# IRP2010 – Leading us to a sustainable electricity future?

A contribution to the
public hearings for the IRP2010 (draft) –
Cape Town, 29/11/2010

Brenda Martin, Director

Project 90 by 2030

A project of the Goedgedacht Rural Trust

# A critical look at some IRP2010 parameters

## 1. Demand Forecast:

**SO and CSIR** provide demand forecasts independently with significant differences – IRP2010 models the scenarios using SO-Moderate -

**why?**

**Table 7. Expected annual energy requirement 2010-2034**

| | CSIR Low | CSIR Mod | CSIR High | SO Low | SO Mod | SO High |
|---|---|---|---|---|---|---|
| **2010** | 249,051 | 249,422 | 249,626 | 257,601 | 259,685 | 261,769 |
| **2011** | 255,882 | 256,744 | 257,693 | 262,394 | 266,681 | 270,969 |
| **2012** | 261,031 | 262,376 | 263,682 | 267,784 | 274,403 | 281,022 |
| **2013** | 265,790 | 267,694 | 269,169 | 274,788 | 283,914 | 293,041 |
| **2027** | 338,636 | 352,012 | 360,379 | 361,300 | 426,196 | 491,093 |
| **2028** | 343,651 | 358,365 | 367,618 | 366,319 | 436,761 | 507,204 |
| **2029** | 348,758 | 364,884 | 375,017 | 370,007 | 445,888 | 521,769 |
| **2030** | 353,979 | 371,616 | 382,774 | 372,947 | 454,357 | 535,766 |
| **2031** | 359,240 | 378,322 | 390,643 | 376,272 | 463,503 | 550,734 |

**SO-Mod in 2030: 22% higher than CSIR-Mod**

# A critical look at IRP2010 parameters

**2. Price Elasticity of Demand (Appendix A.1: Assumptions):**

… forecasting models do not include this parameter at present.

**PEoD, Parameter Value:** PEoD 0.002 – ie. for every 100% increase in price 0.2 % decrease in demand. (Based on 1 research study: Ziramba E., 2008) **but**

**PEoD** trends couldn't easily be observed in SA, electricity tariffs mainly decreased since the 1980s (until 2007).

**Recent Studies*** indicate price elasticity for SA as: -0.55 for tariff increases (the median for other countries is -0.48) and 0.42 for income increases.

- ➞ In the long run, 10% increase in price will decrease electricity consumption by 5.5%.
- ➞ A 10% increase in disposable income will increase electricity demand by 4.2%.

*) R. Inglesi, A. Pouris: 10/09/2009: Aggregate electricity demand in South Africa: Conditional forecasts to 2030. Department of Economics, Faculty of Economic and Management Sciences, University of Pretoria, Main Campus, Pretoria 0002, South Africa

