

THE IMPACT OF THE IRP ON SOCIAL DEVELOPMENT.

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When I was in parliament I became immensely frustrated hearing about social development and realizing that all the words did was contribute to the weight of Hansard. I turned enthusiastically outward to prove my political messages by starting up several projects, all of which were in some way connected to sustainable and social development. But as a small player what were they worth? The changing of some lives, certainly, but how many or for how long? The changing of the country, I hardly think. Yet as the breaking down of the Berlin Wall showed and the current uprisings in the Middle East area demonstrating, small changes often have a breakwater effect and lead to tectonic changes, and if they don't, well intentioned actions are better than words, so working towards social development has to be useful from whatever quarter, even if measuring social development is like measuring a piece of string.

Must it cater to the rights of all?

The rights of the poor?

Equal outcomes between north and south?

Equal outcomes for rich and poor?

The jinni coefficient which gives the disparity of income between the richest and poorest in a country, places SA among the highest 10 in the world with an index between 55 and 60. Among the best countries with a jinni index of between 25 and 35 are Denmark Japan Sweden Germany Spain Israel and many European countries, interestingly, with vibrant RE policy agendas. The Millennium Development goals give us another benchmark and it is generally agreed that SA is not faring too well on its score card.

From our perspective with regard to the impact of the IRP we would look for impact on lifespan, infant mortality, stability, water, food and energy security, a healthy environment, an adequate wage and a productive population.

In my 15 years of experience in politics I concluded that these are best acquired through policies that are accountable, transparent, diverse, bottom up and that allow for partnership between government, business and civil society, within the framework of a competitive free market, regulated for honesty and minimum standards. Does the IRP offer such a framework? Yes in some ways No in others.

It cannot be seen in a vacuum but in conjunction with enabling legislation which is the National Energy Act and the Electricity Regulation Act, a subsection of which is the REFIT. The IRP is itself a subset of the Integrated Energy Plan.

The Energy Act amazingly relegated RE to regulations. The REFIT is yet to be implemented. The IRP has not been finalized. But working with the draft document our assumption will be that not much will change in the final draft.

The IRP converges policy inputs from nuclear policy, RE and climate change policy, Regional Development (Import Policy), Energy Security (diverse sources), EE, Reliability criteria for generation (Eskom), Industrial development policy (Trade and Industry). All of these policies make reference to social development and will to a greater or lesser extent cater to, and impact on it.

Social development must compete as an output parameter in the IRP with costing and tariff implications, infrastructure development and CO2 emissions.

From my perspective as an advocate of RE and head of an organization, MamaEarth committed to fostering healthy people on a healthy planet, the social development aspect of RE is as important as the national path. In that context the draft IRP is less than ideal. Indeed, it argues for social development but offers little clarity on bottom up programs (municipalities) and is top heavy with commitment to coal, nuclear, OCGT, gas, and even imported coal. In these respects it responds closely to the lobbying that has come from organized business which, in most of these areas, will work in tandem with government control.

I also represent WADE and wearing that hat, I would have preferred a different starting point for the IRP. Energy plans are complex, but that doesn't mean they have to be complicated. As I heard recently in a lecture by a Stellenbosch prof on the science of complexity, it cannot be reduced to tables. The fact that a complex issue requires so many variable inputs suggests that it could offer an infinite number of models. This is true of the IRP. A more realistic and simple route requires that it have a moral component, a goal or reason for inputting the figures. The IRP's responding mainly to the requirement for 34% deviation from business as usual by 2020, constrains the progressive nature of its response. I would have preferred an upfront vision, with a commitment to a renewable agenda in view of SA's excellent positioning in this regard. We have the perfect weather with one of the highest solar radiations on the globe, and we are capable of becoming leaders in a new industry, CSP, which could truly impact on social development.

On the job front there are claims made in the IRP for coal, nuclear, gas, but none competes with those of the deployment of a vigorous RE energy market. For this to impact on social development it should encourage municipal initiatives and PPP's. It should encompass such things as biomass, biogas, small scale hydro, co generation, PV projects and energy efficient initiatives, implemented by communities (not only people taking CFL globes around the country). Also included should be lifestyle changes in the form of biomass cooking stoves that may or may not also generate electricity, solar water pumps or water savings and sanitation programs, that do not necessarily require

huge infrastructure of pipes and drains through large public works programs, but can use environmentally friendly technologies that are easy to install and be implemented by multiple stakeholders.

My years spent developing projects in Alex in KZN in Orange Farm have also taught me that the best ways to make these operate is through a partnership that encompasses the G3. Group comprising organized community (democratically leader) civil society (catalyst or enzyme or glue or finance support) and government. It takes time to set up such structures and gain credibility within the community that will be developed.

