



# Department of Energy

## IEP PLANNING REPORT

### WORKSHOP

# Overview of Universal Energy Access Strategy



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# Background

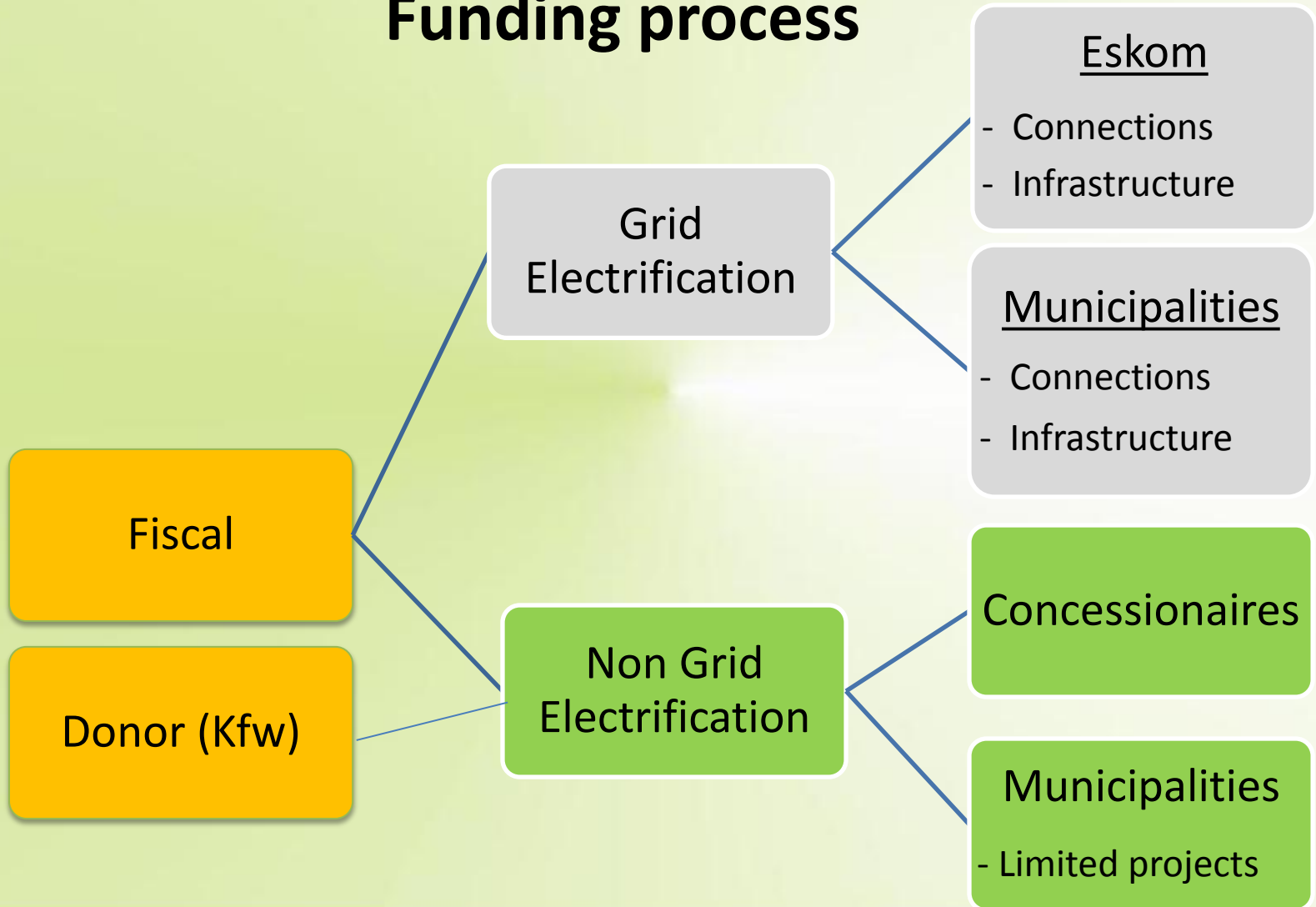
- After 1994 and through the Government's initiative of RDP (Reconstruction and Development Programme) the electrification programme was endorsed.
- In the period 1991 – 2001 electrification was an electricity industry funded programme.
- During 2001 Government took responsibility for funding and managing the electrification programme, via funds made available from National Treasury – as a result of the White Paper on Energy Policy (1998).
- Resulted in the establishment of Integrated National Electrification Planning (INEP) unit within the Department of Energy.



