



Off-grid Electrification in South Africa

Market-Opening Workshop

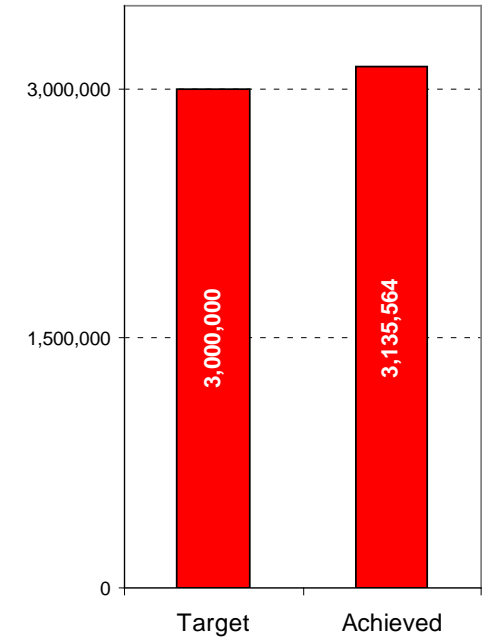
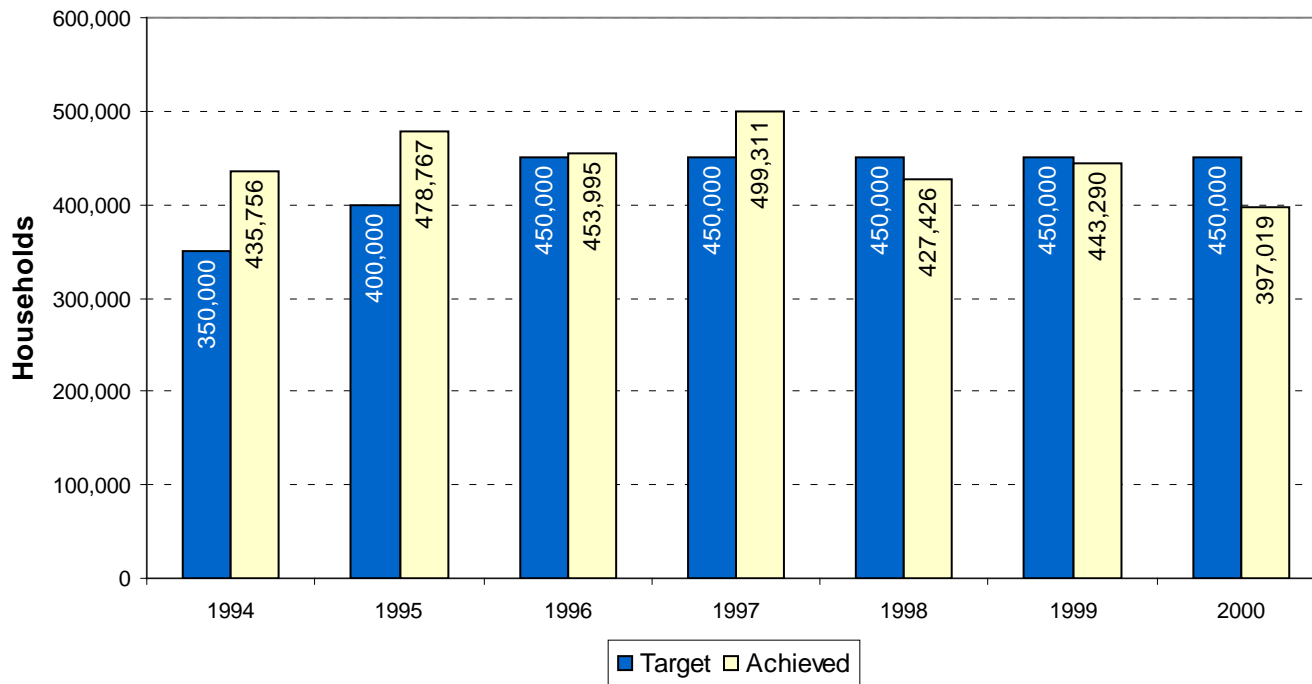
Brazil, May 2002

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Electrification by the Reconstruction and Development Plan (RDP) of the ANC government





Household electrification status by Dec. 2000

	Electrified		Not electrified		Total
Rural	1,949,994	50.3%	1,923,996	49.7%	3,873,990
Urban	4,825,403	84.0%	919,777	16.0%	5,745,180
Total	6,775,397	70.4%	2,843,773	29.6%	9,619,170

An off-grid electrification programme is needed to supply rural households which are out of the economic reach of the grid.



