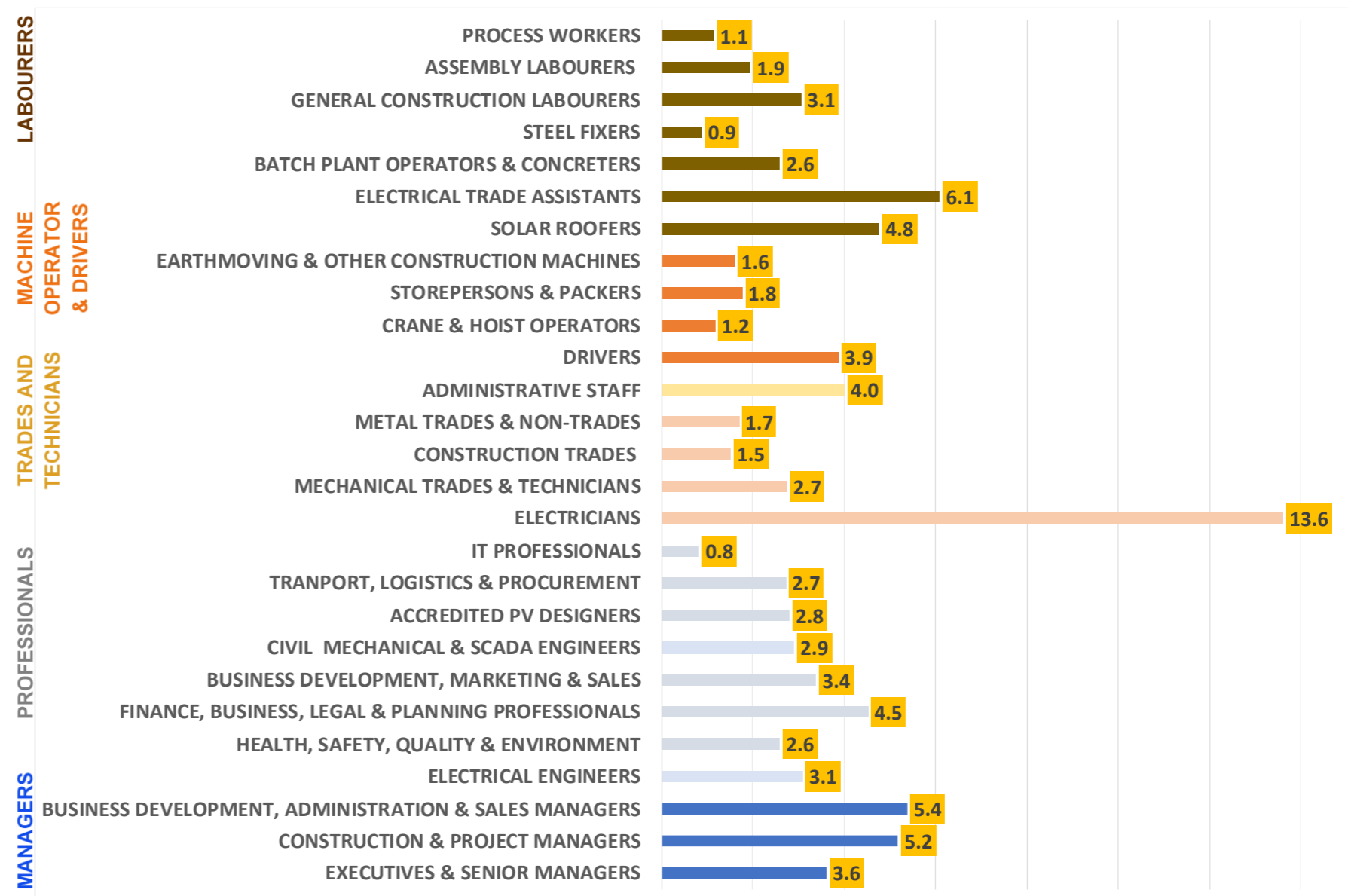
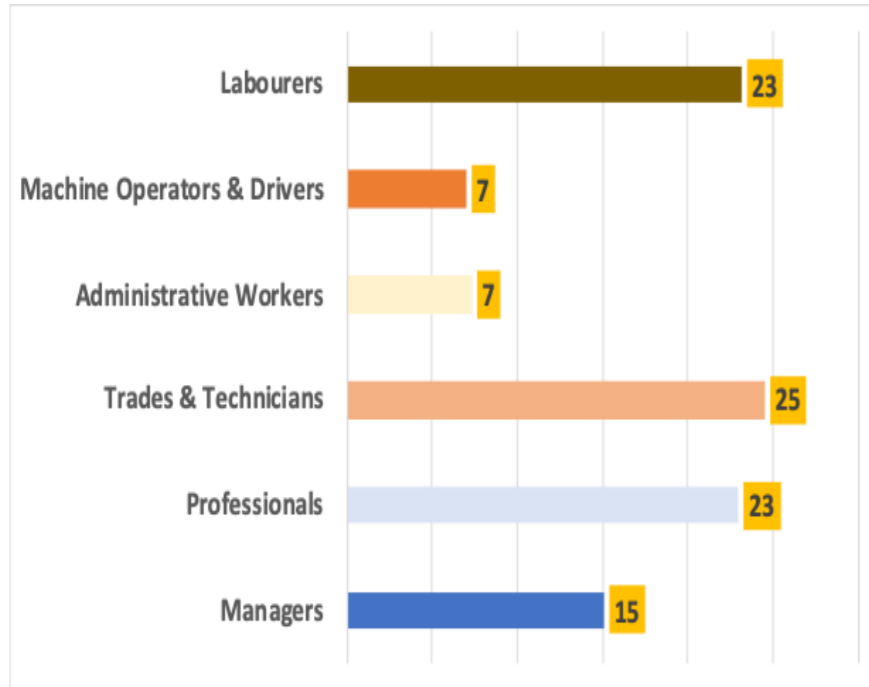
Coal Mining and Renewable Energy Jobs