# A critical look at IRP2010 parameters

**Price Elasticity of Demand continued. (R. Inglesi-study, University of Pretoria*)**

**The effect on demand forecast considering these elasticities**:

Demand drops - **PEoD = -0.55**

Compared to IRP2 **= +70%**

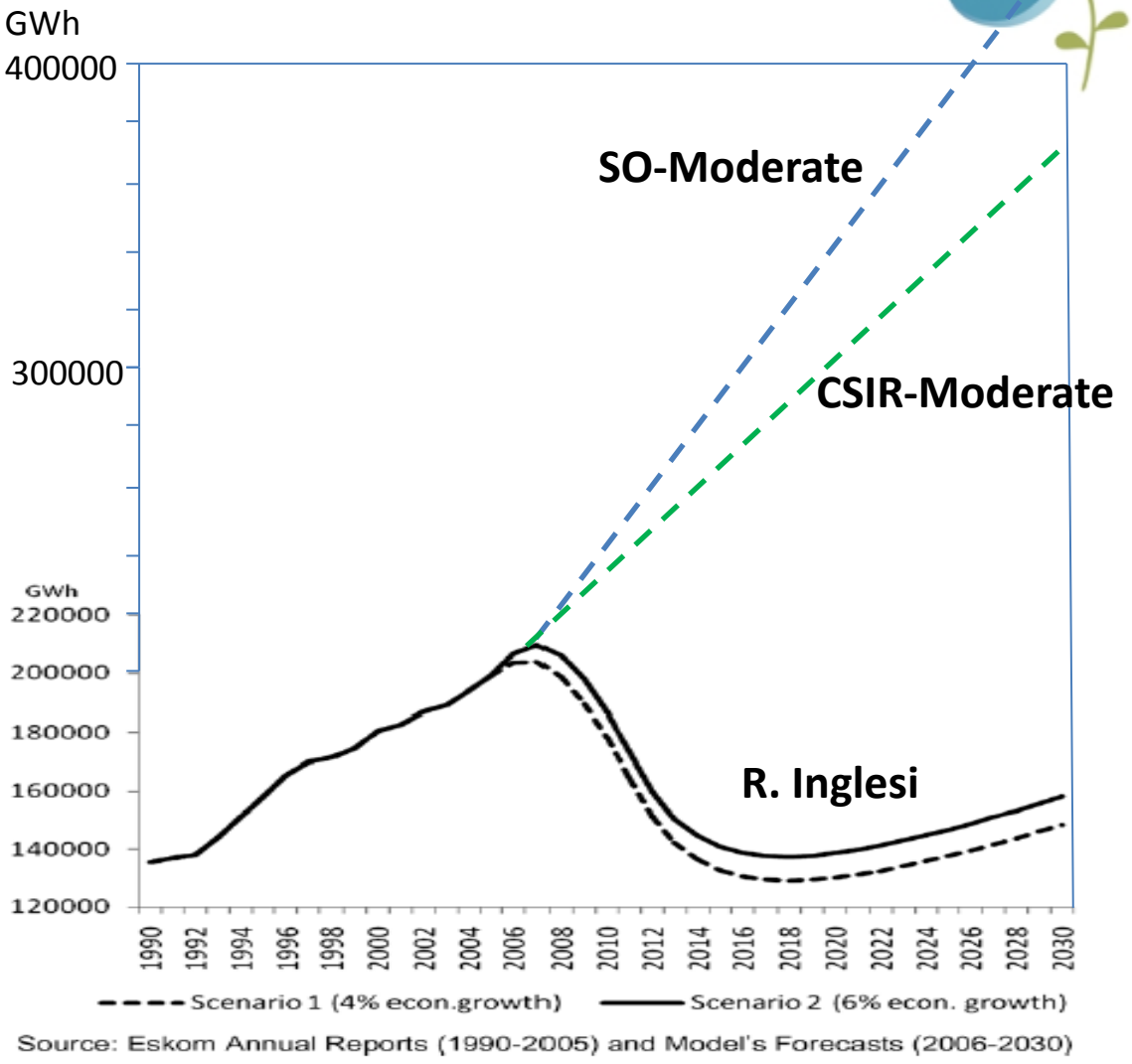
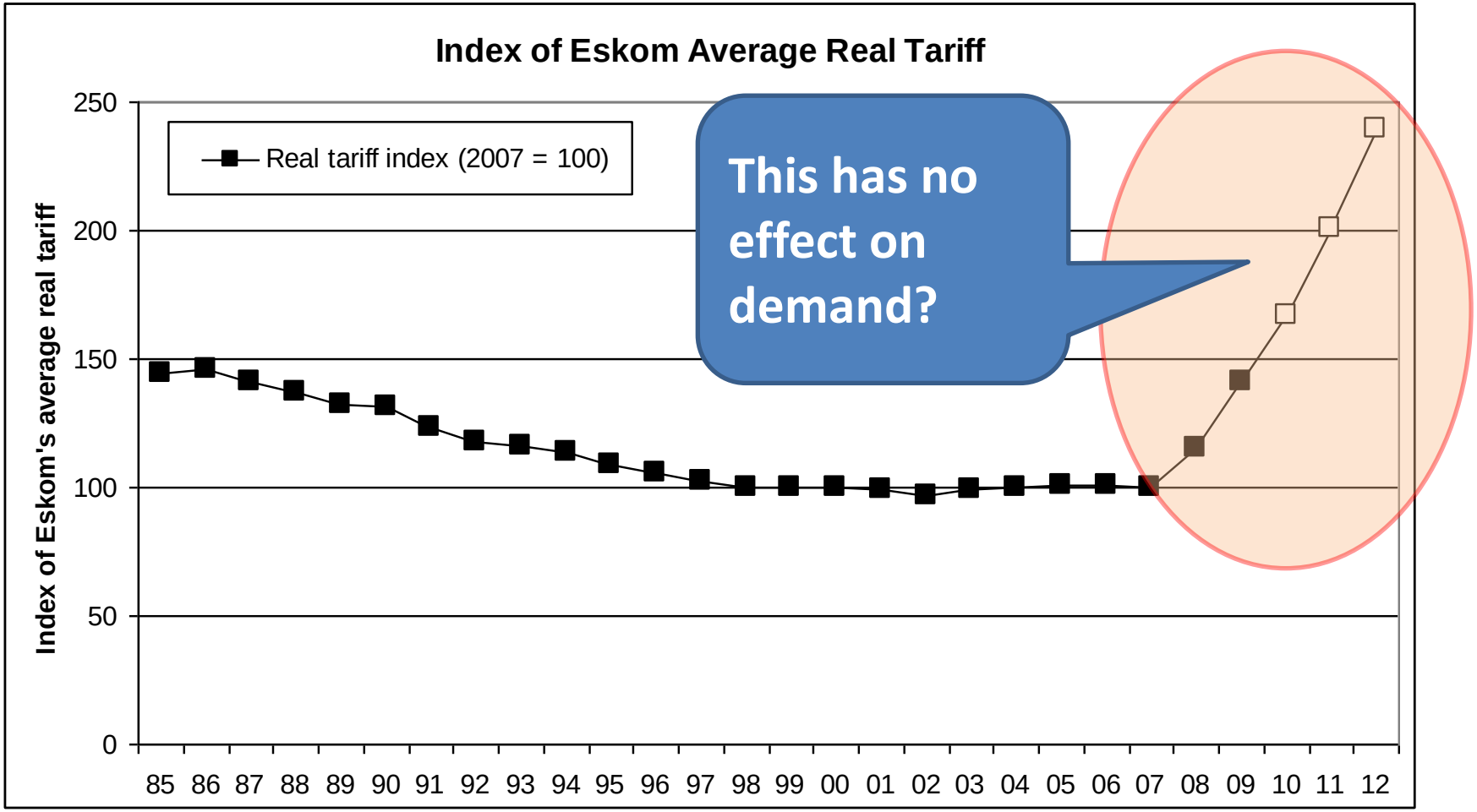



