UTS Institute for Sustainable Futures

CLEAN ENERGY COUNCIL

Renewable Energy Jobs in Australia 2020

Queensland summary

June 2020

Background

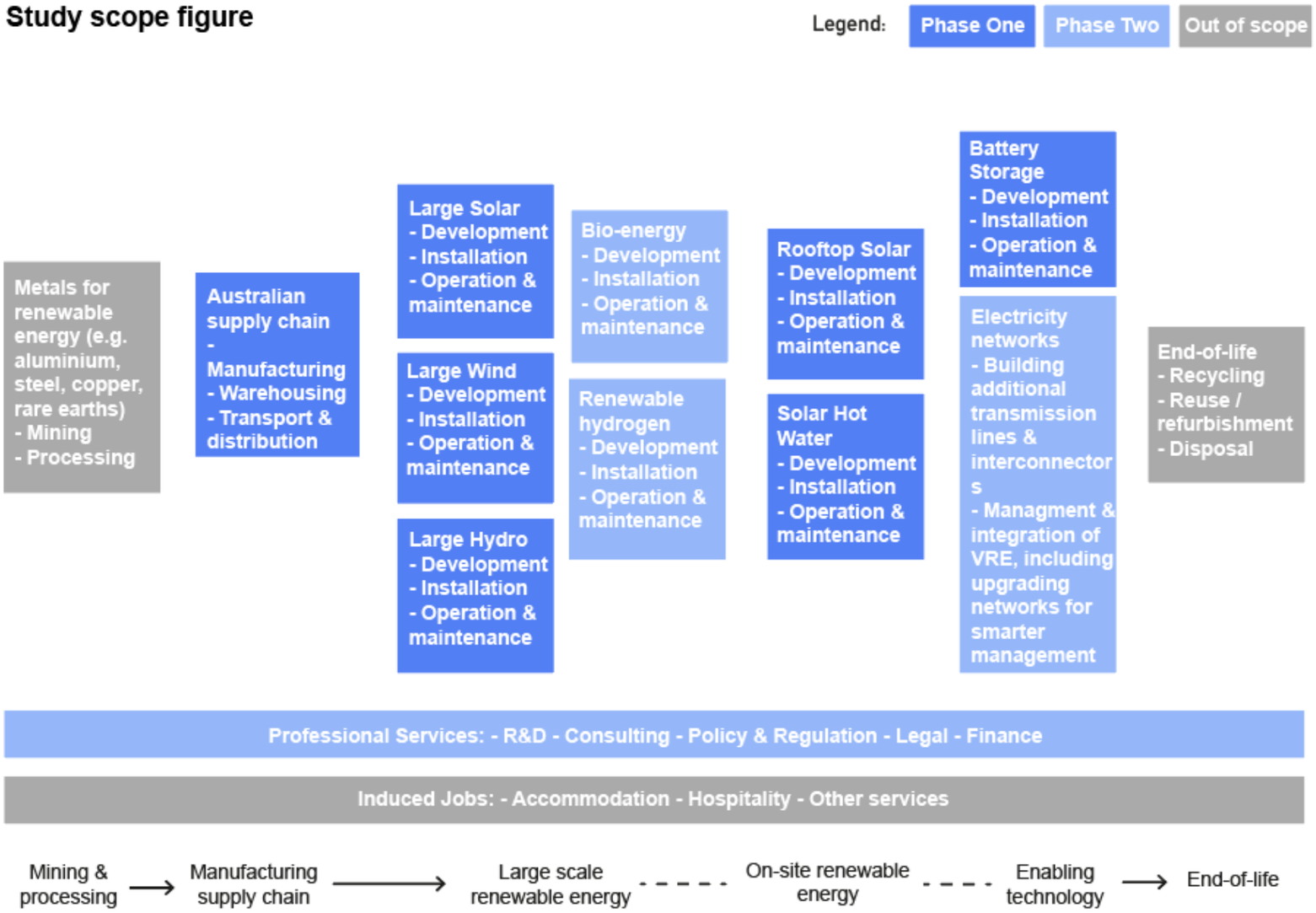
The first National survey of Renewable Energy jobs in Australia

