Identifying the Market Barriers and Drivers to Accelerating the Deployment of Solar Thermal Systems in Southern and Eastern Africa

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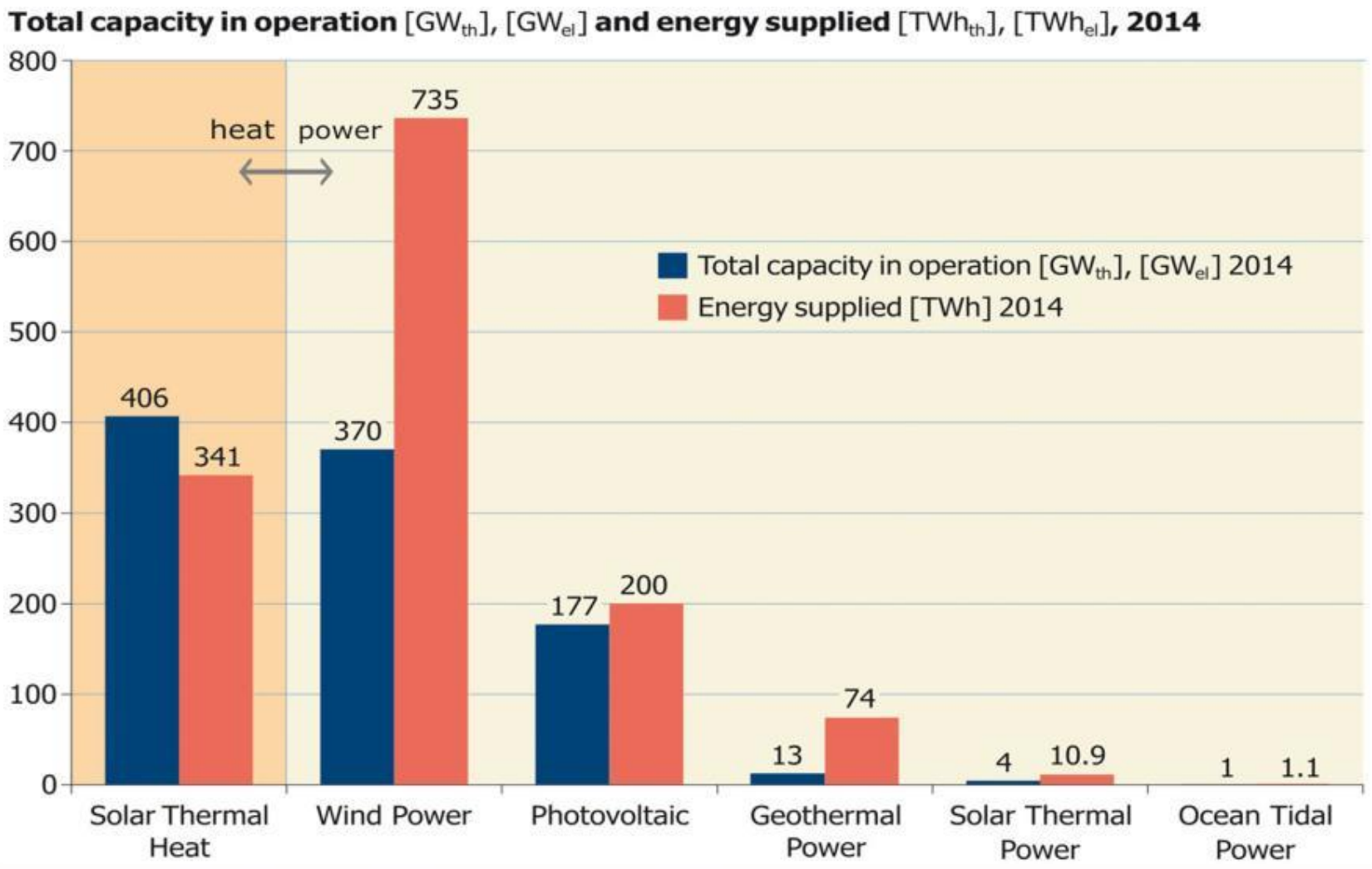
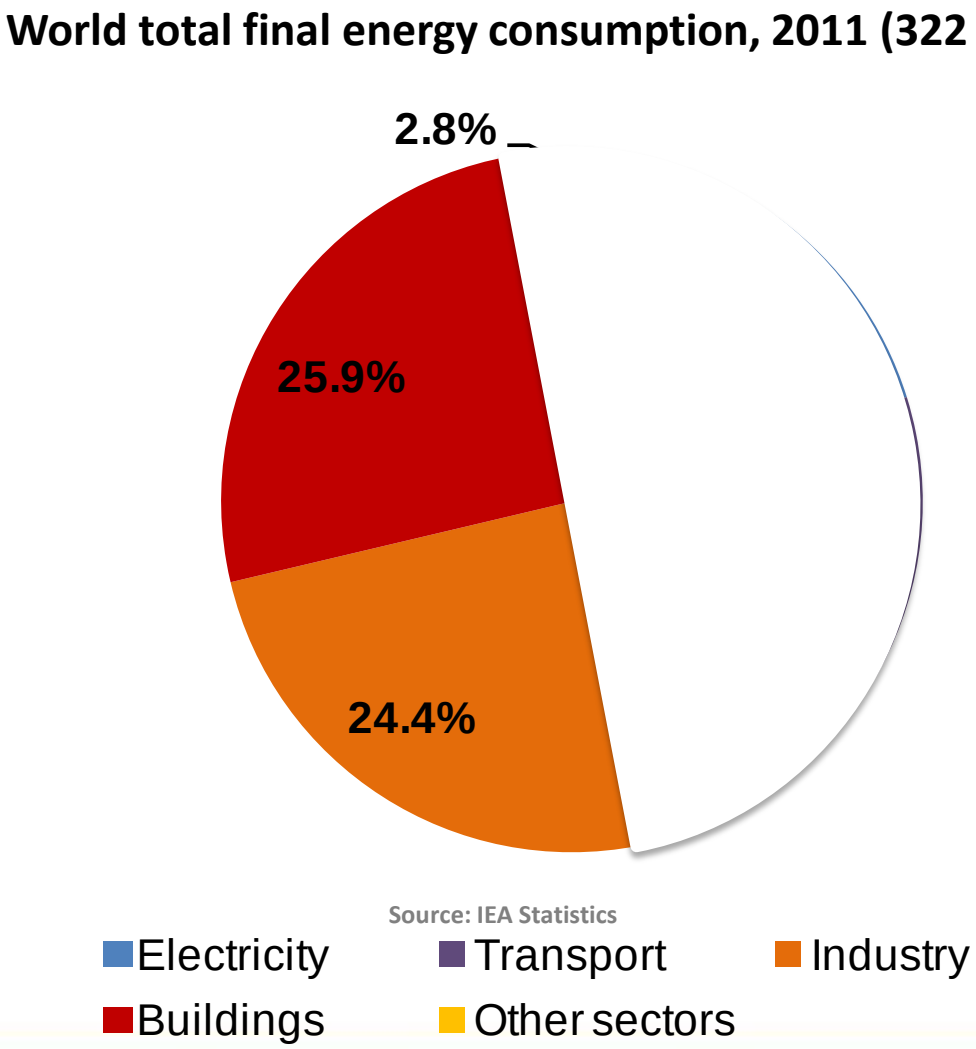
Global Capacity in Operation 2014