**Fig. 3.** Electricity demand for South Africa 1990–2030 (forecast from 2006 onwards).

*) R. Inglesi, A. Pouris: 10/09/2009: Aggregate electricity demand in South Africa: Conditional forecasts to 2030. Department of Economics, Faculty of Economic and Management Sciences, University of Pretoria, Main Campus, Pretoria 0002, South Africa

# A critical look at IRP2010 parameters

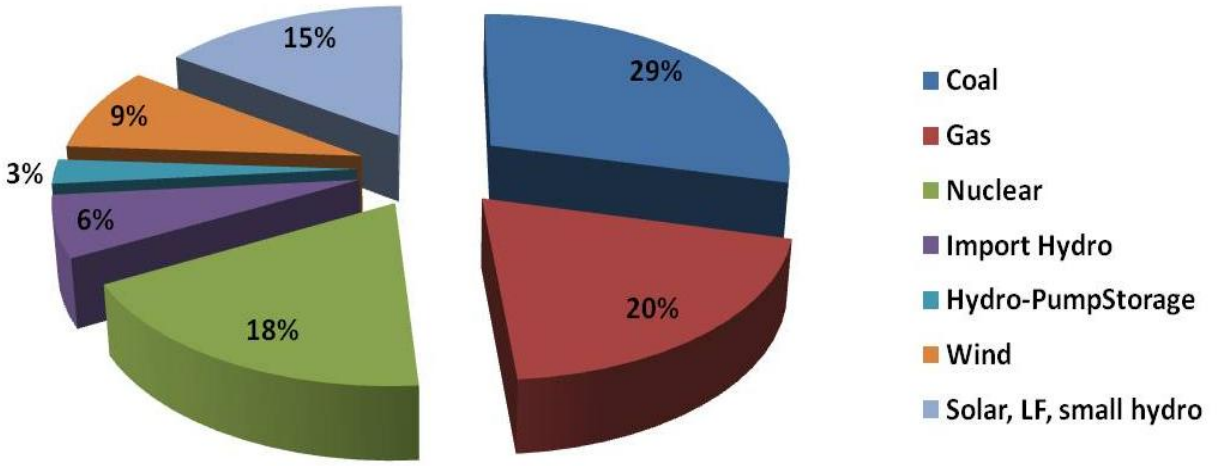
**Price Elasticity of Demand – not considered in IRP2010 (draft):**



# Revised Balanced Scenario – IRP2010

**We request the inclusion of price elasticity and EEDSM in the demand forecast.**

**We anticipate a significantly lower demand and most probably no need for Kusile or a nuclear fleet with this parameter inclusion.**