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

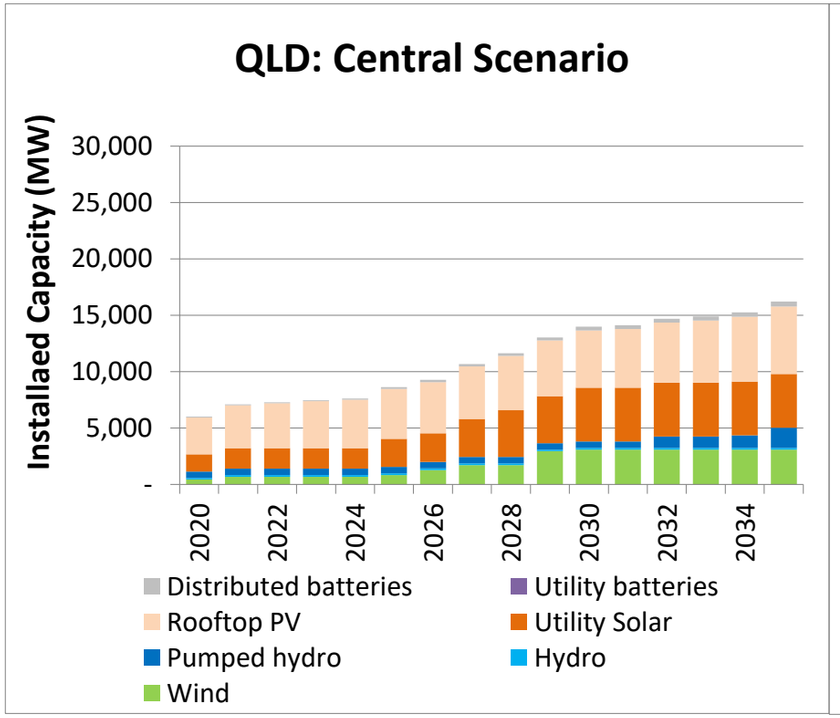
Scope of study

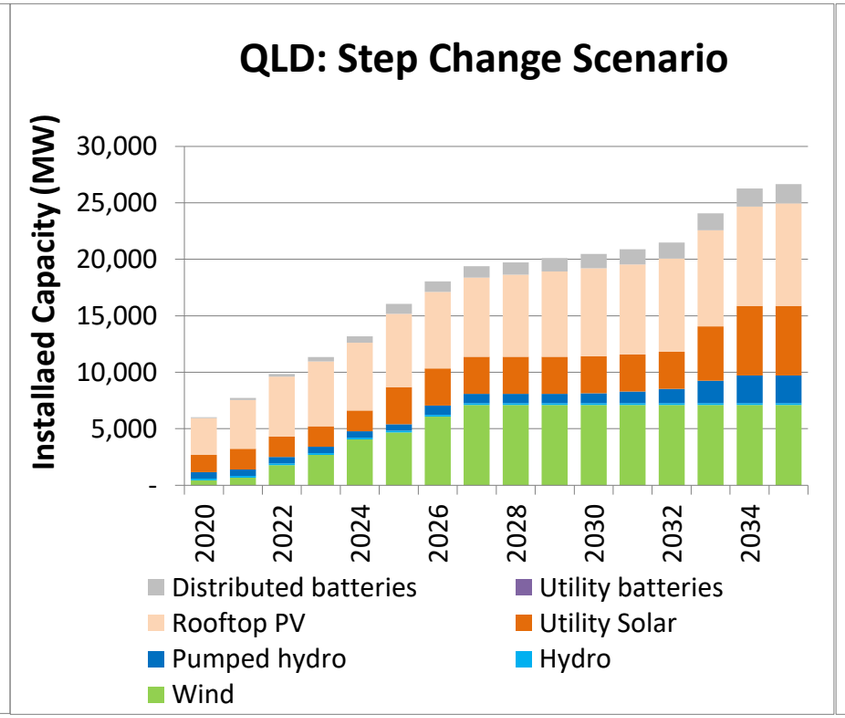
1. All direct jobs (development, construction/installation, operation and maintenance, manufacturing)
2. Some indirect jobs are included (transport, warehousing, but not professional services, or R&D)
3. Induced jobs are not included (e.g. expenditure of construction workers in regional towns)
4. Some 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

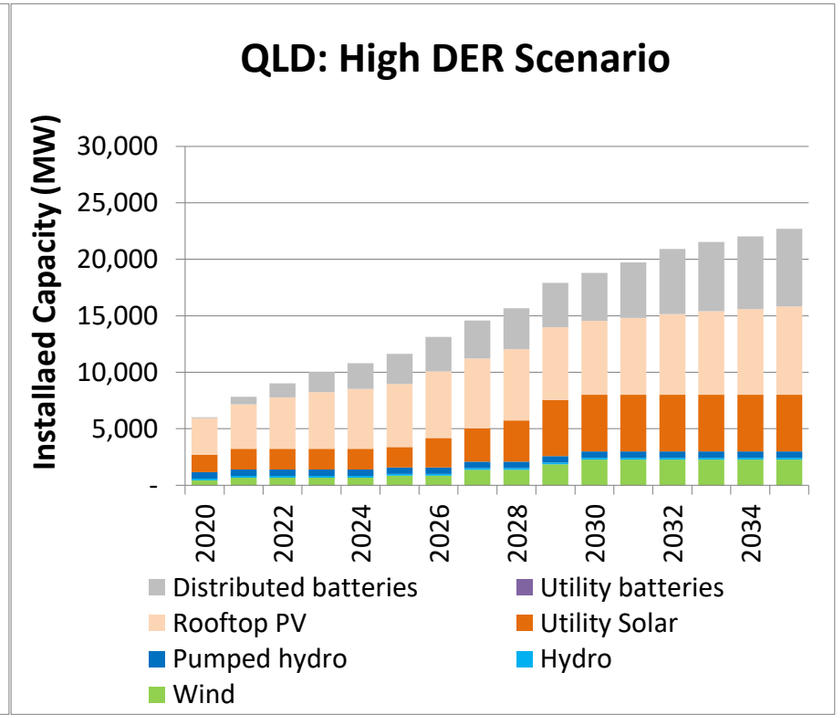


Renewable Energy Scenarios – Queensland

- Under the **Central Scenario** (i.e. BAU), there is steady growth from the mid-2020s to just under 15 GW
- Under the **Step Change** scenario, there is strong growth in renewable energy before 2030, and capacity reaches 25 GW by 2035
- Installed capacity under the **High DER** scenario grows at a slightly slower rate with a much higher installation of battery storage, and reaches a maximum of 15 GW generation, plus about 5 GW battery capacity.



