

SAWEA

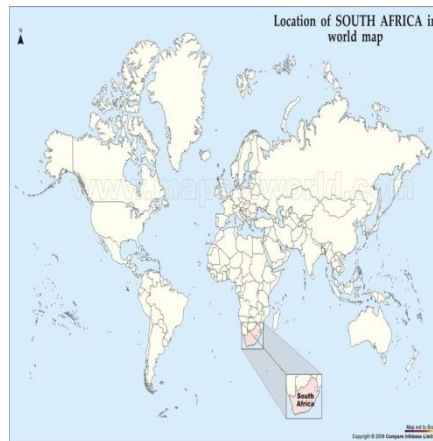
South African Wind Energy Association

DOING GOOD WIND BUSINESS IN SOUTH AFRICA – EWEA 2014

**Johan van den Berg
CEO, SAWEA**

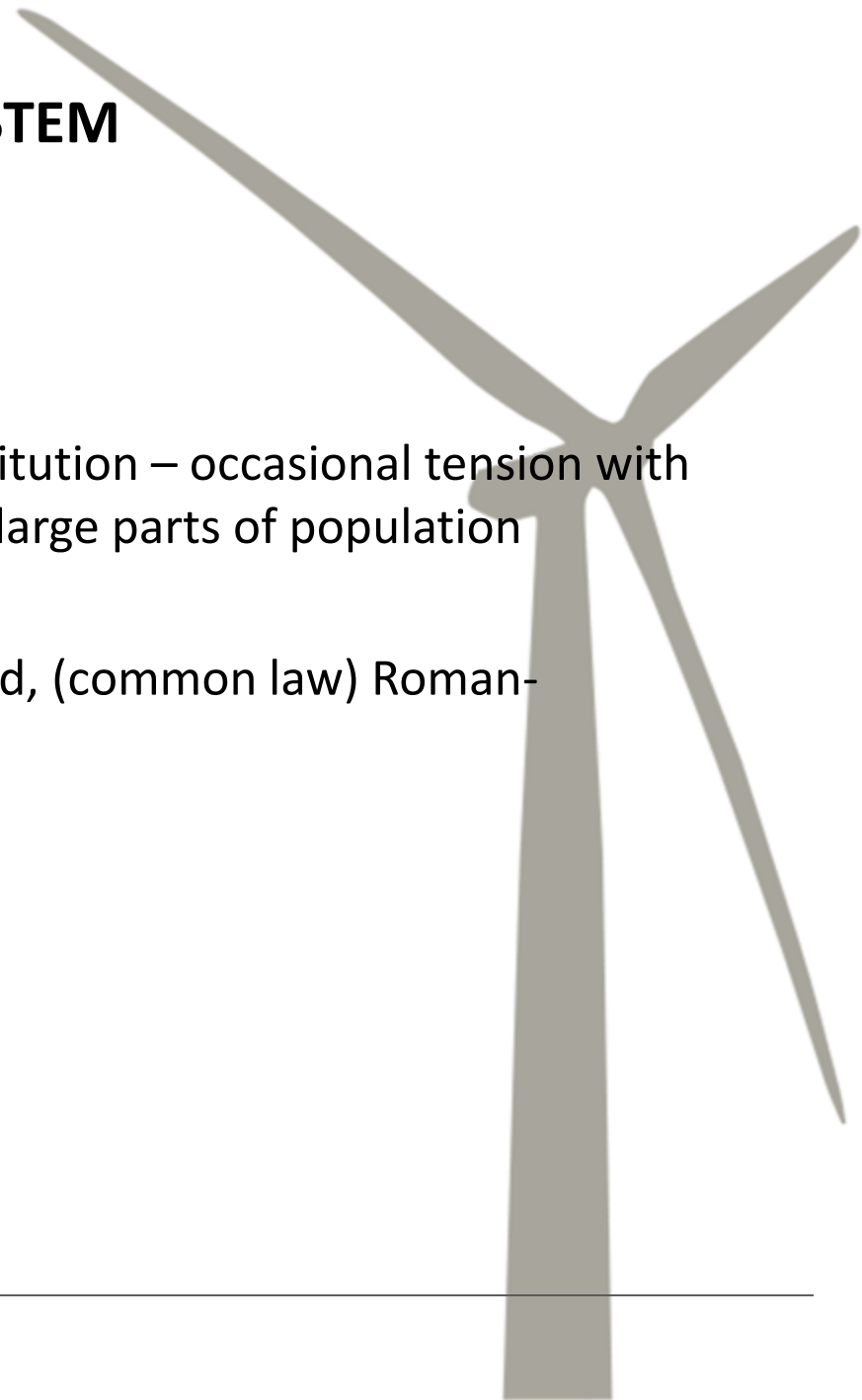
SOUTH AFRICA AT A GLANCE

- About 50 million people
- GDP USD 550 billion 2011
- Growing at 3%+ - JSE 18th globally
- In top 30 economies world-wide
- “Two worlds” – 1st and 3rd – unemployment 20%+
- “Gate” to sub-Saharan Africa
- Historically a country highly efficient at technological innovation