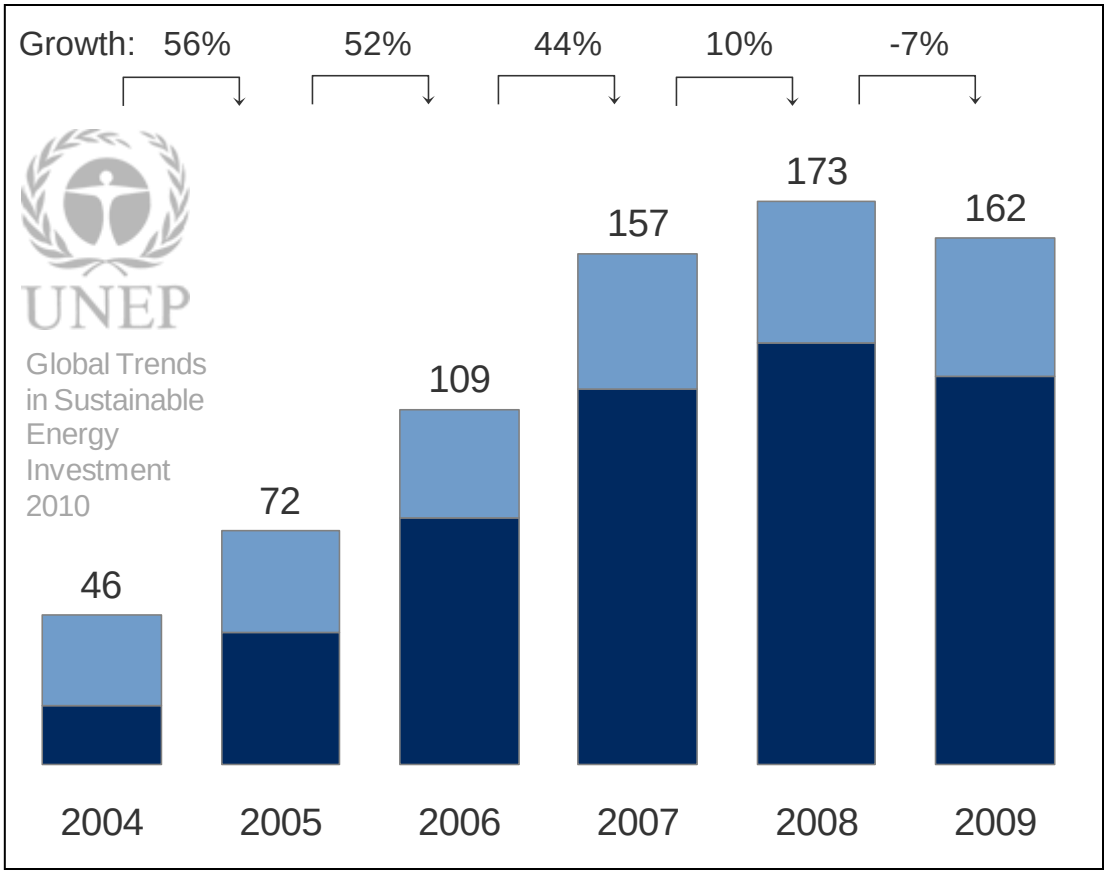



**3. Energy efficiency and DSM underestimated in IRP2010:**

"Research conducted by Eskom indicates that this programme may only scratch the surface of the potential market for EEDSM". (IRP2010 Draft, p. 33).

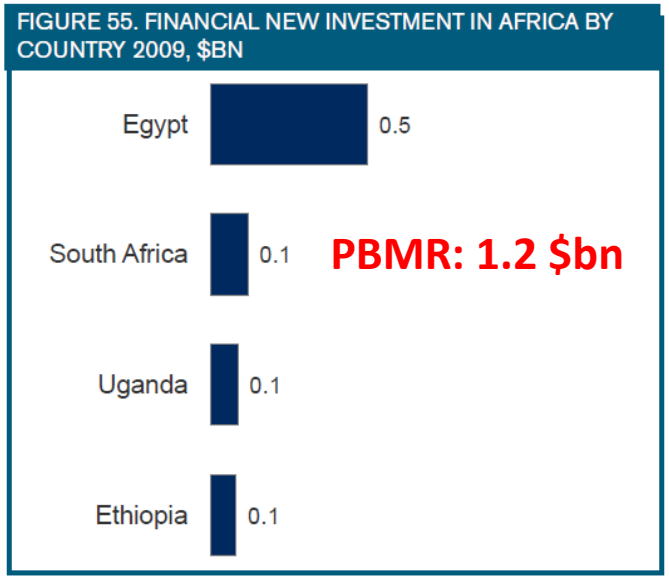
An implementation of conservative 1% EEDSM-programme per year from 2010 onwards results in a 19% demand reduction! (SO-Mod -19% = CSIR-Mod).