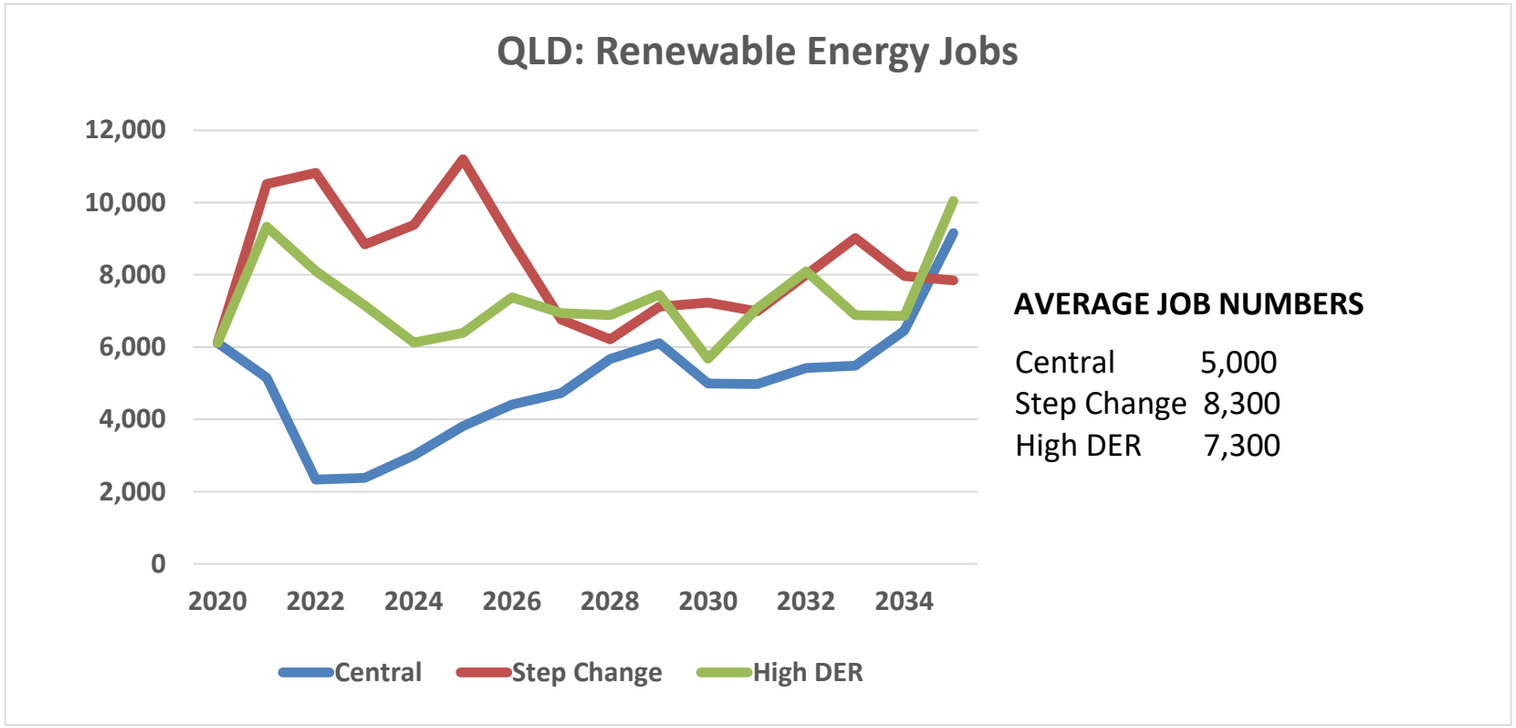




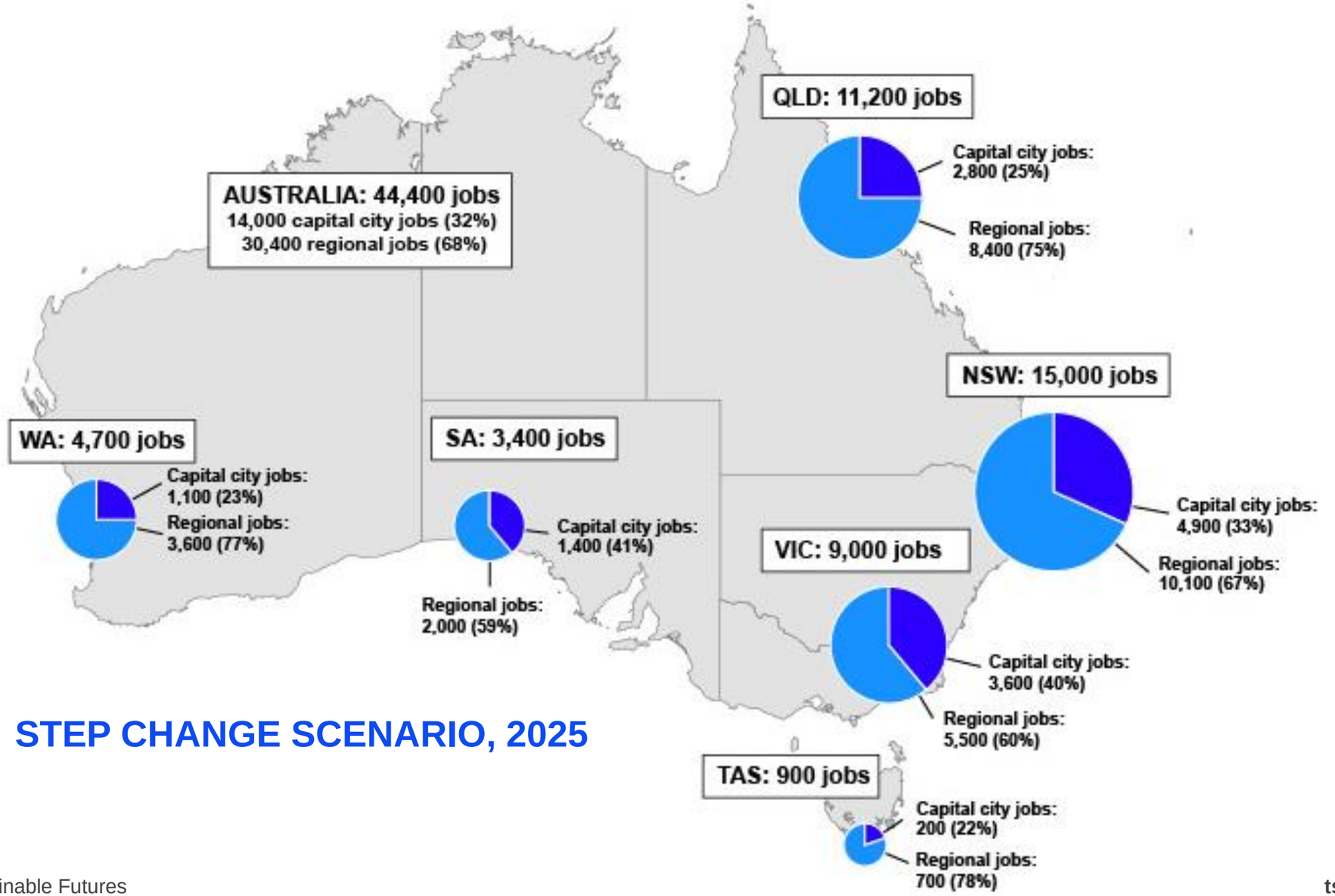
How many Renewable Energy jobs?

Based on AEMO scenarios, there are significantly different trajectories possible for renewable energy jobs in coming years:

- Under the **Central Scenario** (i.e. BAU), there would be very steep job losses until the early to mid 2020s from which point there is mostly steady growth. Renewable jobs average 5,000 over the period.
- Under the **Step Change** scenario, there is steep growth in coming years, a few years of ups and downs and a downswing before future coal retirements from the late 2020s. Renewable jobs average 8,300 over the period.
- In the **High DER** scenario, there is strong growth in coming years which flattens out in mid-2020s before another boom in the 2030s. Renewable jobs average 7,300 over the period.