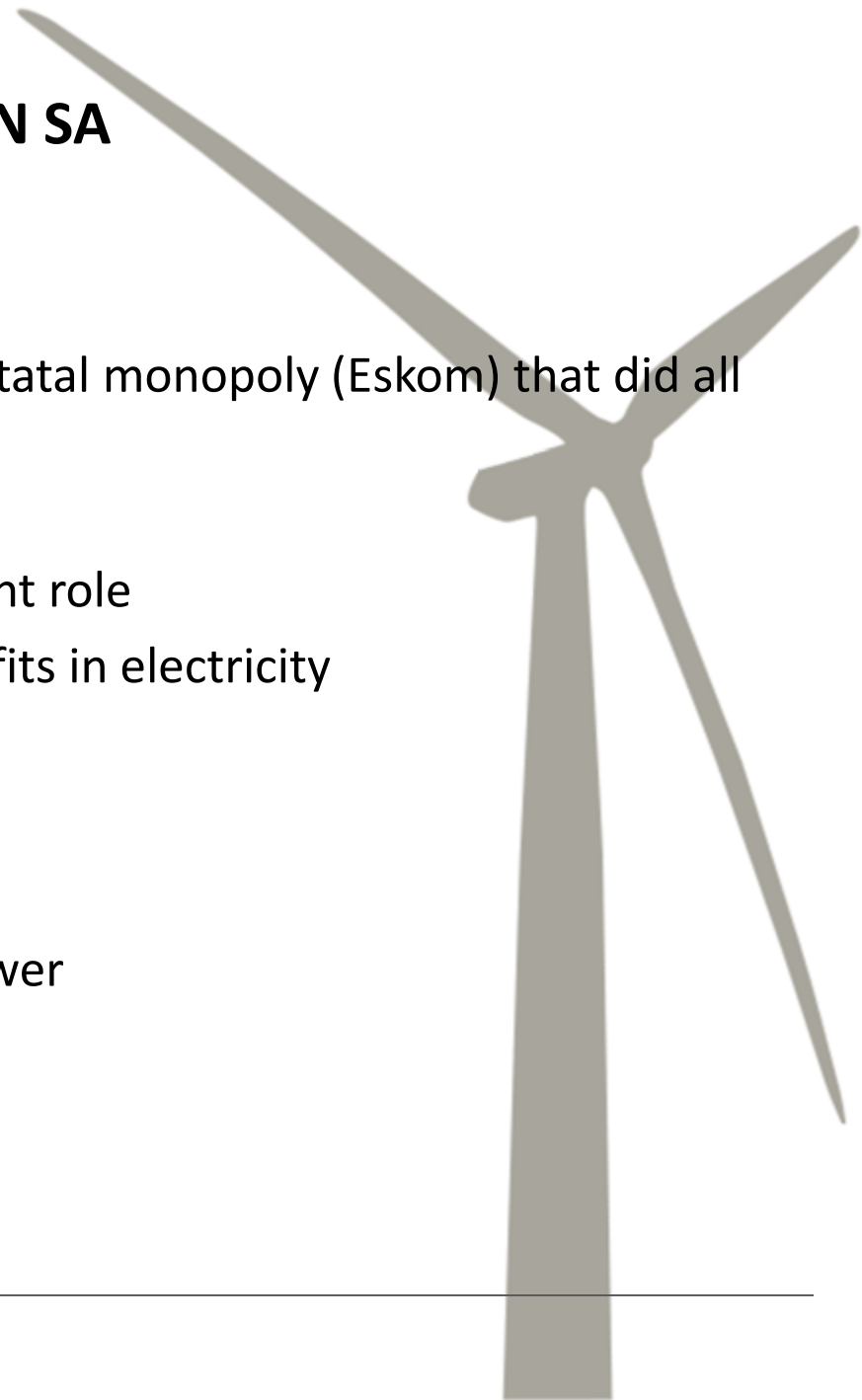
LEGAL SYSTEM

- Constitutional democracy
- Extremely modern and progressive constitution – occasional tension with often conservative and diverse values of large parts of population
- Traditionally very strong and sophisticated, (common law) Roman-Dutch/English legal system
- Independent Constitutional Court



ENERGY IN SA

- 45,000 MW's installed
- Traditionally a vertically integrated , parastatal monopoly (Eskom) that did all generation, transmission and distribution
- Prices regulated through NERSA
- “Minerals-energy complex” plays important role
- Municipalities largely funded through profits in electricity
- SA has highly carbon intensive economy
- Efforts since 1998 to deregulate
- IPP growth taking off now
- Upward pressure on tariffs helps wind power



RENEWABLE ENERGY – ROCKET LAUNCH AFTER A LONG COUNTDOWN

| Date | Event | Significance |
|-------------|--|--|
| 1960 - 1990 | South Africa builds a fleet (35,000 MW) of large, coal fired (fossil fuel based) electricity generation plants. | These are now all amortised (paid) and only maintenance needs to be paid, making electricity cheap. They are however highly polluting and nearing end of life |
| 1988 | Concern about climate change gets momentum | Fossil fuels are recognised to endanger human well-being in the long run |
| 1990 | IPCC brings out a sobering scientific report | Negotiations start towards an international convention on Climate Change |
| 1992 | UNFCCC signed | South Africa is a signatory and acquires international obligations including the limitation of fossil fuel use and promotion on renewable energy |
| 1995 | It becomes clear that new generation capacity is needed to keep track with SA's increased energy demand – response was slow | The pattern of electricity shortfalls is set |
| 1995 | IPCC's second report indicates the climate news is worse than expected | General recognition that a binding international convention (the KP) needed to follow UNFCCC |
| 1997 | KP signed (enters force in 2003) | International community undertakes to take real steps towards addressing climate change |
| 1985 - 2005 | Eskom makes good profits and Government as its shareholder pays it out in dividends without keeping a reserve for the new build programme | The pattern of Eskom's increasingly burdened balance sheet is set |
| 1998 | Darling National Demonstration Wind Farm starts development and by 2001 gets "demonstration" support from the erstwhile Minister of Energy | First tentative steps towards IPP wind energy – however no system in place to make it competitive with fossil fuel energy which in Eskom's case is much cheaper |
| Dec 1998 | White Paper on Energy launched | A break from the Eskom monopoly is envisioned with a mixed basket of energy sources and a mixed basket of energy suppliers (including Independent Power Producers) |