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# Funding process



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# Electrification progress

- Over 5.7 million households were connected to the grid between 1994 and 2013/14.
- In period 2002 to 2013/14 - 65 929 households were supplied with non-grid technology (Solar panels – Renewable Energy)
  - Eastern Cape - 12,282
  - Kwazulu Natal - 44,266
  - Limpopo - 9,381
- Non-grid electrification programmes will in future not only be implemented in concessionary areas, but in a limited basis in other areas in country.

Province	Electrified Houses: Municipalities & Eskom
Eastern Cape	1 023 492
Free State	363 711
Gauteng	677 133
KwaZulu Natal	935 011
Limpopo	991 602
Mpumalanga	545 809
Northern Cape	133 770
North West	659 868
Western Cape	387 576
<b>Total</b>	<b>5 732 777</b>



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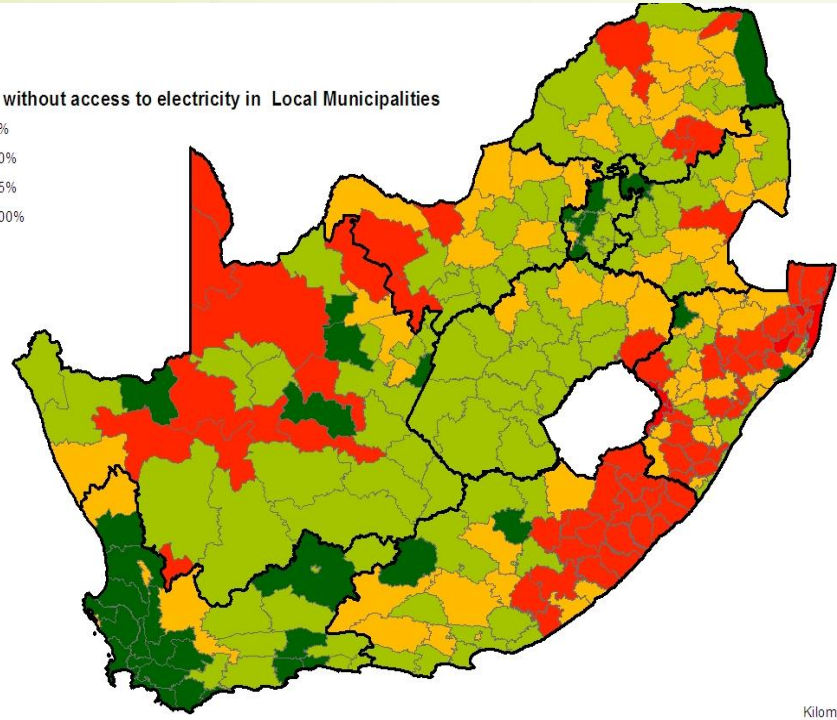
# Access - 1996