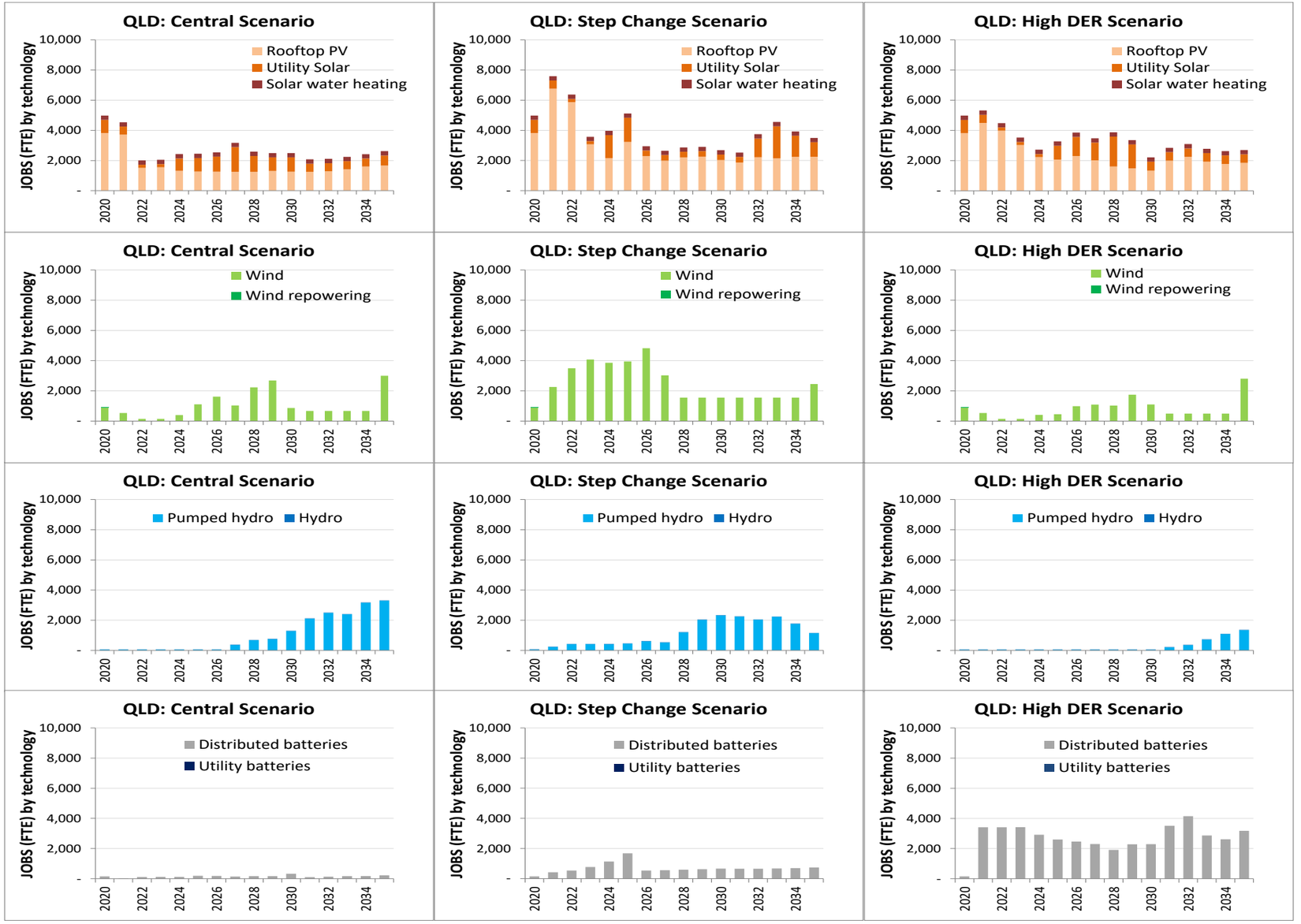


QLD would have the second highest renewable jobs, with 75% regional

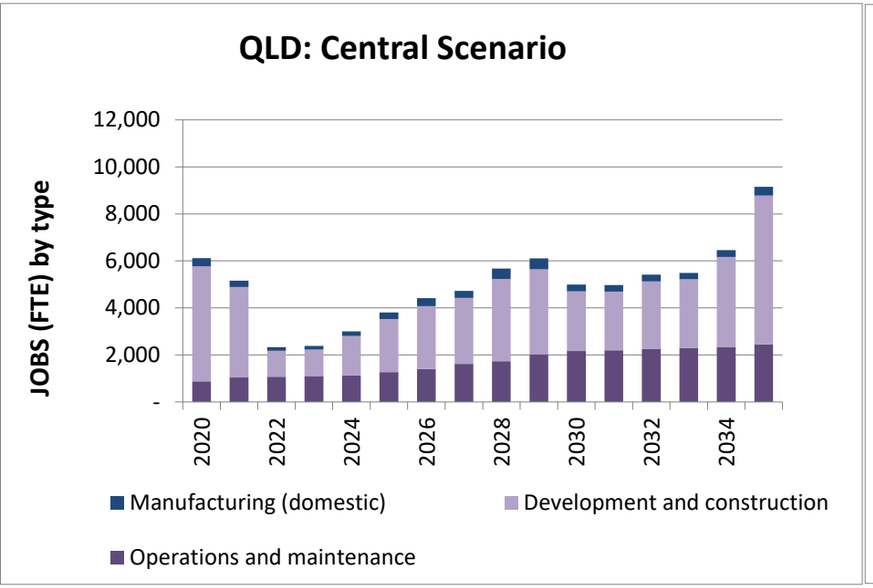


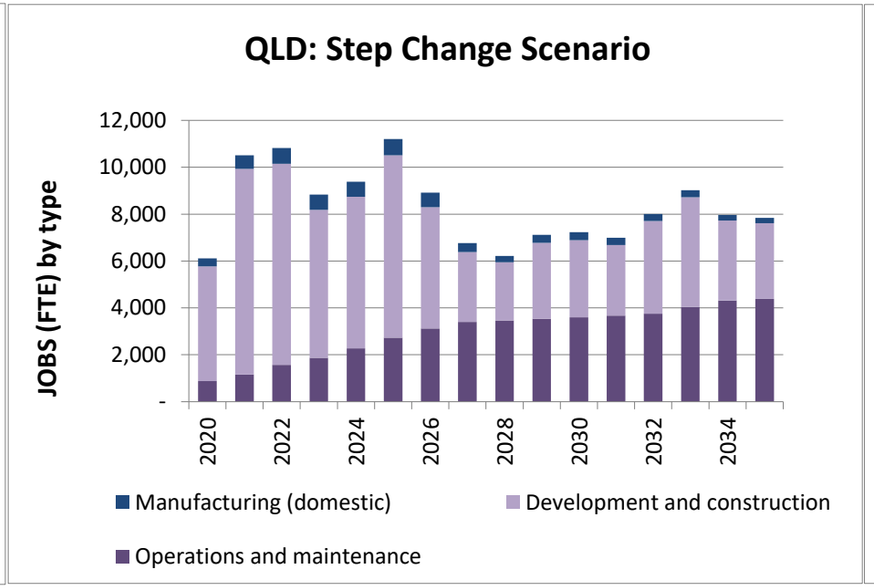
STEP CHANGE SCENARIO, 2025

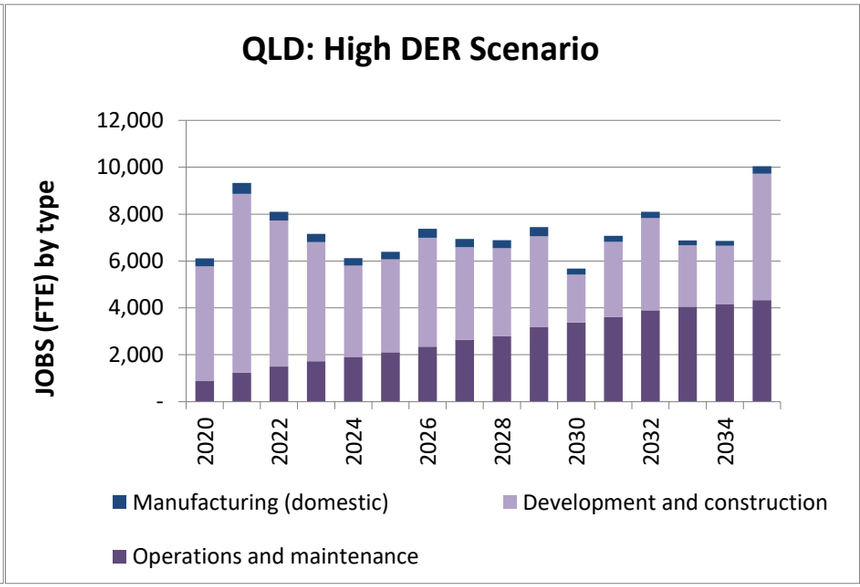
Jobs growth by technology and scenario



O&M jobs will grow in importance







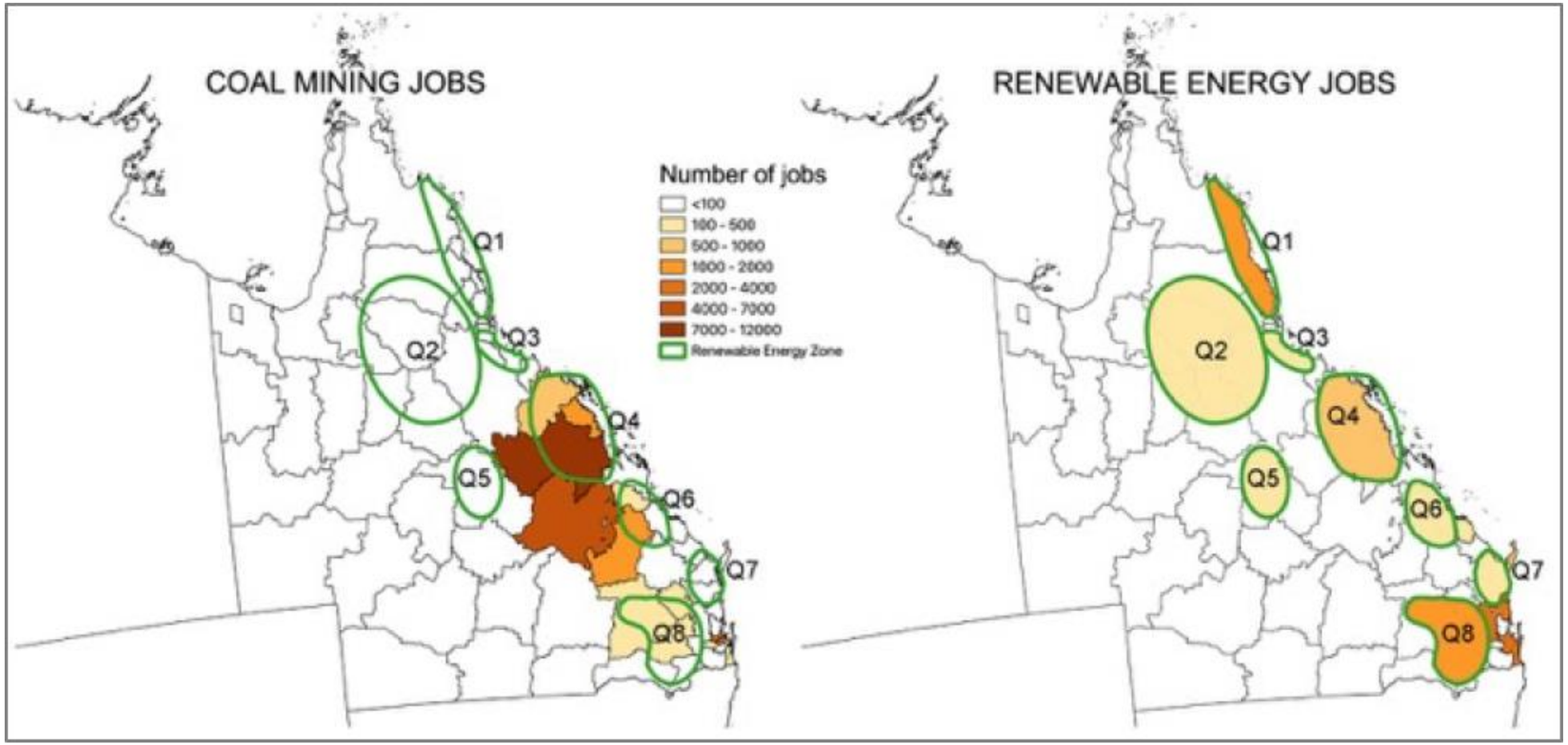
- By 2035, O&M jobs could be more than half of renewable energy jobs
- Trend driven by wind farms – good quality blue-collar jobs
- O&M a growing trend in rooftop solar, lower proportion of jobs in solar farms
- The Step Change scenario performs best: by 2035 O&M jobs are 56% of RE jobs, compared to 43% in the High DER and only 27% in the Central scenario

Coal Mining and Renewable Energy Jobs (focusing on the Renewable Energy Zones)

Most of the REZ zones are to the north and south of the areas with significant mining employment.