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RENEWABLE ENERGY – ROCKET LAUNCH AFTER A LONG COUNTDOWN (3)

| Date | Event | Significance |
|--------------------|---|---|
| 2003 | South Africa hosts the World Wind Energy Conference and the White Paper on Renewable Energy is launched | Principles in Energy White Paper affirmed and target of 10,000 GWh's of RE production by 2013 is set (this will now be very difficult to achieve) |
| 2003-2007 | Virtually no progress is made with the RE target as per the RE White Paper | RE stalls in the county |
| 2007 - 2011 | Various competitive bid processes launched to procure electricity from private sector fail totally or partially – the PNCP, MTPPP, the Peaker programme and the base load IPP programme | The energy investment community becomes very sceptical about South Africa. |
| 2007 | NERSA consultants publish inception report for a REFIT scheme | Potential REFIT raises hope in the RE sector |
| 2008 | Darling National Demonstration Wind Farm is commissioned after 11 years of battling against the odds and two High Court approaches but fails to remove the barriers to RE energy | The message is sent that doing business in the sector in SA is very difficult |
| 2009 | NERSA approves REFIT for certain RE technologies including Solar PV, Solar Thermal and Wind. Investment starts flowing very quickly, international companies invest in SA and employ local people. EIA's start. Wikipedia mentions the SA REFIT as attractive | The RE Industry spends ZAR 500 million + in the belief that the country will have a REFIT scheme |
| Feb 2010 | NERSA approves the budget ("MYPD2") that includes renewable energy | Developers get comfort that REFIT procurement is imminent |

RENEWABLE ENERGY – ROCKET LAUNCH AFTER A LONG COUNTDOWN (4)

| Date | Event | Significance |
|--------------------|--|--|
| April 2010 | NERSA publishes the draft selection criteria “scorecard” for REFIT and holds public hearings to discuss same | Not all projects commissioned will get the REFIT. There will be tender process and only some will succeed. Developers gear their projects to fit with the draft selection criteria |
| May 2011 | IRP 2010 is approved as SA’s energy master plan 2010 – 2030 that will include a vast contribution from renewables costing ZAR 350 billion plus – wind about 9,000 MW | The large RE component (9,000 MW wind) implies ensuring very large private sector investment and very rapid skills development |
| August 2011 | REFIT is replaced by “REBID” | A different procurement method than anticipated but with a much larger ambition |
| Nov 2011 | First bid round closes – over ZAR 100 million is posted in bid bonds. About 52 applications | Lift-off in sight |
| Nov 2011 | Preferred bidders announced for Round 1 – for wind 8 totalling 634 MW presumably in price ranges of 10 – 11 euro cents/kWh | Critical mass finally seems possible – bid process ran smoothly which created investor confidence |
| 21 May 2012 | Preferred bidders announced for Round 2 – for wind perhaps another 600 MW | System is becoming known and understood, procurement is starting to look like a rolling programme |
| 5 Nov 2012 | Financial close Round 1 and soil turning | “SA GW’s into action!” |

RENEWABLE ENERGY – ROCKET LAUNCH AFTER A LONG COUNTDOWN (5)

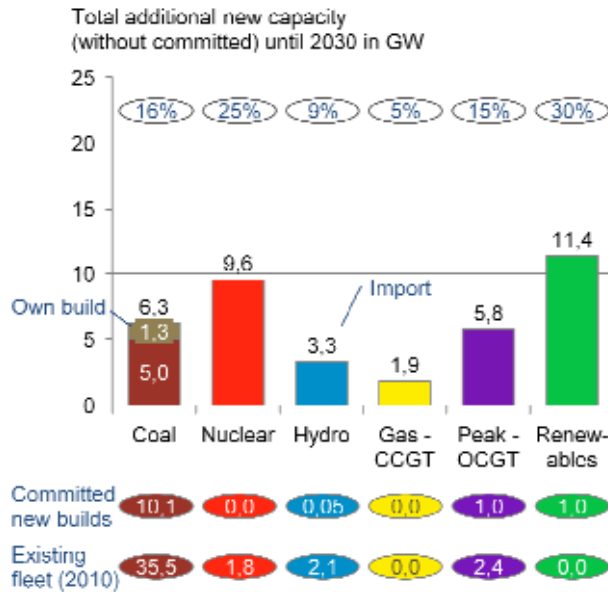
| Date | Event | Significance |
|----------------------|--|---|
| May 2013 | All round 2 projects reach financial close and go into construction | Procurement system seems to be robust |
| 29 Oct 2013 | Round 3 preferred bidders announced – 787 MW | Price drops well below cost of new coal power – REIPPPP is “rolling” |
| Jan 2014 | First REIPPPP wind farms start exporting electricity into grid – COD imminent | First REIPPPP project complete and feeding electricity into the grid, others to follow soon |
| Going forward | ISMO, carbon tax, bilateral wheeling, mini grids, hybrid/off grid applications, wind “clusters”, grid optimisation, increasing local content | |