## Legend

Household without access to electricity in Local Municipalities

- 0% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%



Source: STATSSA, 1996  
 Compiler: DBSA, Information Unit

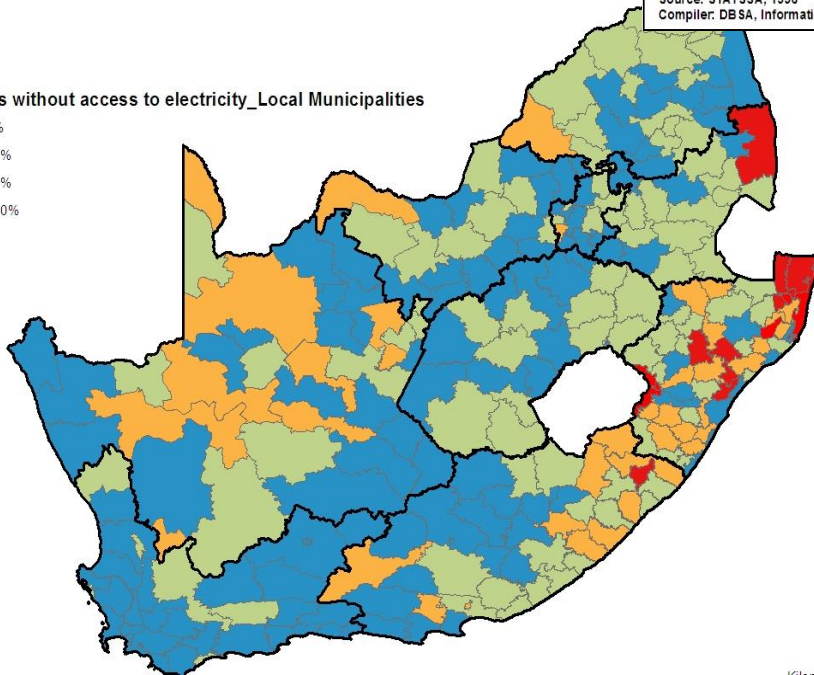
0 250  
 Kilometres

## PERCENTAGE OF HOUSEHOLDS WITHOUT ACCESS TO ELECTRICITY:

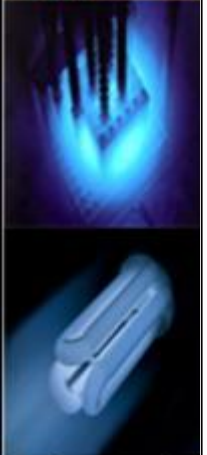
## Legend

Households without access to electricity\_Local Municipalities

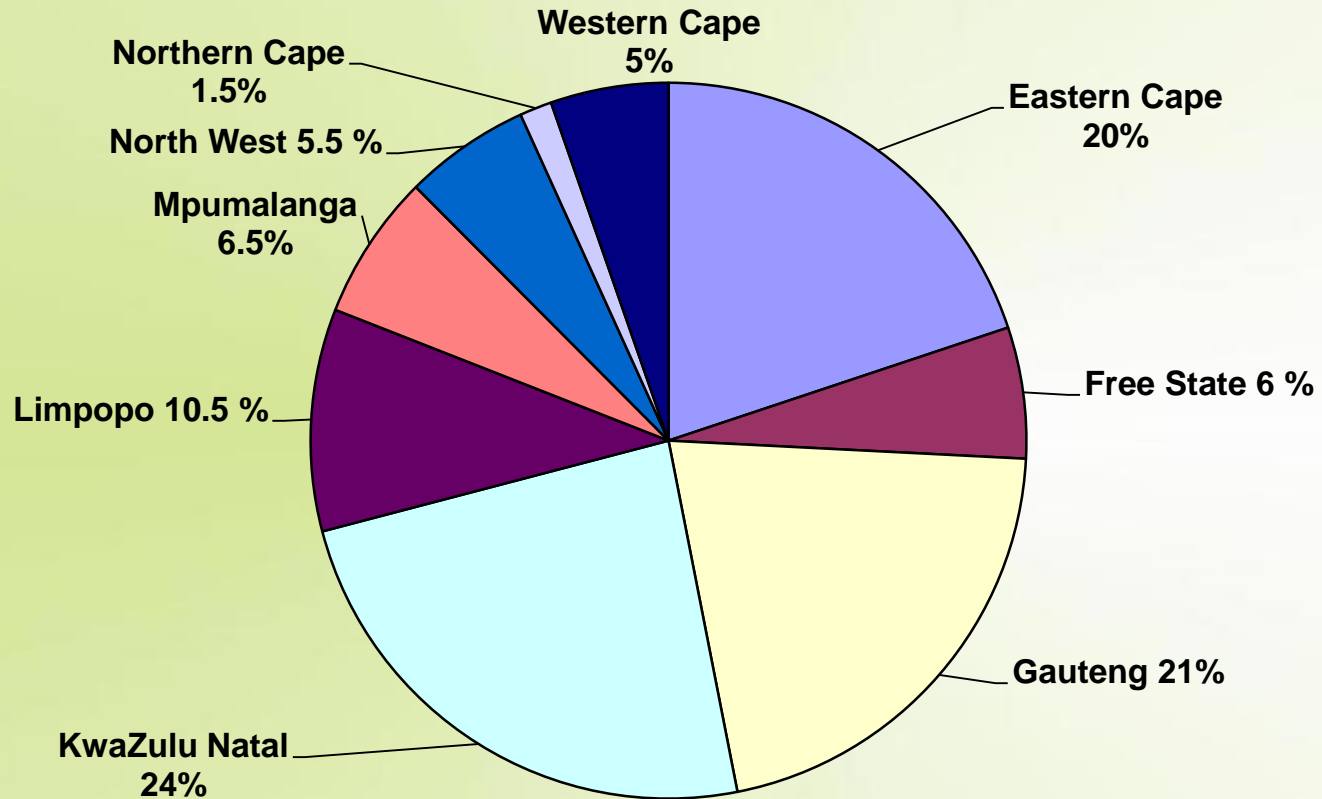
- 0% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%



# Access - 2012



# Universal access background



- Households without electricity: ~3.2 million (Informal 1.2 mil and formal 2 mil)
- 75 % in Eskom supply area and 25% in municipalities supply area.