Electrification policy guidelines ^{1/2}

Excerpts from the 1998 White Paper on Energy Policy

“Government commits itself to implementing reasonable legislative and other measures, within its available resources, to progressively realise **universal access to electricity.**”

“Government will co-ordinate the electrification programme, including the setting of realistic targets, determination of allocation criteria and priority areas, ensuring allocation and management of funds, financing and **subsidisation of projects,** and the determination of an **appropriate mix between grid and non-grid technologies.**”



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Electrification policy guidelines ^{2/2}

Continued...

“Government will establish a National Electrification Fund to provide **electrification subsidies**.”

“The National Electrification Fund will **subsidise a portion of the capital costs** of connections made towards meeting electrification targets.”



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Shell-Eskom Joint Venture

- Official start date: February 1999
- Original target: 50,000 solar home systems (SHS) in 5 years, Eastern Cape and Kwazulu Natal provinces
- SHS: 50 Wp panel on pole, battery, control & prepayment unit, 4 lights. A 100 Wp with 2 batteries and 2 panels later introduced.
- Fee-for-service: Shell-Eskom owns the SHS. Leasing agreement signed with user.
- Original payment (no subsidy) : US\$23 upfront, US\$7 monthly
- Expected subsidy: US\$270 on investment, US\$4/month on operation
- Status in June 2001: 6,100 SHS installed in 260 villages



B-REED Off-grid electrification via concessions ^{1/4}

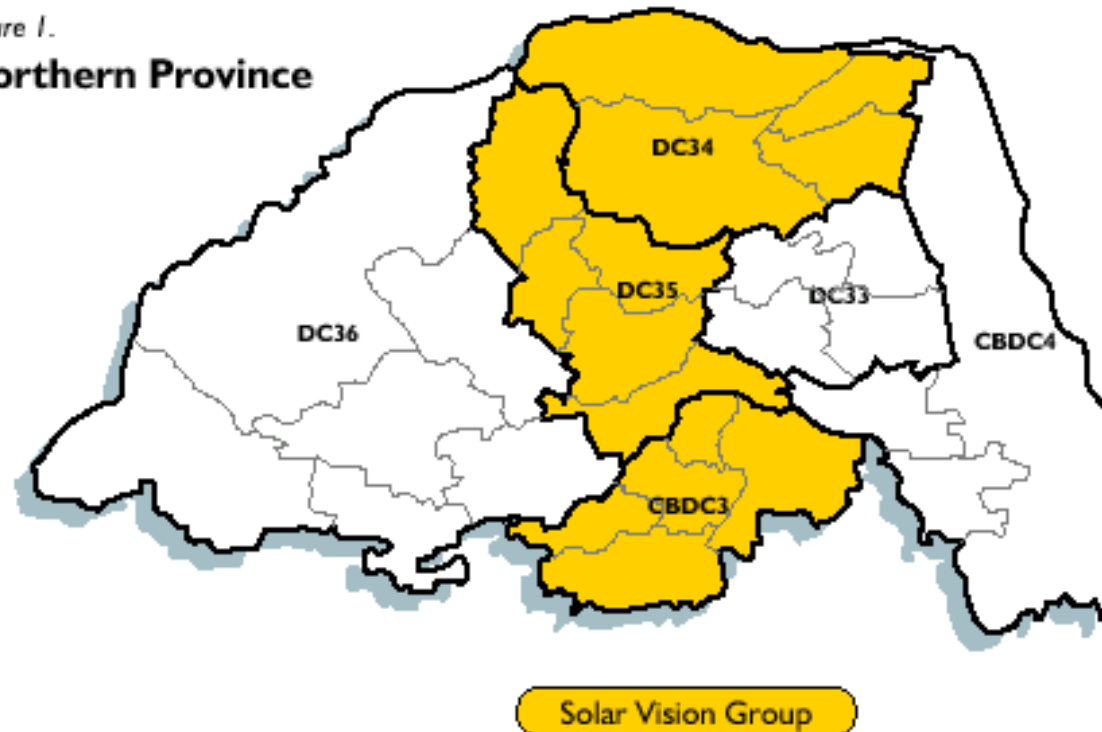
- April 1999: Department of Minerals and Energy (DME) called for tenders
- Original targets: 250,000 households in 3 years, 6 concession areas (50,000 SHS each) in 3 provinces
- Technology: SHS for electricity, LPG and paraffin for thermal needs
- Fee-for-service model
- Original start date: June 1999
- 28 proposals received
- 6 proposals selected
- BP-Emtateni-Eskom and Spescom have since withdrawn