THE IRP 2010

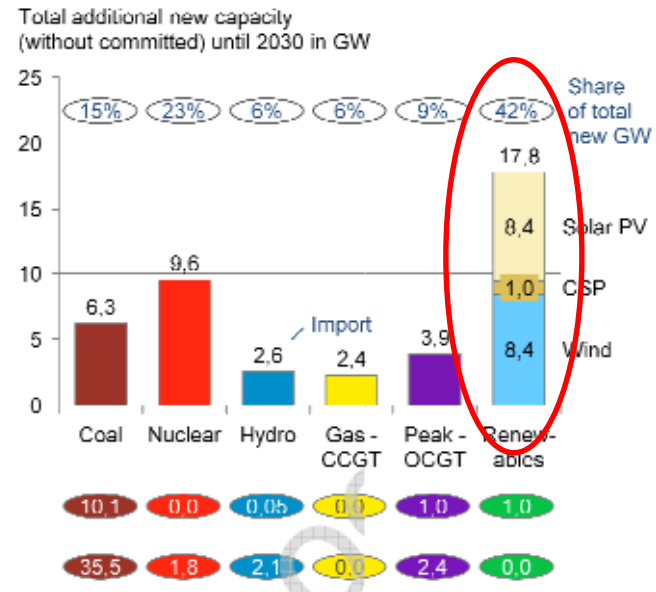
- Integrated Resource Plan 2010 (www.doe-irp.co.za/content/IRP2010_2030_Final_Report_20110325)
- It is the 20 year blueprint/master plan for energy in the country
- Extensively work-shopped and modelled
- Adjusted from lowest cost model for various factors including policy
- Readjusted every 2 years due to changed circumstances (National Development Plan?) – next version expected soon

THE IRP 2010 cont

Before consultation process: Revised Balanced Scenario (RBS)



After consultation process: Policy-Adjusted IRP



PROCUREMENT FRAMEWORK

- Competitive bid system for allocated MW's
- 70% price
- 30% other - socio economic development - local ownership, local content, job creation, community development etcetera – strong local content requirements
- Process requires extensive documentation (7 x 5,000 pages) and implies significant cost (€ 200k – 400k in bid preparation)
- Game for big and sophisticated players

WIND POWER “LIFT-OFF”

- In ten years SA stumbled from 0 – 10 MW of wind power installed
- If all goes well, in 36 months we might have 2,000+ MW’s of wind
- This would move SA into a significant position in the global order
http://en.wikipedia.org/wiki/Wind_power_by_country
- Wind power is already a significant new infrastructure sector in the SA economy