The major New South Wales Renewable Energy Zones are: N1 (North West), N3 (Central West), & N8 (Tumut)

Sydney jobs a mix of distributed PV & professional jobs for large-scale projects (noting the survey does not include professional services outside renewable energy companies)

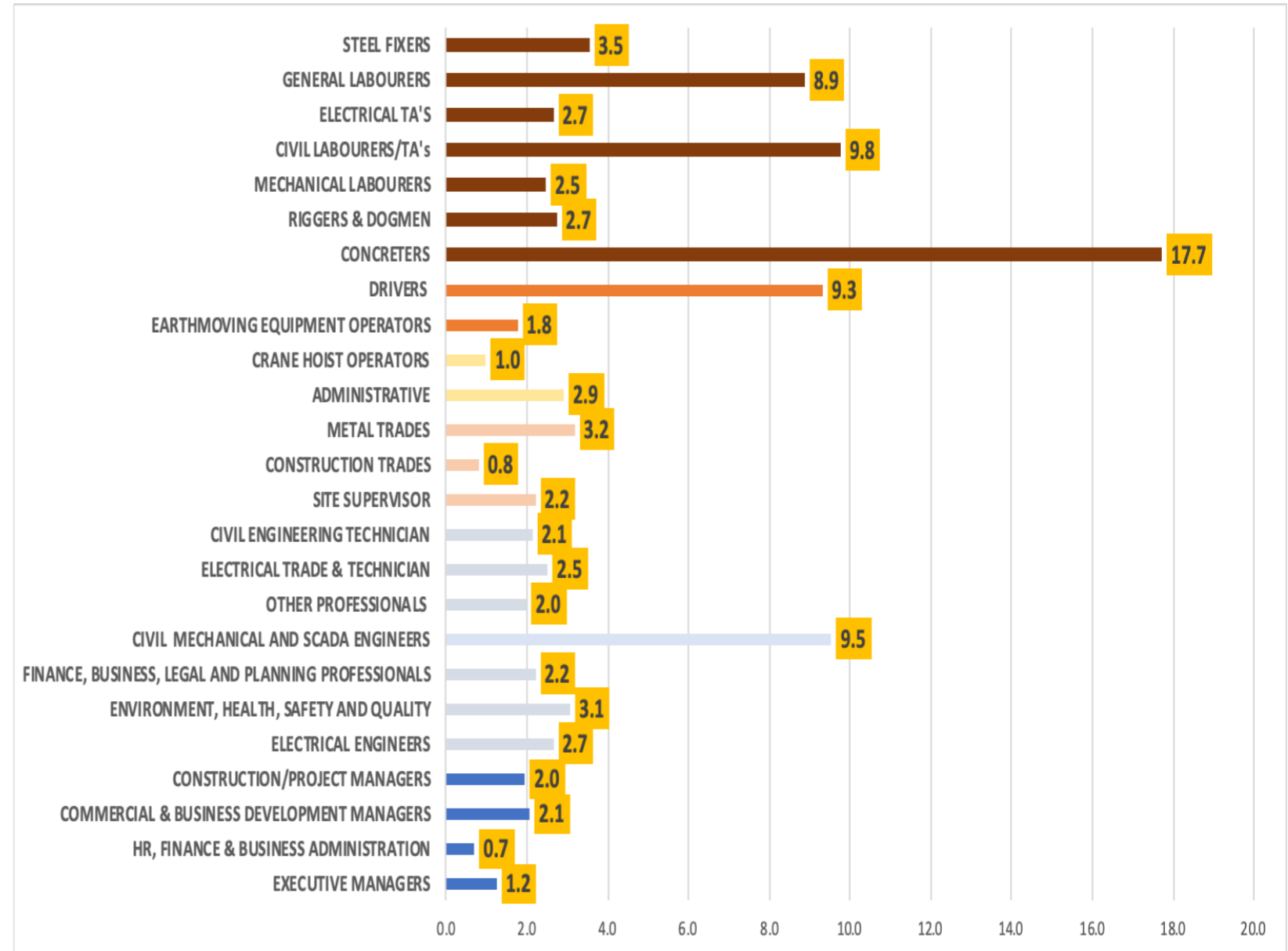
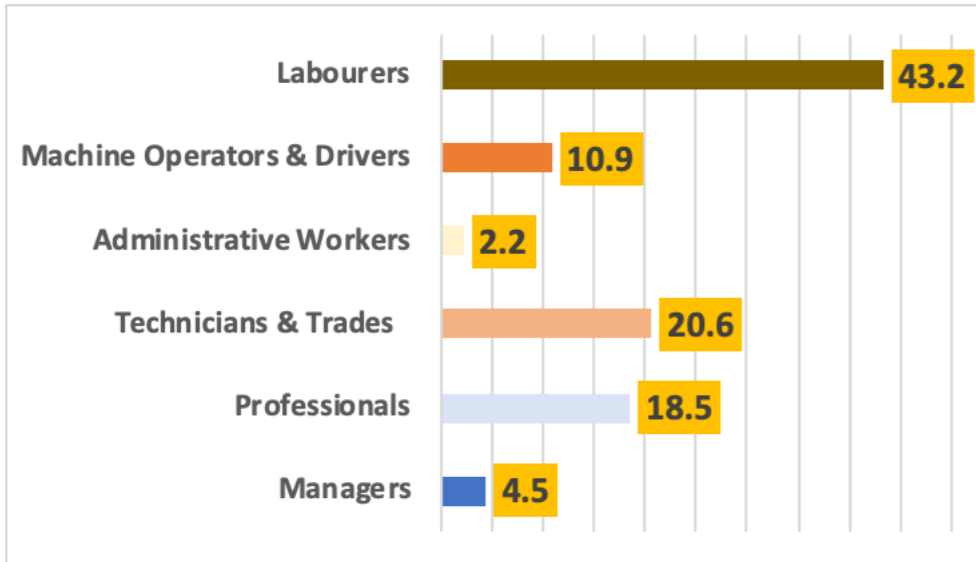


What are the key occupations across renewable energy (%)?