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# INEP PERFORMANCE (12/13)

Entity	MTEF Allocations	Connections INEP (including roll-overs)	Connections Own funding	Total Connections
<b>Eskom (bn)</b>	R 1,879 368	121 041	21 831	142 872
<b>Munics (bn)</b>	R 1,151 443	50 620		50 620
<b>Non-grid (mil)</b>	R 86 400	9 343		9 343
<b>Total</b>	<b>R 3,117,211</b>	<b>181 004</b>	<b>21 831</b>	<b>202 835</b>

- ✓ Target of 180 000 was exceeded
- ✓ Improved efficiencies as a result of being more involved in the operational activities of implementers.



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# Universal access background

- INEP established in 2001/02 - address backlogs of households in line with Energy White Paper (1998) recommendations.
- Newly built households to be electrified by the restructured Electricity Distribution Industry (EDI) - due to serious inefficiencies in the EDI over the last 10 years, INEP had to address not only backlogs, but also newly built houses and informal households.
- Not only connections had to be funded, but also 'back bone' network infrastructure.
- In addition to the above challenges, escalating electrification costs and limited funding, as well as the high growth rate of houses (formal and informal), resulted in a serious threat to reach universal access in the country.
- Despite its successes to date, the electrification programme will fall short in meeting its target of electrifying 92% of formal households by 2014, as defined as backlogs in 2001/02.



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# Universal access background (cont.)

- If universal access to electricity by 2014 is not practical, what is the most effective and realistic timeframe to reach universal access, given the various challenges in the electricity industry, raising cost of electrification, etc.?
- Hence a new approach to electrification is required - New Electrification Roadmap (Implementation plan) for South Africa was developed.
- In 2011 DoE started with a new initiative where all the relevant stakeholders were invited to participate and agreed on the need for a new Electrification Roadmap.
- To improve the rate of electrification the following basic elements are required:
  - Work from a common implementation plan
  - Improve the efficiency of implementers
  - Additional funding
  - Utilizing different technologies to define access to energy