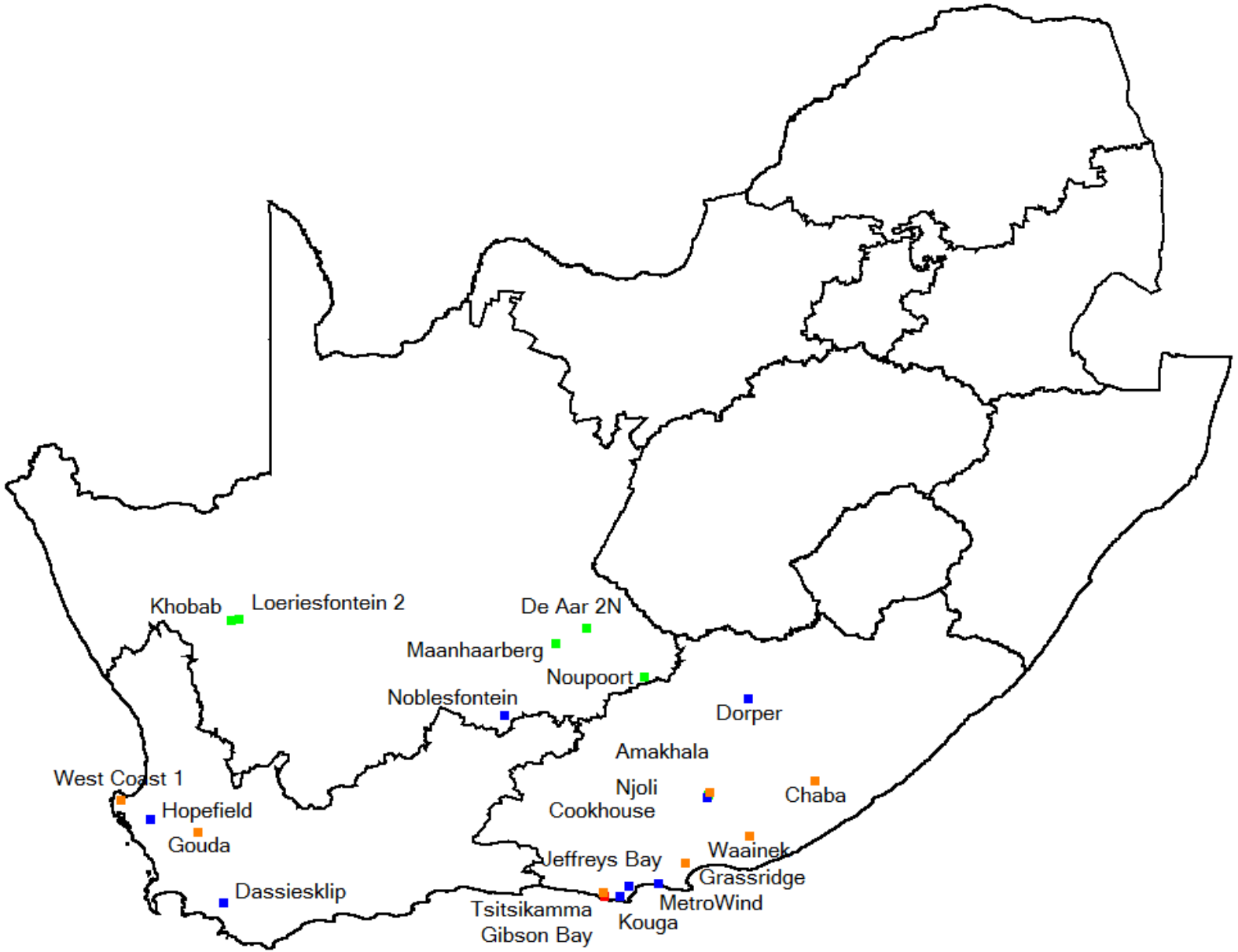
GREEN ECONOMY ACCORD

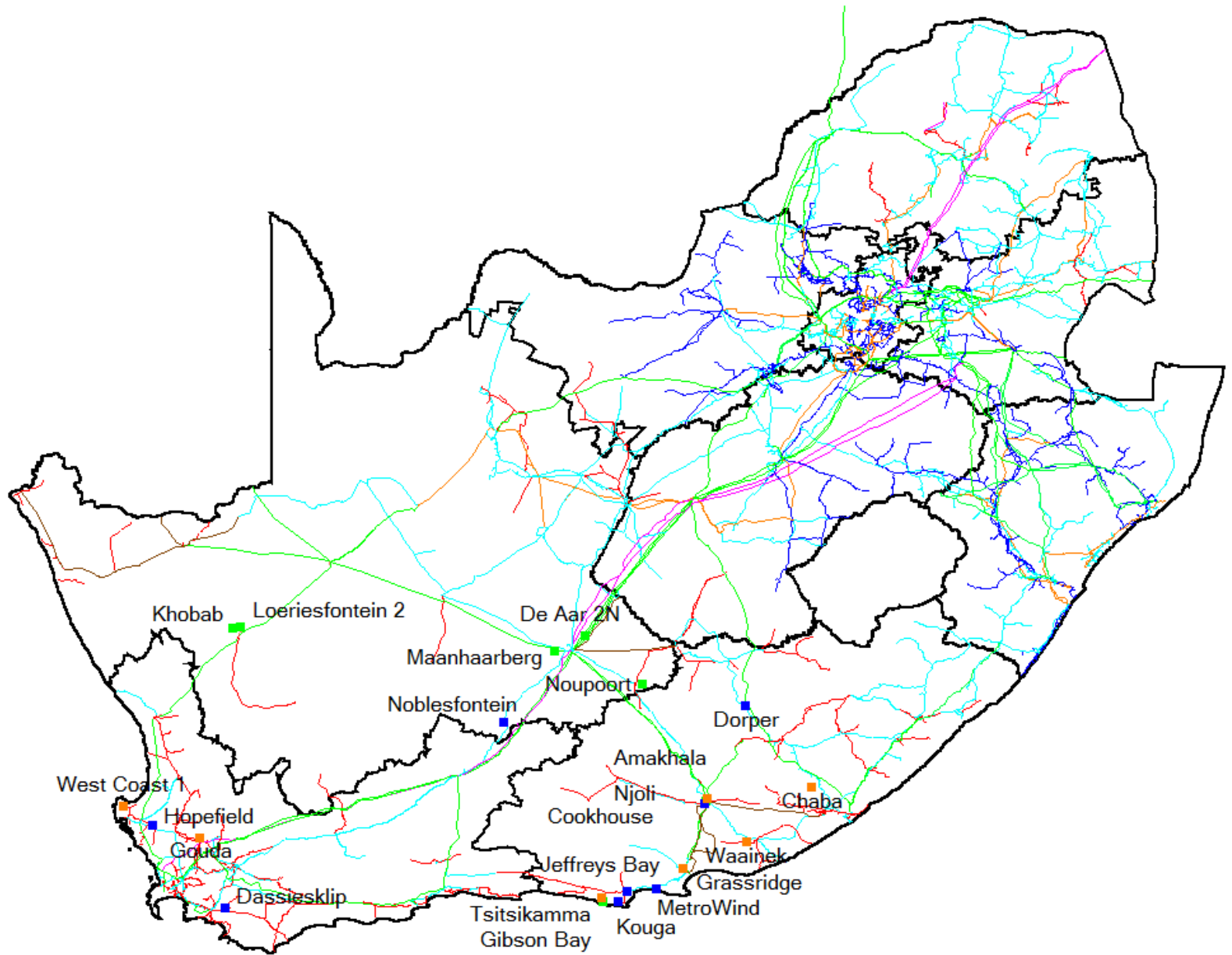
- Is an agreement between government, business, labour and communities about creating a green economy
- This framework is very important and creates a safety buffer against policy change
- For detail see <http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCgQFjAA&url=http%3A%2F%2Fwww.economic.gov.za%2Fcommunications%2Fpublications%2Fgreen-economy-accord%2Fdownload&ei=uA8LU76nMOPD7AaMj4GIBQ&usg=AFQjCNFmgal12TPqxGF8B-C1pfEsTUyAFA&sig2=RQqnIbR-iwGumMnx7jVBFA&bvm=bv.61725948,d.Yms> or see <http://www.sarec.org.za/category/documentation/>

STRUCTURING SOCIO-ECONOMIC BENEFITS IN AN OPTIMAL AND SUSTAINABLE MANNER

The picture is taken by Stephen Forder and shows the Cookhouse Community Liaison Office. An example for proactive and transparent engagement with local residents and businesses around the wind farm.







THANK YOU



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