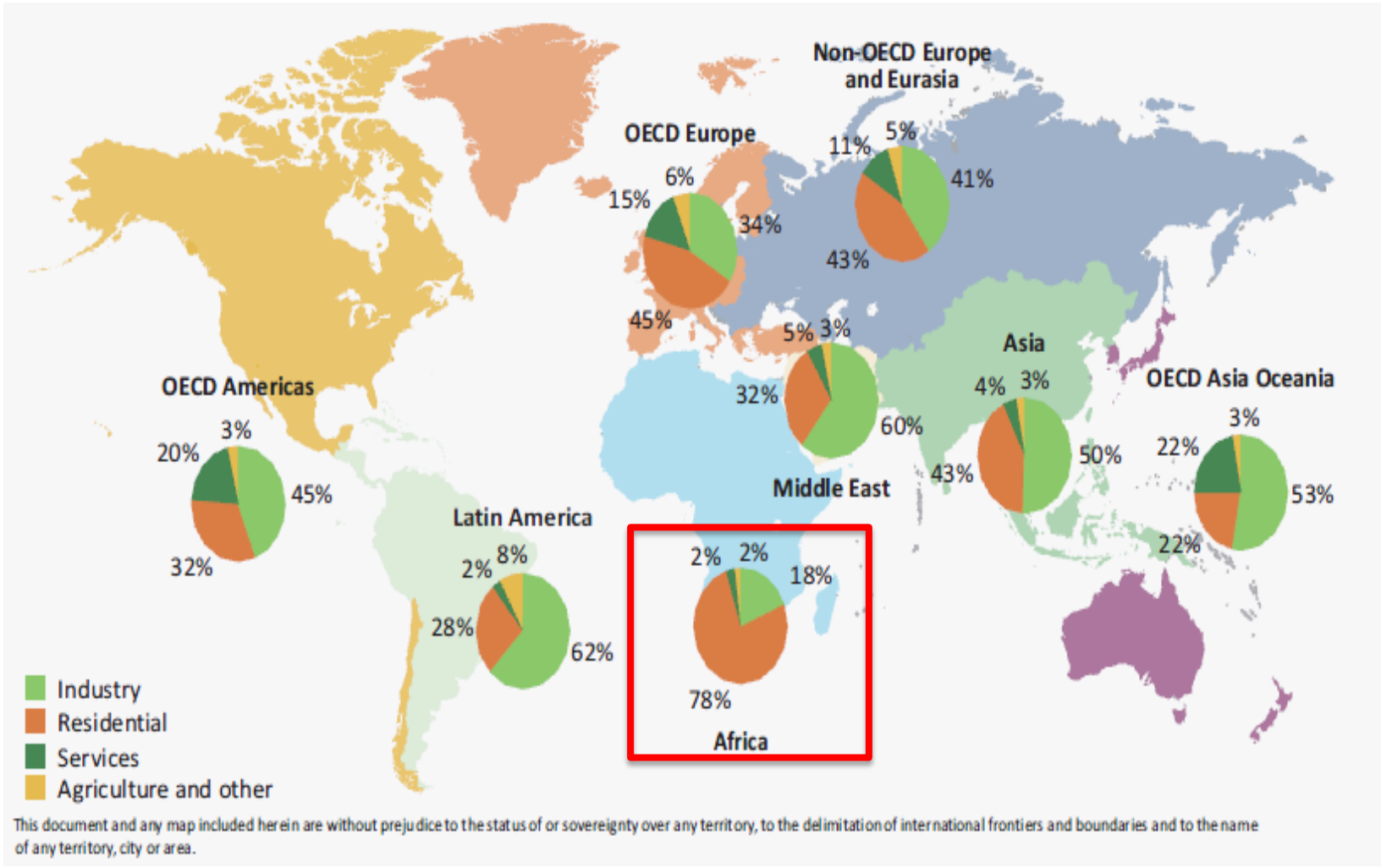


Heat accounts for more than half of world's total final energy consumption today



Source: Paolo Frankl, IEA, Paris

Heat plays important role worldwide



Note: Figure based on 2009 data

Source: Energy Technology **Perspectives** 2012