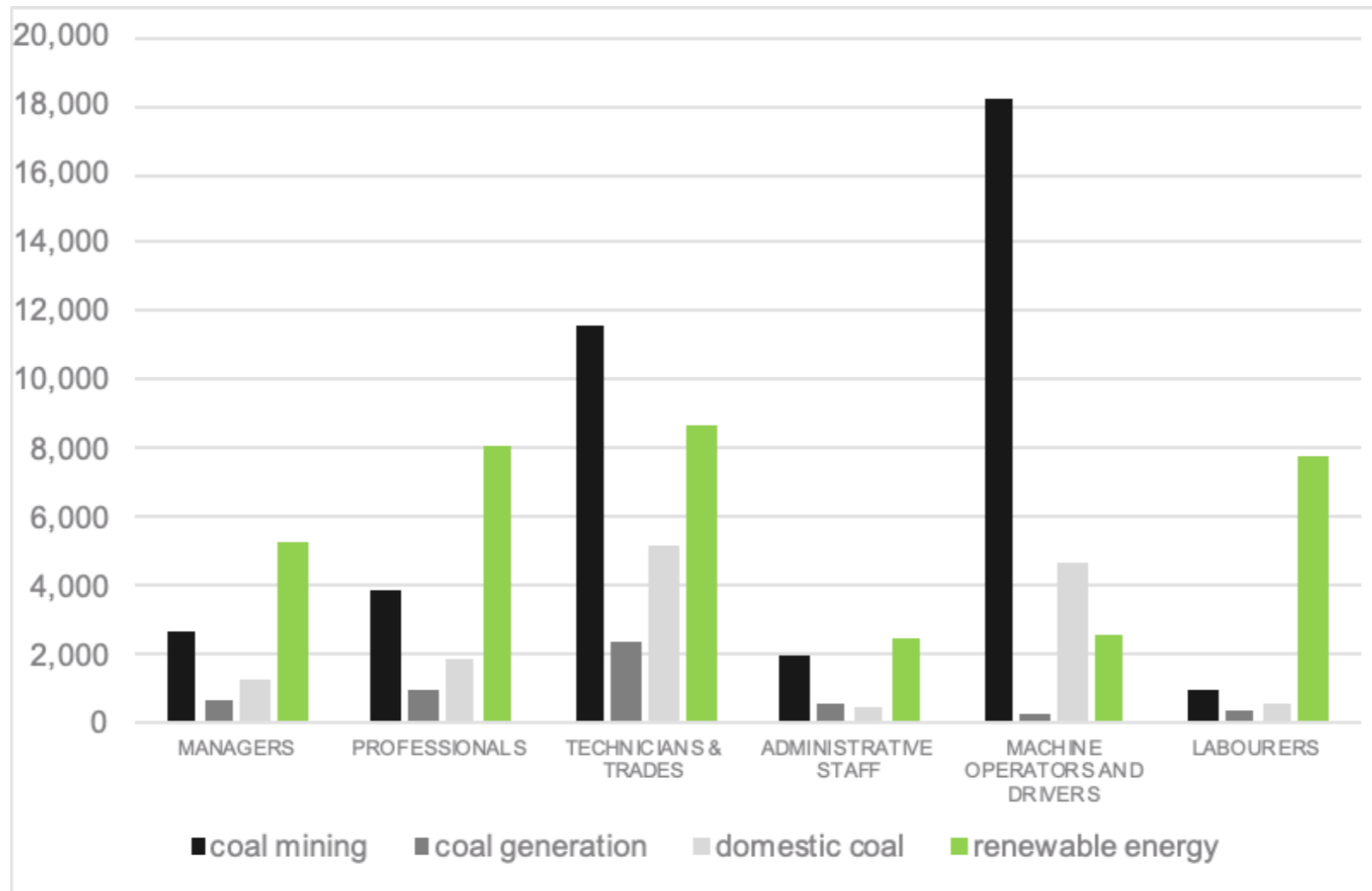


Note: the figures are an average for each occupation in the Step Change Scenario 2020-2035 across Australia, and some minor occupations have not been included in the detailed figure. For further information on occupational breakdowns, skill shortages and recruitment issues see the full report https://bit.ly/REjobs_Au