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Off-grid electrification via concessions 2/9

Figure 1.
Northern Province

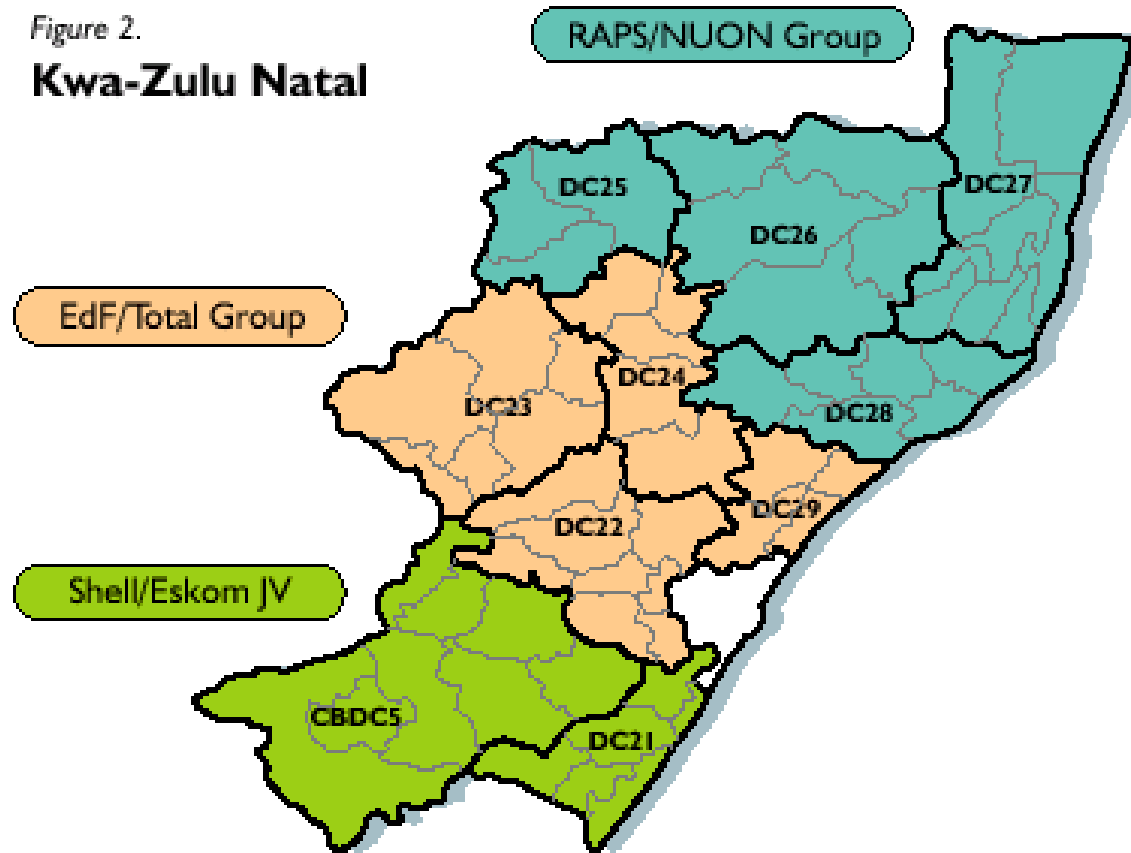




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Off-grid electrification via concessions 3/9