However, there is overlap with Q4 (Isaac) and Q8 (Darling Downs), both with good job creation.

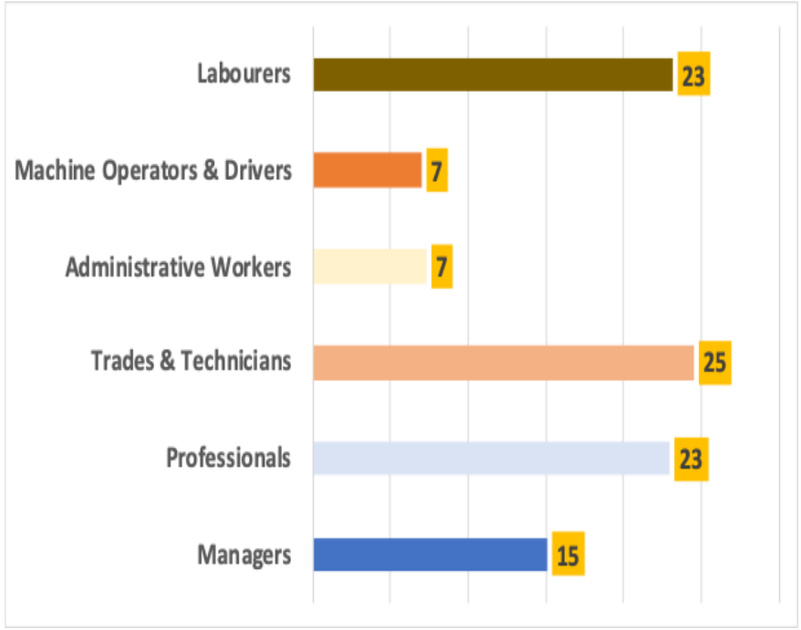
There is also high renewable job creation in Q1 (Far North).

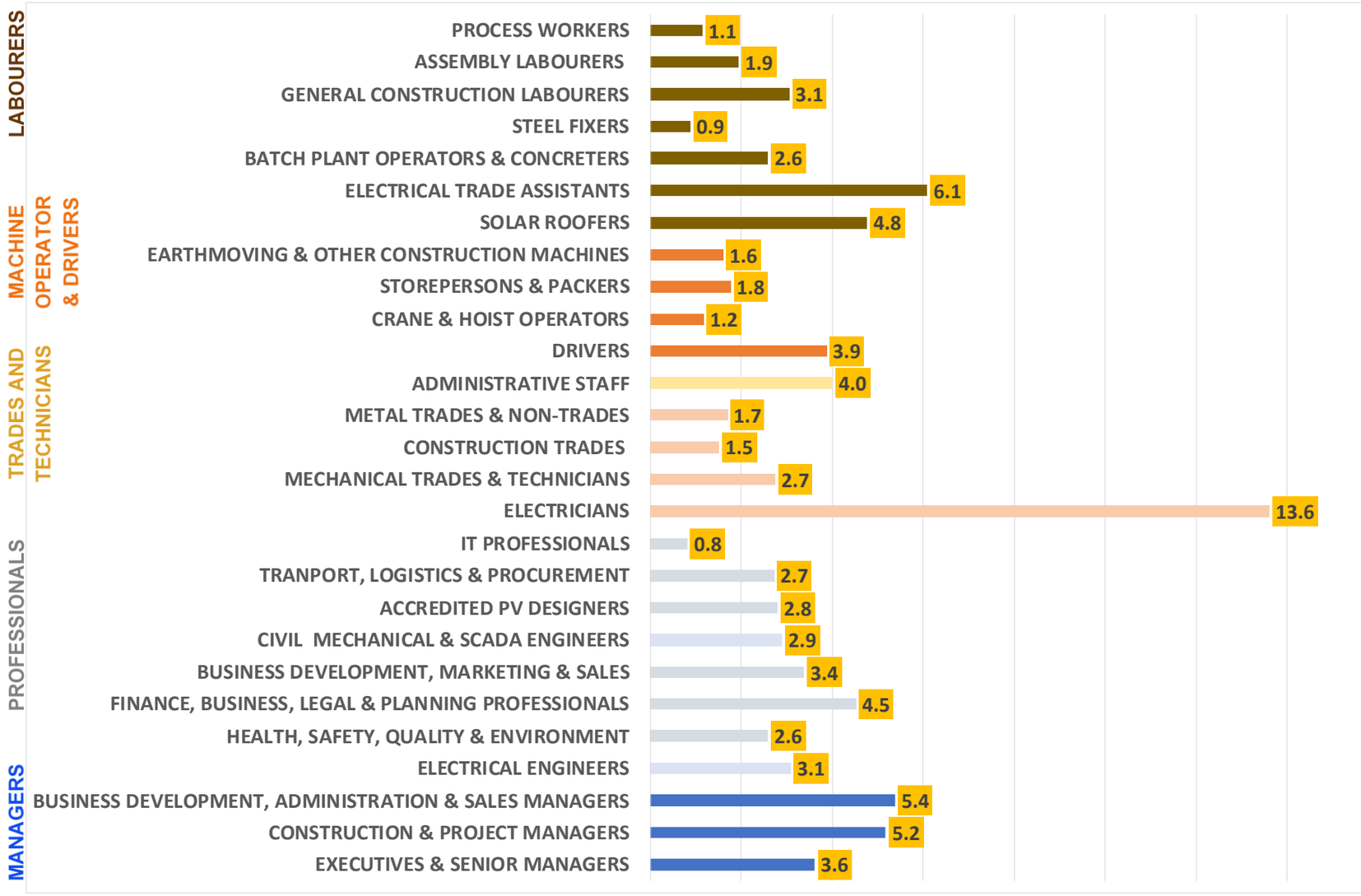


Source: coal mining jobs, ABS census 2016; RE jobs projections are for 2025 under the Step Change scenario)

Note: The Renewable Energy Zones have been identified by the Australian Energy Market Operator