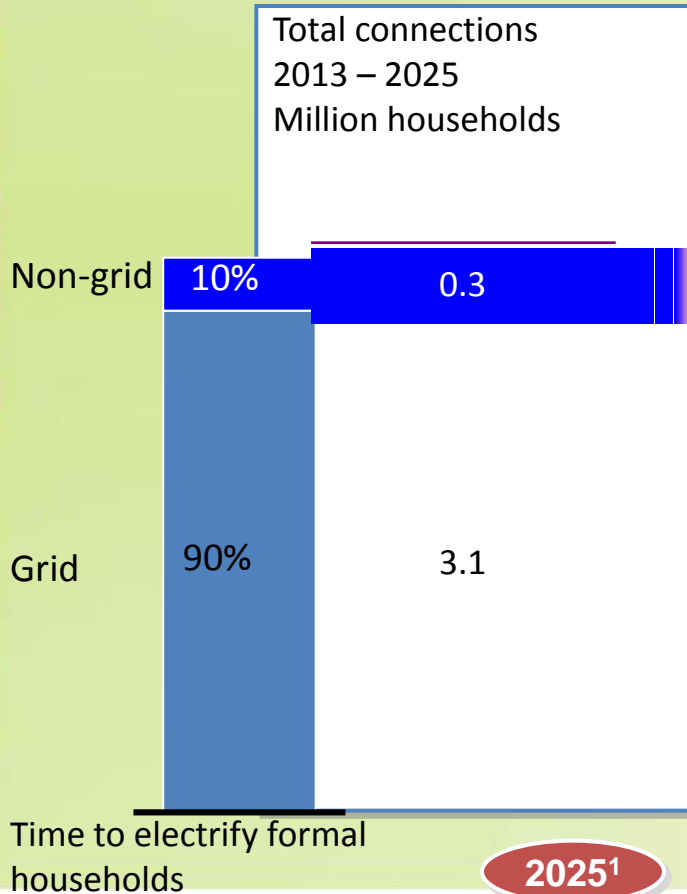


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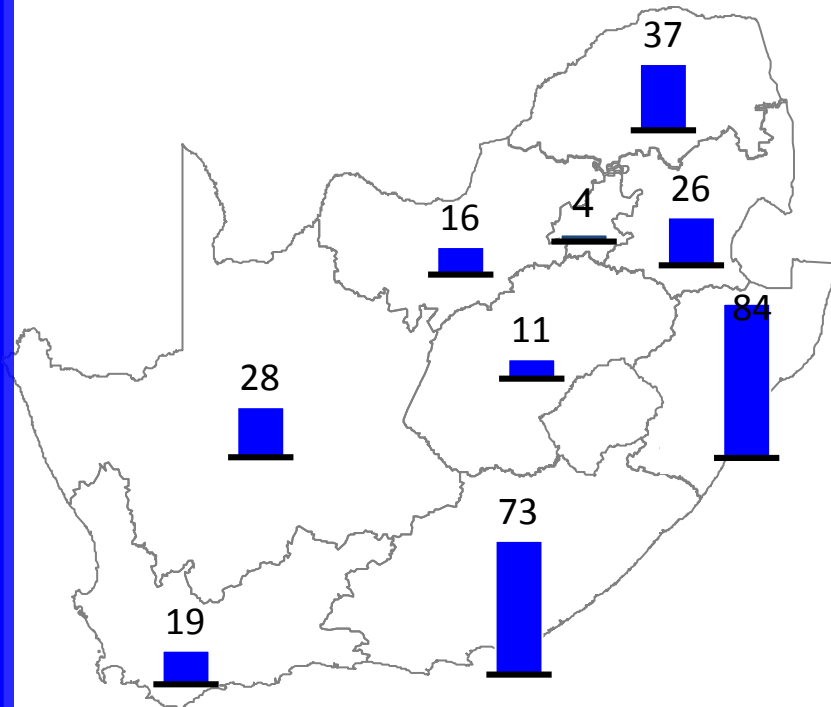
# Using these rules, it is expected to deploy around 300,000 solar home systems and reach universal access for formal households in 2025

## South Africa



## Provincial non-grid potential

### Thousand households



The highest potential for Non-grid is in KZN and Eastern Cape

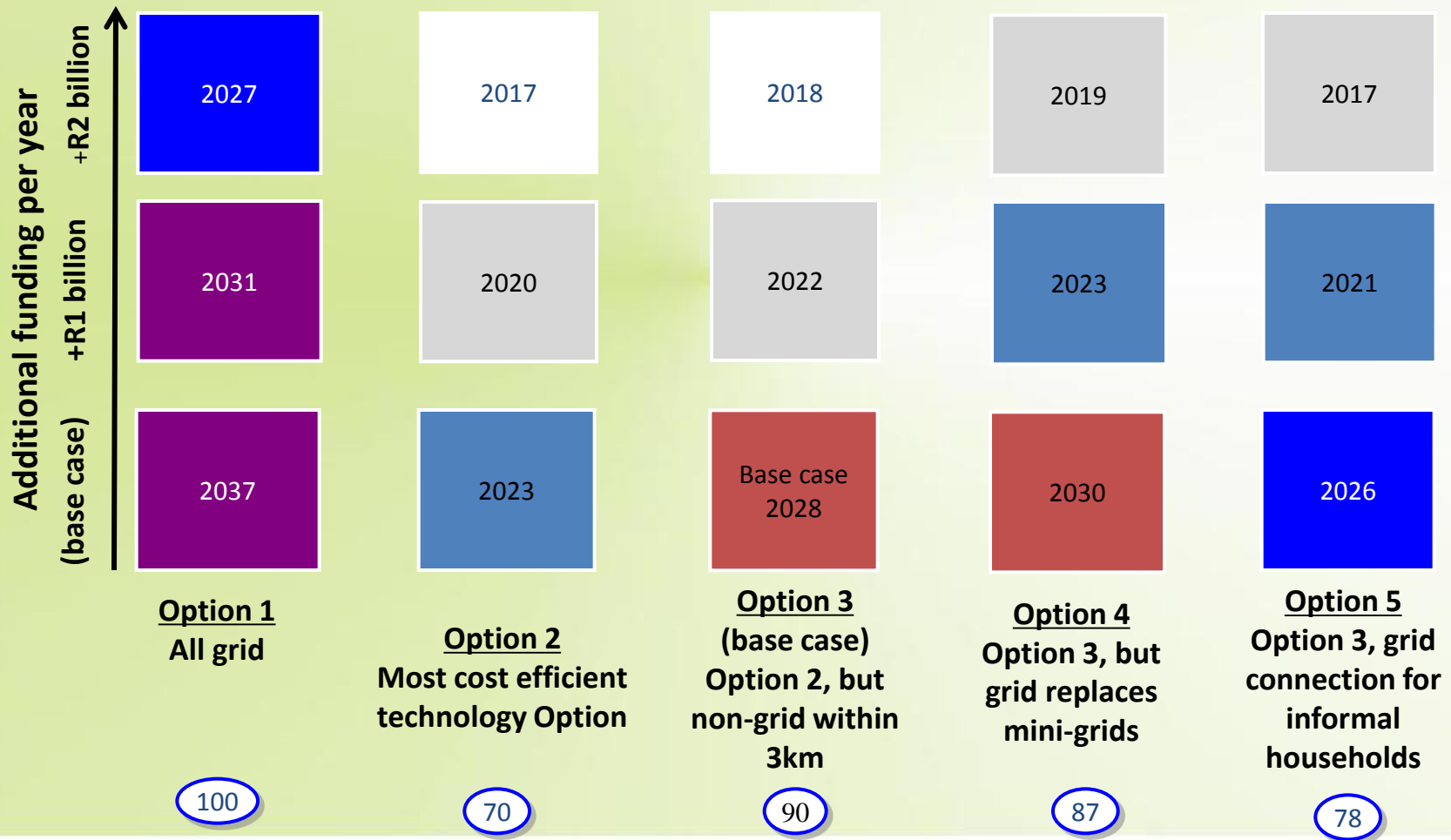
<sup>1</sup> Assumes existing INEP annual funding and DoHS contribution of R2,000 per household for new RDP houses (40,000 houses per annum); assumes total of 50,000 new formal households per year from DoHS formalization process