Figure 2.
Kwa-Zulu Natal



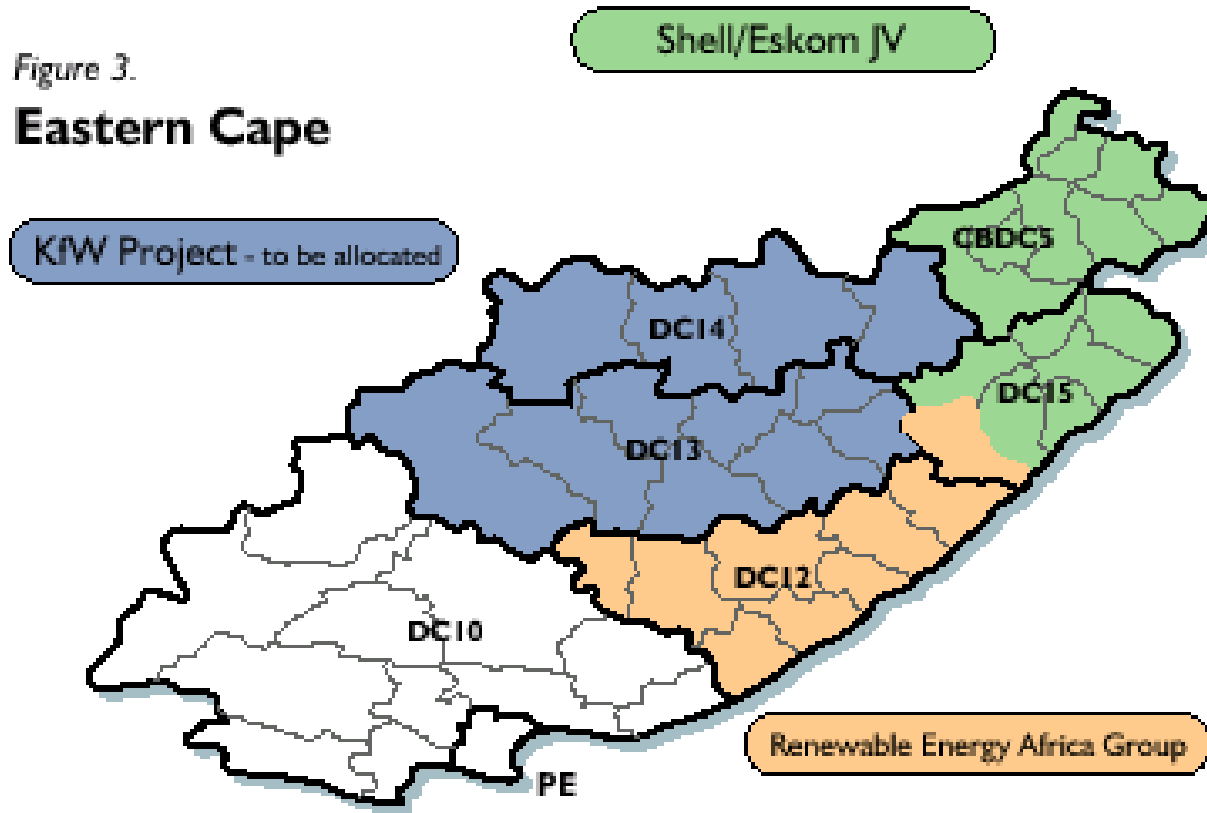


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Figure 3.

Eastern Cape





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Contractual arrangements – original approach

- Contract : concessionaire ↔ local authority covering subsidy administration and service provision.
- Guardian of subsidies: DME
- Problems
 - ⊖ DME not in capacity to administer subsidies
 - ⊖ Local authorities not in capacity to deal with contracting and subsidies



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Contractual arrangements – latest approach

- Eskom receives subsidies and disburse them to concessionaires
- Eskom enters into subsidy and concession agreements with concessionaire
- Regulator NER monitors commercially sensitive matters
- Eskom performs all other monitoring (to avoid potential conflict of interest)



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Concession modality

- Original: concessionaires would be given “areas of operation”
- Latest: concessionaires would operate in “permission areas” within larger concession areas where Eskom would provide grid service where viable



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Current status

- Signature of agreement between DME and Eskom (concedante) pending
- Some of the concessionaires are implementing pilot projects funded by external donors
- DME intends to start the programme with a pilot phase supervised by NER
- Expected capital subsidies of US\$320 per SHS



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Lessons learned

- Off-grid concession programme proved much more complex than originally expected
- Elements needed before calling for tenders
 - ☺ extensive consultations with stakeholders
 - ☺ background studies (e.g. needs vs. technologies)
 - ☺ planning (e.g. grid extension vs. stand-alone systems)
 - ☺ regulatory framework
 - ☺ procedures (e.g. selection of tenders, allocation of concession areas, selection of technologies, subsidy administration, contracting, ...)



References of interest

- **Lighting-up South Africa 2000, NER**
<http://www.ner.org.za/publications/lusa/2000.pdf>
- **Electricity Regulatory Journal, NER**
February 2001, <http://www.ner.org.za/publications/erj/feb2001.pdf>
- **The National Electrification Programme, DME**
<http://uccee.org/RETSouthAfrica/NationalElectrificationProgram.pdf>
- **Non-grid Electricity Regulation: Towards Sustainable Rural Development, NER**
<http://uccee.org/RETSouthAfrica/NonGridRegulation.pdf>
- **The Uneven Road for the Non-grid Programme in South Africa**
Energy for Sustainable Development, Vol. V, No. 3, Sep. 2001