

Our Hunger for Energy

by Thea Holm

We are all very well aware of the shortage in energy we are facing in the world today in the forms of electricity (locally) and oil (globally).

We have already found and tapped the biggest oil- and gas fields and exploited the best hydropower sites, with the inevitable conclusion that our EROI (Energy Return On Investment) is becoming way out of balance; “we’re drilling deeper and going farther abroad for our oil and gas, and as we’re running to alternatives like tar sands, solar, wind and nuclear power, we’re finding that we are steadily spending increasing amount of energy to get energy” - *The Upside of Down by Thomas Homer-Dixon*.

Interestingly, this is one of the theories why the Roman Empire came to a fall; the energy they had to put in to keep their power system intact (feeding their huge armies for instance), started to become more than they could get out. We are heading in the same direction at a far greater speed and with more brutal force than the Romans did.

Alternative, green energy in the forms of solar and wind power started off initially with very high input costs, but with ever increasing renewal of technologies, the productions costs have dropped dramatically and it is estimated that electricity produced by solar (photo voltaic -pv-panels) will become competitive with coal-fired electricity as soon as 2010. In 2006 PV production jumped with 50% world wide, growing 48% year on year since 2002.

Just consider this:

- The total amount of sun energy reaching the earth every day, is 10 000 times more than the total need of energy on this planet!
- Africa is endowed with 95% of the world’s best sunshine, Southern Africa gets 59% of this...
- We have the longest coast line in Africa, making wind energy a very attractive alternative;

And now to the nasty figures:

- South Africa with her coal driven electricity generation falls under the top 10 highest CO2 polluters in the world;
- For every child in the world that dies of energy related air pollution, 270 South African children die;
- South Africa’s indoor pollution in low cost housing are 5 to 8 times higher than the allowed energy standard;
- Because of South Africa having had some of the cheapest electricity world wide, we wrongly believed that that gave us a huge advantage in global competitiveness. The true fact is that we ranked 47th out of 58 countries evaluated world wide; in Africa we are number 7 on the scale of 24 countries;
- Lots of people consider nuclear power as our way out of this crisis; just the money spent on research so far for putting nuclear back into the race, could have put **2** solar water heaters on **every** roof in South Africa (an independent study), which could have lifted us immediately out of our electricity crisis! Then we are not even talking of the waste generated by the process, where the first world countries openly confess that no one in the

world has a permanent solution for keeping nuclear waste buried safe; the expensive containers we need to keep this waste in, can't even guarantee it not from leaking out up to its half life time, we bury it and hope that someone in the future will come up with a solution! Also what about security issues; in the form of becoming targets for terrorists attacks..... Remember the break in at Necsas premises outside Hartbeespoort a few years ago where thieves managed to get through 5 layers of security before shooting the head of security in the control room!

Luckily South Africa are bending now under outside pressure (to start cleaning up our polluting act) and local pressure (we pay for electricity that is not there!) and has introduced a few months ago the REFIT (Renewable Energy Feed In Tariff) Law and can electricity be generated by the following means and sold back to the national grid: landfill gas, mini hydro, wind & concentrated solar plants. Still no PV, but we hope it comes soon!

The brutal force and speed at which we humans are destroying our beautiful earth, our fellow human beings and the next generation's quality of life, can only be re-told with our heads buried in the sand. But there is hope though, we are not equipped with unusual brainpower and **awareness** merely by chance. If we start going over into **action** right now, stopping and hopefully reversing the destruction we have caused so far by thinking of **alternative** ways to feed our energy hunger, we still have a chance to leave this beautiful place in a state that our children can enjoy it as we are doing now. This is only possible by living in harmony with our environment.

Next time: "The Sleeping Environmentalist in You and Me."