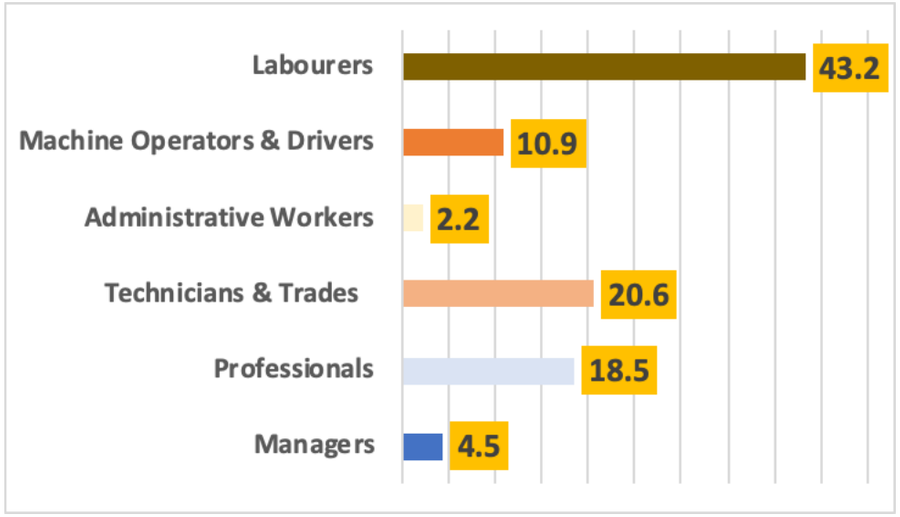
What are the key occupations across renewable energy (%)?

