niasa

nuclear industry association of south africa

IRP 2010 Comments
(2nd December 2010)

Ayanda Myoli
CEO, Nuclear Industry Association of South Africa

NIASA Goals

1. To act as a public voice for the nuclear industry.
2. To actively promote the maximum local industrialisation and economic clustering of nuclear manufacturing in South Africa.
3. To promote skills development, job creation and Black Economic Empowerment through the nuclear industry in South Africa.
4. To promote excellence and a culture of safety and security within the nuclear industry.
5. To facilitate coherence and to avoid duplication of effort in the development and expansion of the nuclear industry.

niasa
nuclear industry association of south africa

NIASA Goals (cont'd)

6. To present a common face and purpose to Government on shared values and concerns.
7. To promote public understanding of nuclear technology.
8. To act as a sounding board to Government on policy formulation.
9. To promote a common approach to research and related scientific issues and the role of universities.
10. To facilitate the solution of problems or obstacles faced by the industry.

niasa
nuclear industry association of south africa

IRP 2010

1. Proposes a balanced energy mix that should meet the forecasted energy demand growth for the country while taking care of the environment.

2. Nuclear has been correctly identified as part of the energy solution since it is a means that is efficient and reliable for base load generation.

3. However IRP 2010 is definitely not the least cost/risk option and can be improved.

niasa
nuclear industry association of south africa

Nuclear within IRP 2010

1. Nuclear is a CO_2 free energy source.

2. Coastal nuclear plants do not consume fresh water (only sea water is used, both for cooling and for the process through desalination).

3. Nuclear is cheap and the electricity price is predictable over a long term period.

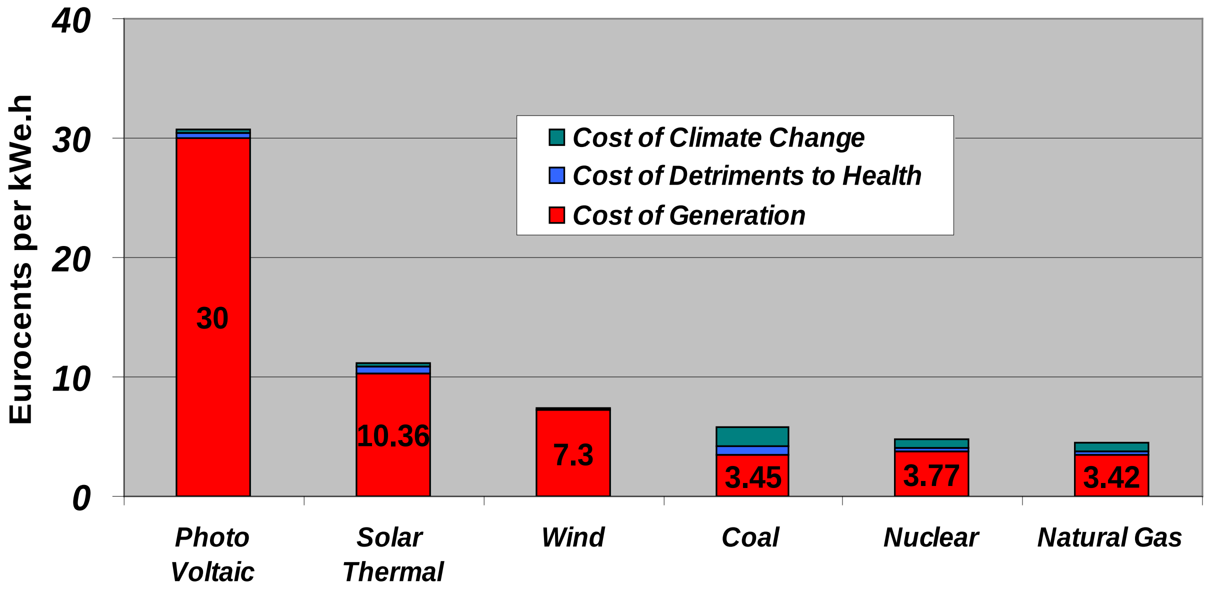
4. Nuclear is certain. With one procurement process 10,000 MW can be added on line (This procurement process is complex but Eskom can handle it).

5. Nuclear contributes towards easier management of the electricity network since generation is set up close to the consumption (along the coast).

niasa
nuclear industry association of south africa

Nuclear within IRP 2010

6. Across all industries, nuclear industry is most responsible regarding waste. Waste management costs are always (by international law) included in the electricity price (which remains relatively cheap)



(European Union estimates, 2008)

nuclear industry association of south africa

Incorrect assumptions on nuclear within IRP 2010 (i.e. Table 37, p.66)

1. Lead time: It is reasonable to envisage the first reactor on line by 2020. Uncertainty on lead time decreases dramatically with experience (significant number of reactors are currently under construction). Furthermore, lead time per kW installed is actually very low.
2. Risk on cost is incorrectly rated in IRP 2010. CAPEX is now very well known and financing schemes exist. OPEX is always the cheapest across the generation industry.
3. Nuclear generation increases the security of supply, especially in SA as we are a large Uranium producer (with the 6th largest reserves in the world).
4. Operation risk is low, especially considering the outstanding track record of Eskom in operating Koeberg (rates always among the safest reactors in the world).
5. Table 37 on page 66 must be reviewed because all the rankings are questionable.

niasa
nuclear industry association of south africa

Localisation and Job creation

1. In this regard coal and nuclear provide per installed kilowatt the highest localisation content.
2. It should be noted that the type of localization is important. It carries more weight if scarce high technology is developed and localized compared to ordinary known technology which is applied in high volumes. For example the establishment of a nuclear pressure vessel manufacturing capability in SA would strategically and economically contribute more to SA's overall capability (considering also export potential), than the civil construction more associated with other energy options.
3. The sooner the nuclear program starts the higher is the localization potential.

nuclear industry association of south africa

Government support

1. The whole IRP 2010 requires strong and sustainable Government support.
2. In IRP 2010 investments are more aimed at tackling climate change issues, but no economic data supports attractiveness for the private sector. Therefore PPAs (i.e. Government support) would be required for all technologies.
3. Government financial support (whether towards Eskom or the private sector) will always be « cheaper » than the cost of unserved energy for the country's economy.
4. Although IRP 2010 is not the least cost option, it is a balanced energy mix that must be implemented as soon as possible to avoid electricity shortage (which would have very serious negative consequences on SA's economy).
5. It is noted that revisions are planned every 2 years to take the demand growth into account, but consistency is a key success factor for IRP 2010 implementation.

niasa
nuclear industry association of south africa

Proposed improvement for IRP 2010

1. The most important improvement to be incorporated into IRP 2010 is to increase the consistency across the scenarios. Assumptions on fuel price (for nuclear, coal and gas) and the carbon tax must be stated and consistent for all scenarios.

2. Lead time: With the first reactor on line earlier by 2020, savings can be made on gas generation.

3. Once the industry is more mature in SA, it is reasonable to scale up nuclear generation up to about 15,000 MW by 2030.

niasa
nuclear industry association of south africa

Thank You!!!

Ayanda Myoli
CEO, Nuclear Industry Association of SA
E-mail: ayanda.myoli@necsa.co.za
Web: www.niasa.co.za
Cell: 082 808 4474

niasa
nuclear industry association of south africa