## Jobs, the revised IRP and a better life for all

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nother curve ball has been thrown at the drive towards a less carbon intensive future in South Africa. Superficially associated with the signing of 27 Round 4 and 4.5 renewable-energy projects – delayed for over two years while Eskom and our former leadership championed nuclear energy and squabbled about the cost of renewables – Eskom announced the decommissioning of five of its power stations: Kriel, Komati, Hendrina, Camden and Grootvlei. This led to outrage by directly affected Eskom workers and contractors and demands from COSATU and NUMSA to immediately suspend the renewable IPP programme.

As a result, a new perception has now been created that the shift to renewable energy will result in huge job losses.

The 27 suspended contracts were finally signed on April 4. Minister of Energy, Jeff Radebe, said at the signing that these "long-awaited agreements will bring much needed policy and regulatory certainty and maintain South Africa's position as an energy investment destination of choice. This initiative will enable R56-billion of new investment in the economy over the next two to three years, which will immediately contribute to growth in the economy supporting the already positive achievement of 3.1% GDP growth in quarter four."

Addressing the jobs issue, he went on to say: "This programme, as well as the proposed future initiatives, will have a significant contribution on job creation across the energy value chain, including the re-establishment of industrial development and support for the technical training of young people to be absorbed in the labour market."

Chris Haw, chairman of SOLA Future Energy calculates that these energy projects will create 61 000 jobs and says that: "Small IPP projects have huge potential to encourage economic growth. They have a sharp focus on B-BBEE, local procurement and local operation, which means that the economic spinoffs for local economies will be more pronounced per megawatt procured."

Also imminent is the 'high-priority' release of the revised Integrated Resource Plan (IRP) – the replacement of IRP 2010 and the originator of the infamous 9.6 GW nuclear procurement number. The revised version, according to DoE director-general Thabane Zulu, will further entrench policy certainty and end the era of stop-start policy implementation.

In response to the 2016 draft of the revised IRP,

the CSIR's Jarrad Wright, Tobias Bischof-Niemz, Joanne Calitz, Crescent Mushwana, Robbie van Heerden and Mamahloko Senatla have produced a document entitled Formal comments on the Integrated Resource Plan (IRP) Update Assumptions, Base Case and Observations 2016.

They determined that solar PV, wind and flexible power generators such as gas, CSP, hydro and biogas are now the cheapest new-build mix. In addition, they found no technical limitation to solar PV and wind penetration until 2050, and that a 'greater than 70% renewable energy share by 2050 is cost optimal'.

South Africa, according to these CSIR professionals, 'has the unique opportunity to decarbonise its electricity sector without pain', and 'clean and cheap are no longer trade-offs'. They found their least cost scenario was also the one that would emit the least  $CO_2$ , consume the least water and create the most jobs in the electricity sector; this compared to both the Draft IRP 2016 Base Case and the Carbon Budget scenario.

In numbers, the IRP 2016 Base Case would be R70-billion/year more costly, emit twice as much  $CO_2$ , consume two and a half times more water and provide 10% fewer jobs by 2050.

And compared to the IRP 2016 Carbon Budget scenario, their least cost scenario – 49% wind, 21% solar, 11% coal, 10% gas with the balance made up of hydro, peaking plants and biomass/biogas – is R60-billion/ year less costly, emits 15% less  $CO_2$ , consumes 20% less water and, by 2050, would result in 20% more jobs in the sector.

In addition, this 70% renewable scenario is adaptable, resilient to input assumption changes and more robust against unforeseen changes in demand and cost.

Beyond the inescapable fact that specific workers will have to seek new opportunities every time an old, inefficient, unsafe and polluting power station is shut down, replacing these units with renewables will not reduce the number of overall job opportunities.

In addition, jobs in the cleaner new era are likely to be safer, more rewarding, more secure and better paid. Renewable plants are also more distributed, spreading access to energy sector employment away from the coal-rich areas of Mpumalanga and Limpopo, for example.

From a policy point of view and for the future of the younger generation, we need to put aside our immediate vested interests and take the tough decisions that will eventually deliver the 'better life for all'.