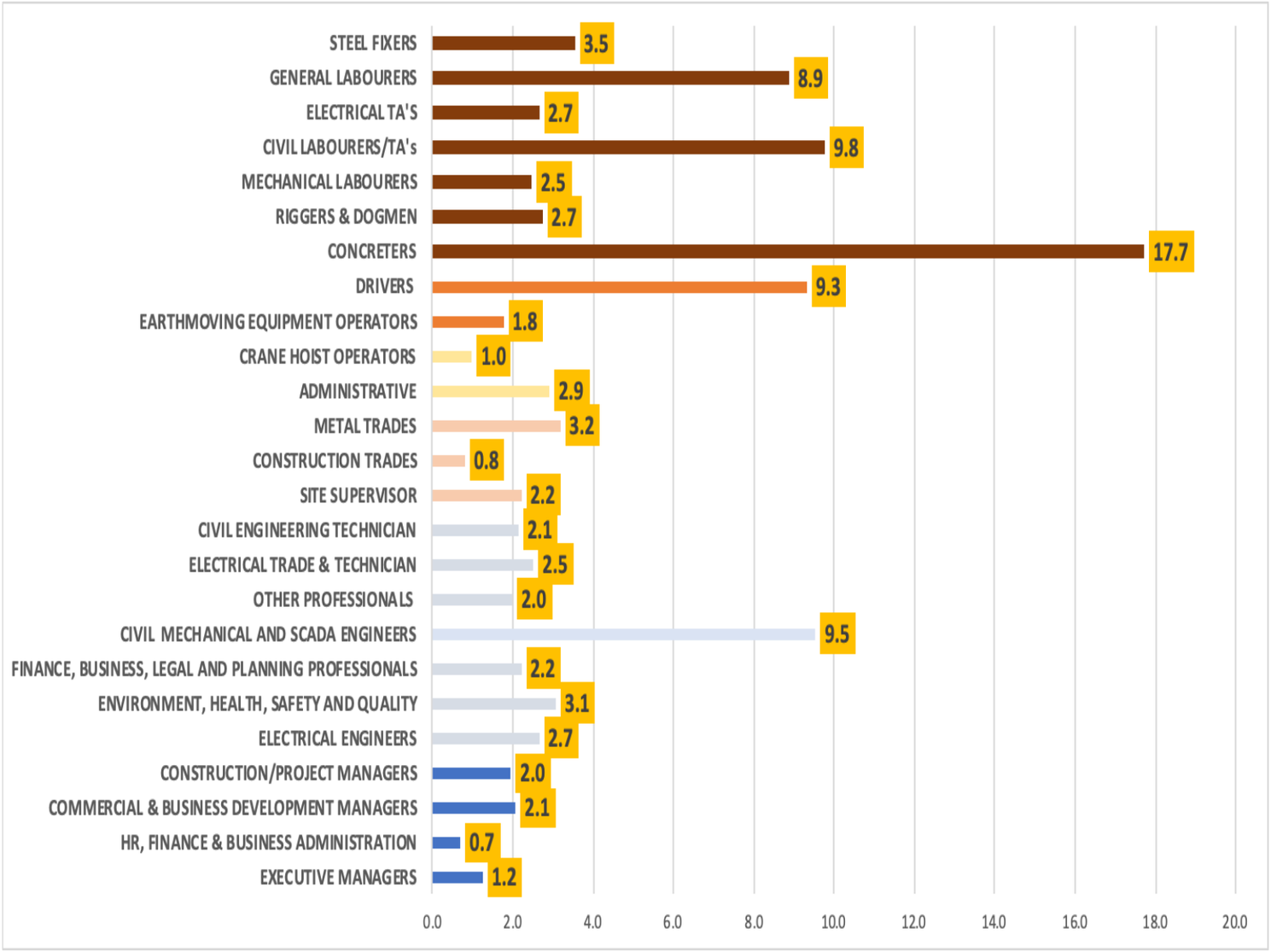




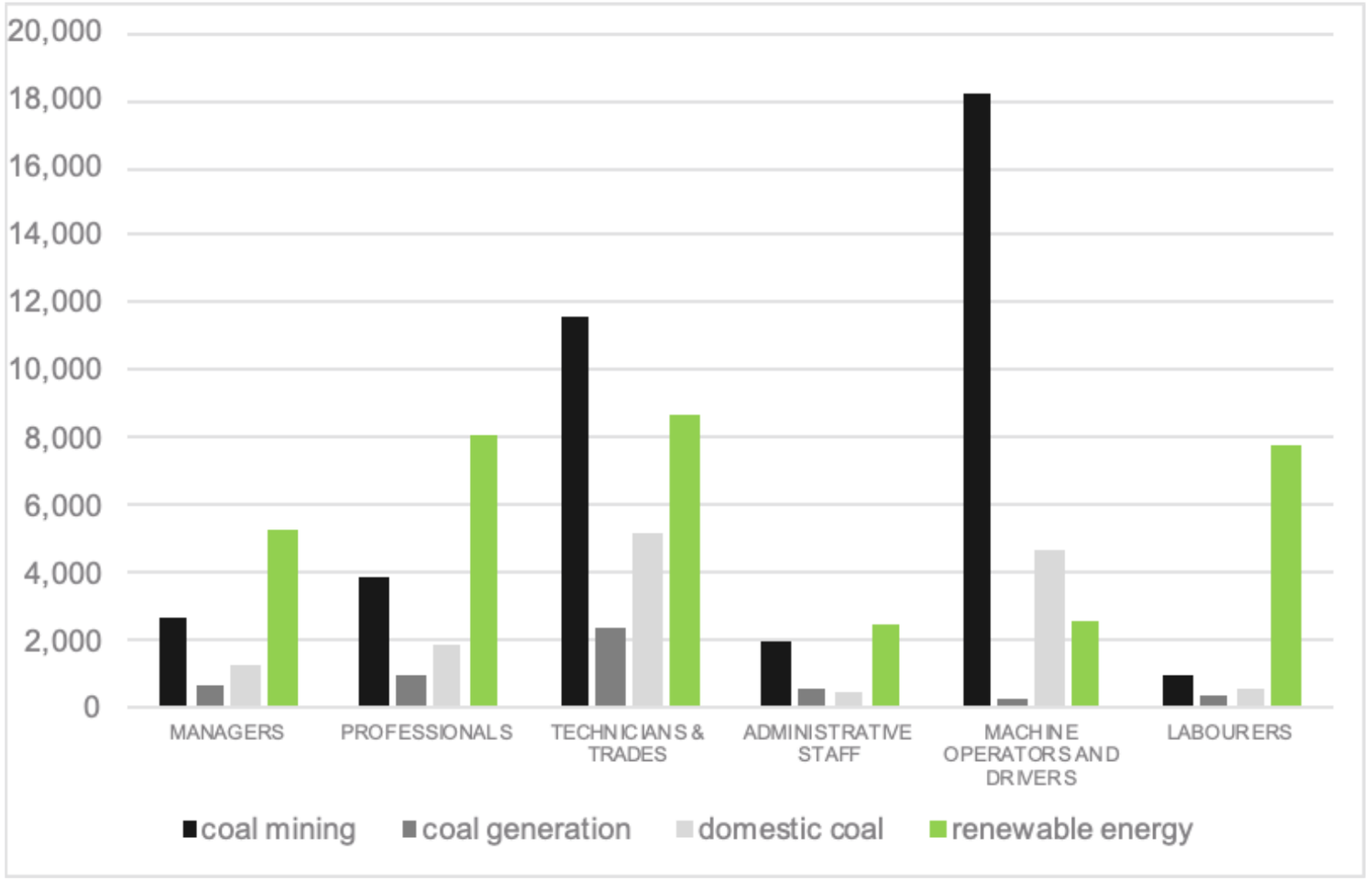
Note: the figures are an average for each occupation in the Step Change Scenario 2020-2035 across Australia, and some minor occupations have not been included in the detailed figure. For further information on occupational breakdowns, skill shortages and recruitment issues see the full report https://bit.ly/REjobs_Au

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





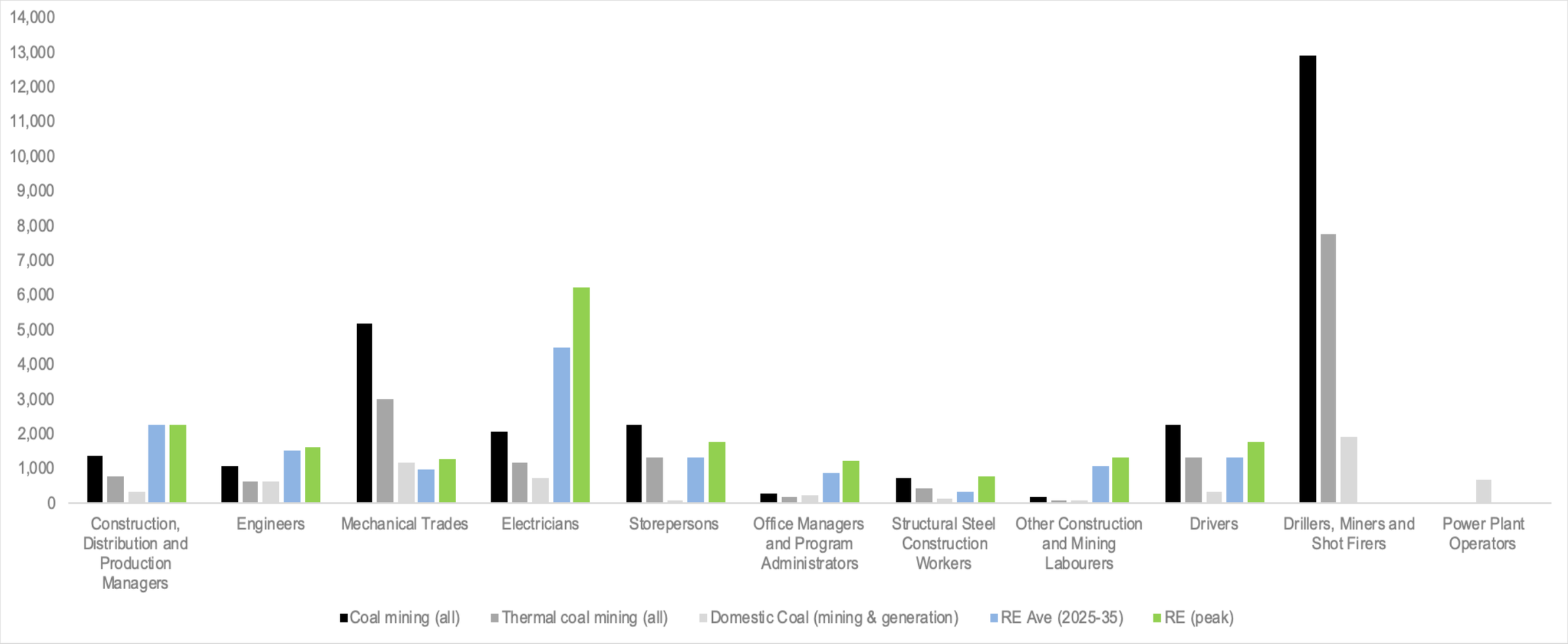
Current coal employment compared to RE employment by occupation



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.