# Global new investment in sustainable energy 2004 - 2009 ($bn)

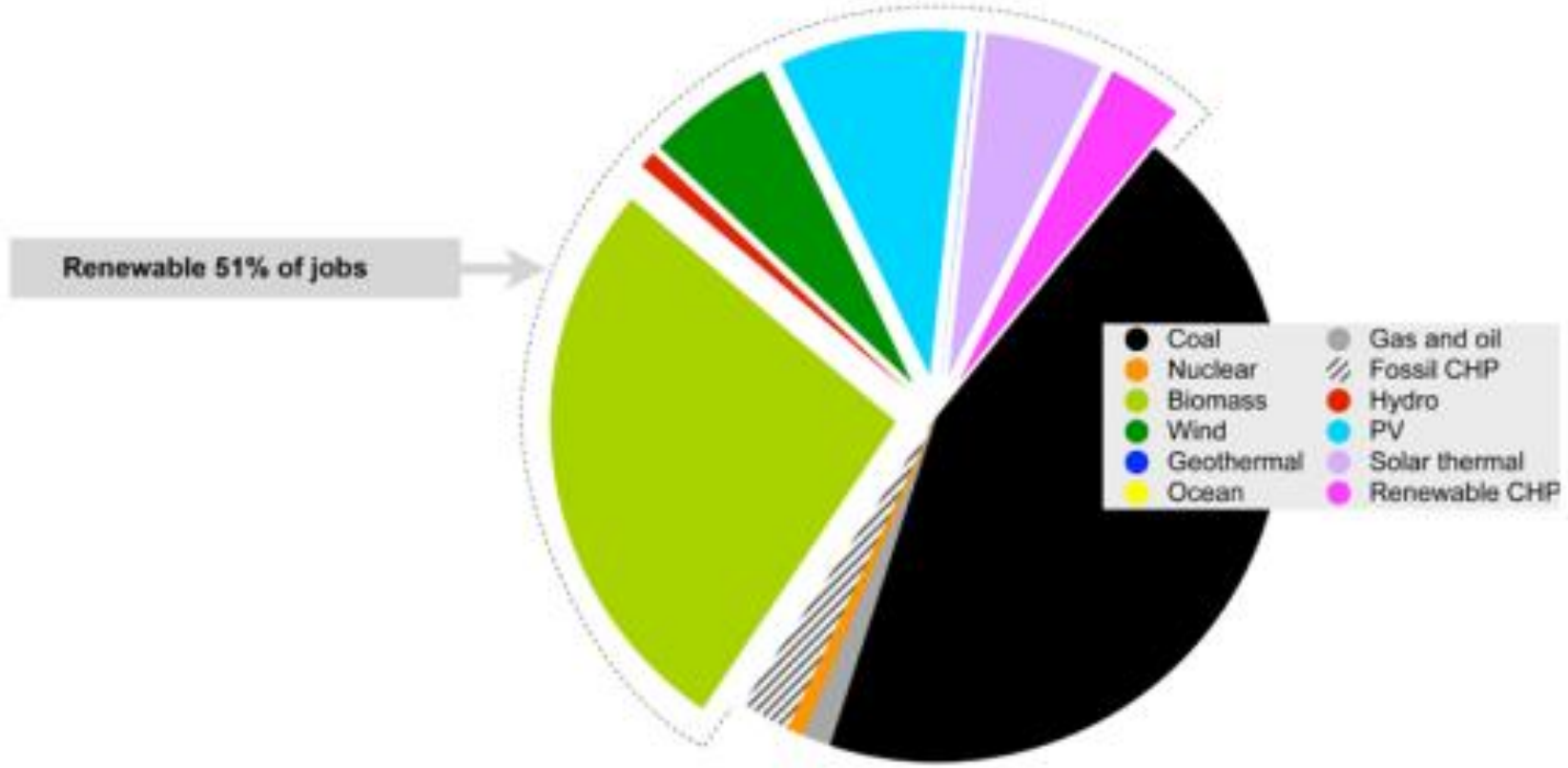



Source: Bloomberg New Energy Finance

AFRICA



# Electricity sector - direct jobs to 2020 in SA (total 123,000)*




*Rutovitz, J. 2010. South African energy sector jobs to 2030. Prepared for Greenpeace Africa by the Institute for Sustainable Futures, University of Technology, Sydney, Australia.

# Universal Access to Electricity?

A Government commitment.

**2010:** How many households are connected to the electricity grid today? – About 65%.

**2010 / 2011 / 2012:** How many households can afford to buy and consume electricity to cook, heat, cool, communicate, light their homes?

**ESKOM tariff increases =** about 100% in 3 years – how much of this burden is carried by industries and how much by households?

# Summary

- Let us opt out of 'business as usual' and become a world leader in clean energy technology.
- Full transparency and public access to all energy investment information; including all ESKOM contracts with Industry.
- Justification for why SO-Moderate used instead of CSIR demand forecast .
- Inclusion of price elasticity of demand in IRP2 parameters.
- Develop a more ambitious government-led EEDSM programme and include effects in demand forecast of IRP2.
- RE has not received the government support nuclear has – invest in comparable RE research & development before labelling it 'unfeasible'.
- Maximise local job creation by building capacity for local RE manufacture.
- Create an electricity sector that is clearly based on principles of social justice:
  - accessible, reliable, affordable
  - fully transparent
  - creates and sustains decent (LOCAL) jobs
  - does no harm (people & environment).


"Never be afraid to try something new. Remember, **amateurs** built the ark. **Professionals** built the **Titanic**."

We reject the IRP2010 draft.

Thank You

Brenda Martin, Project 90 by 2030
brenda@90x2030.org.za