New hydro and pumped hydro will require large volumes of construction workers (%)



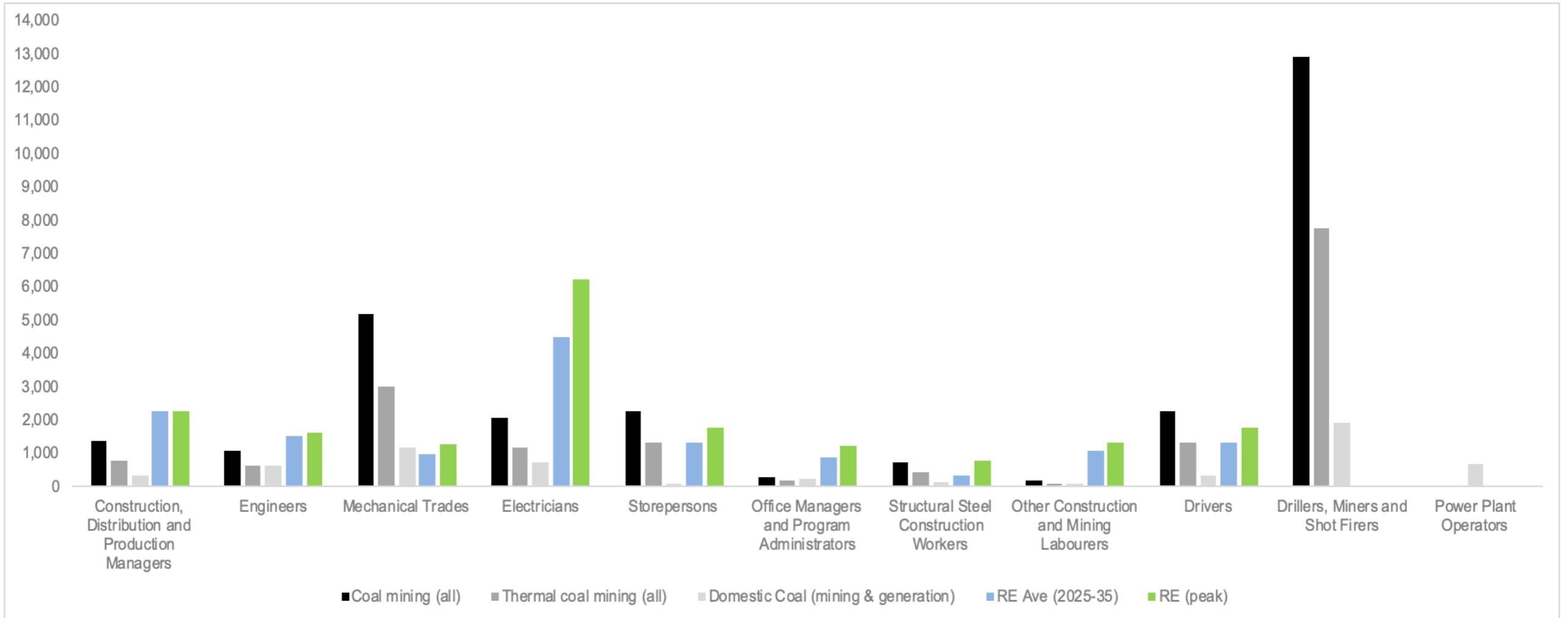
Current coal employment compared to RE employment by occupation



Source: coal mining jobs, ABS census 2016; RE jobs projections are for 2025 under the Step Change scenario)

What is the match like between coal and renewables jobs?

Good match with some trades, technicians and labourers – but not the core workforce of machine operators.



Low-cost renewable energy can also support the development of heavy industry (e.g. 'green steel'). Through direct job creation and powering heavy industry, renewable energy can play a role in industry development plans for coal regions.