If we go right back to the IEP drafted in 2003, (10000GWhrs of electricity from renewable sources was set) a point is flagged about the need to respond to the approx 8% of fuel used in the country, drawn from trees and to provide affordable, clean, appropriate energy by linking these objectives to the integrated development program at provincial and local level. The synergy between regional development and energy supply would foster sustainable growth. This has been done in some places but they remain few and far between and for most local governments, even implementing the solar water geyser DSM program has proved too costly and confusing.

For me the most important policy contribution to social development comes from the MTRM (Medium Term Risk Mitigation plan which is a subset of the IRP. That document lays out the need to commit to new electricity generation quickly, due to expected delays of commissioning Medupi and Kusili of anything from several months to 2 years (4).

What are the quickest solutions to electricity generation? They are PV systems which can be up and running in 6 months, CSP which takes two years from inception, wind not much longer, biomass, biogas and small scale hydro. These form part of the commitment in the current IRP to 1025 MW of RE by 2020 but this is minute in comparison with the 10 to 20000 MW that could come from such programs.

“Non Eskom generation represents a significant and cost effective untapped source of new generation capacity. Investment in industrial cogeneration and own generation as well as RE options have shorter lead times than full blown conventional supply options, but they have been constrained by an unfriendly environment for independent investors, bureaucratic red tape, unacceptable risk and uncertainty on policy, prices and contract for prospective investor.

Approx 5500 MW of electricity could be generated by co gen own gen and DSM initiatives. “

It is difficult to quantify the impact of stolen energy on overall energy usage, but a combination of EE measures and social strategies to replace stolen cable with PV panels and LED lighting, healthy cook stoves, biomass fuel and light weight solar cookers, would

certainly impact on social development and cut back on demand. While we have an EEA within CEF and we have excellent suggestions making their way into the business community, as yet there is no transparent public list of endorsed products with an EE rating, mandatory EE labeling or a clear policy implementing tax incentives for EE measures.

Ultimately the social impact of energy policy won't be the social impact of the IRP only. In the draft regulation for New Generation capacity, clauses were introduced to make it possible for the Minister to designate energy from any source if she so deems fit, in spite of anything stated in the IRP. Hence the move to create a solar park, which may actually take off sooner than the 10 000GWhrs which have taken so long to generate. For once I am happy to see a Minister given absolute power, as she may find some way of stimulating renewable energy in a solar park, that does advance social development through jobs cleaner environment a new industry, and S&T input from SA.

There's a line from a Bob Dylan song "you don't need a weatherman to know which way the wind blows" I say that even with a weatherman right now you cant be sure which way the wind will blow. But there are signs that a RE program will begin in earnest this year. The PPA will be finalized, the buying office set up outside of Eskom, the upgrading of the grid has already been discussed, even now climate hearings are being held in parliament by a truly committed chairperson and the years of perseverance may be paying off by those who are convinced that SA has a bright future by partnering with its weather.

JOB CREATION

WIND

At current levels SA could not compete with the international market already established. Most turbines will be imported, creating jobs at the ratio of .5 jobs per MW in development stage, and 3,5 jobs per MW in construction etc (ranging from construction jobs to engineering). At the 25% by 2025 target, approx 45 000 direct employment jobs should be created.

CSP

The CSP industry could develop considerable local capacity as the industry is only now becoming mature with immense opportunities for South, Southern and Africa .Once established a solar industry continues to build local industries. The CSP industry is quick to train, not requiring mathematics and rocket science, but rather competent engineering skills. There is a short window of opportunity for a country to get into a new industry and become competitive therein, before prices drop and the train moves on.

Design component manufacture and construction of a 1000 MW plant requires approx 10 000 direct person-year full time jobs (AT Kearney, global MCF in Europe). Also, according to AT.Kearney on future costs for CSP, industry of scale will rapidly reduce costs.

According to SASTELA

Direct Jobs

- To construct a 100 MW Concentrated Solar Power Plant (CSP) requires an estimated 800-1,000 construction workers.
- Once built the 100 MW plant will create an estimated 80-100 operation and maintenance jobs. Medupi (4,000 MW) will create around 300 permanent operation and maintenance jobs.
- Two, 200 MW capacity CSP manufacturing plants for solar field components, an estimated 600-1,000 solar field manufacturing jobs could be created

Indirect Jobs

- For every 100 MW CSP plant it is estimated that 4,000 indirect jobs are created, multiplying this figure with South Africa's productivity ratio of around 2.1 that equates to 8,400 indirect jobs per 100 MW CSP Plant.