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# Universal Access is function of Electrification Technology options and funding



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Technology mix

 % of current un-electrified formal households to be connected to the grid

# New Households Electrification Strategy

The **Cabinet Approved (26 June 2013)** the implementing of the new Household Electrification Strategy based on the following focus areas:

- a) The defining of universal access as 97% of households, as full electrification is unlikely to be possible due to growth and delays in the process of formalising informal settlements;
- b) The electrification of about 90% of households through grid connection and the rest with high-quality non-grid solar home systems or other possible technologies based on cost effective options in order to address current and future backlogs;
- c) The development of a master plan to increase efficiency in planning and the delivery process to ensure more connections, including a workshop on the Plan to which all members of Cabinet would be invited to; and

The consideration of the proposed delivery targets, taking into consideration views with regard to-

- i. the proposed change to the delivery dates for universal access from 2014 to 2025
- ii. the concern that the new proposed target of 250 000 households will contribute to the backlog with regard to the targets set by the Presidential Infrastructure Coordinating Commission (PICC); and
- iii. funding provided by the National Treasury to speed up connections



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# Electrification observations

Following observations regarding electrification projects:

- Electrification is not only an electricity industry challenge – it is a social challenge;
- Every new research/technology break-through will automatically result in resolving electrification mass roll-out implementation problems – challenge not technology but whole value chain of electricity industry need to functioning in harmony;
- Pilot projects will solve electrification problems - very few pilot projects are successful;
- Electrification does not make commercial sense – at the most it can be a break even venture:
- Recover connection costs via tariffs - consumption levels of rural costumers so low that it is impossible to recover capital and operations cost from the tariffs alone;
- In most instances not even possible to recover operation costs to supply a rural customer;



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# Way forward

If universal access to electricity is to be reached by 2025, the following is needed:

- Adequate funding for capital projects, management of INEP programme, skills transfer/Training
- Implementation in line with the Master Plan,
- Need to solve the serious challenges in the EDI - difficult to run an electrification programme where networks requires serious upgrading,
- To solve some serious network constraints – can't roll out connections in some parts of KZN and EC where there are large backlogs,
- More political support for non-grid technologies,
- Good co-operation between National Government and other spheres of government,
- Resources wrt municipalities to be improved, political intervention, long procurement processes, lack of responsibility and accountability, lack of reporting,
- DOE is 100% committed to the task of universal access by 2025.
  - Every 70 sec of a workable day in 2012 a new connection was made,
  - In 2013 we want to decrease it to every 60 sec that a new connection is made.



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# Thank you



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