Source: IEA Technology Roadmap – Solar Heating & Cooling

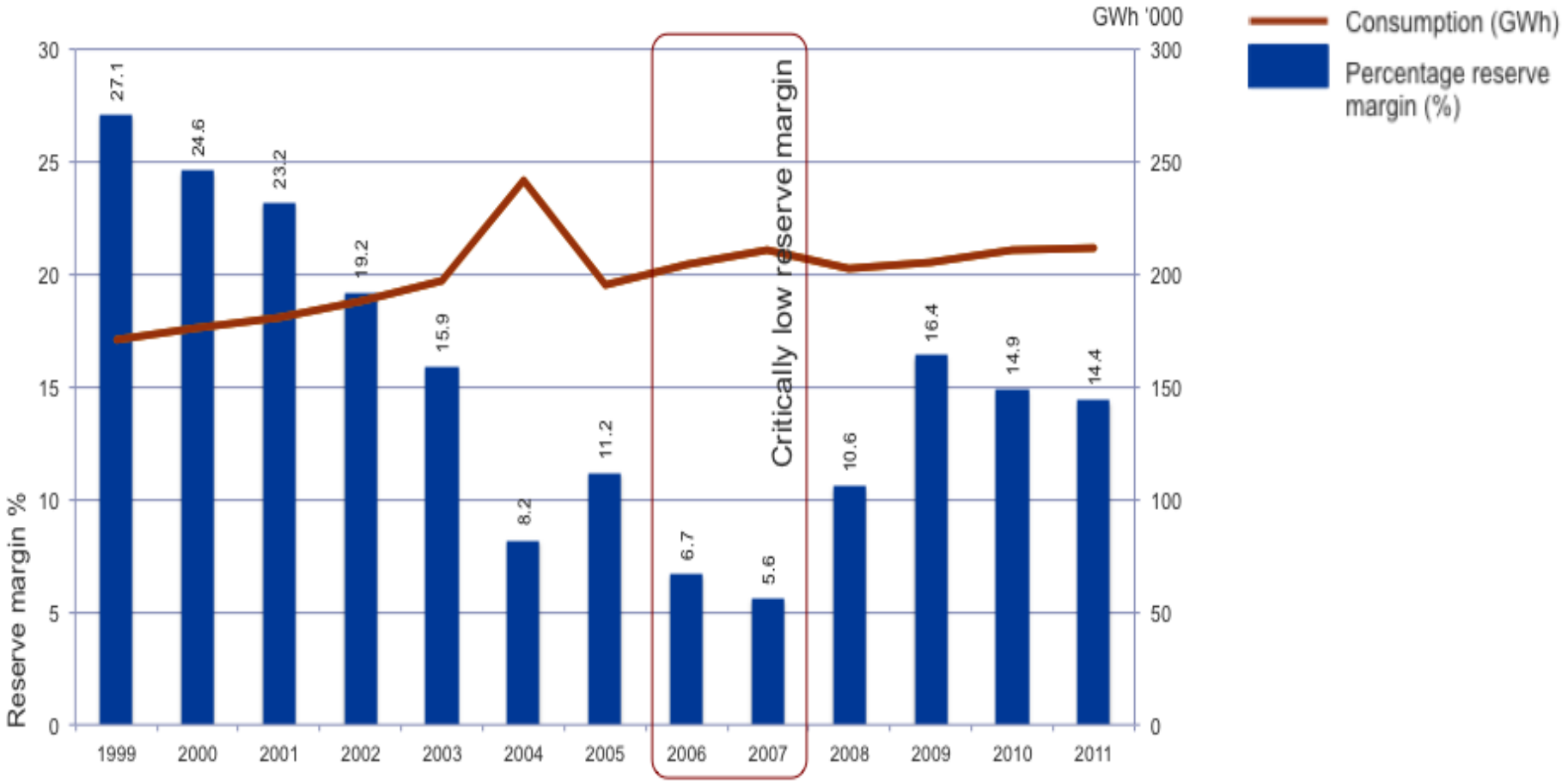
South Africa's Electricity Production

Reserve Margin – Electricity Production

Source: Wood Mackenzie (installed capacity), NERSA (peak demand), Eskom
**including data for 2015 year-to-date*

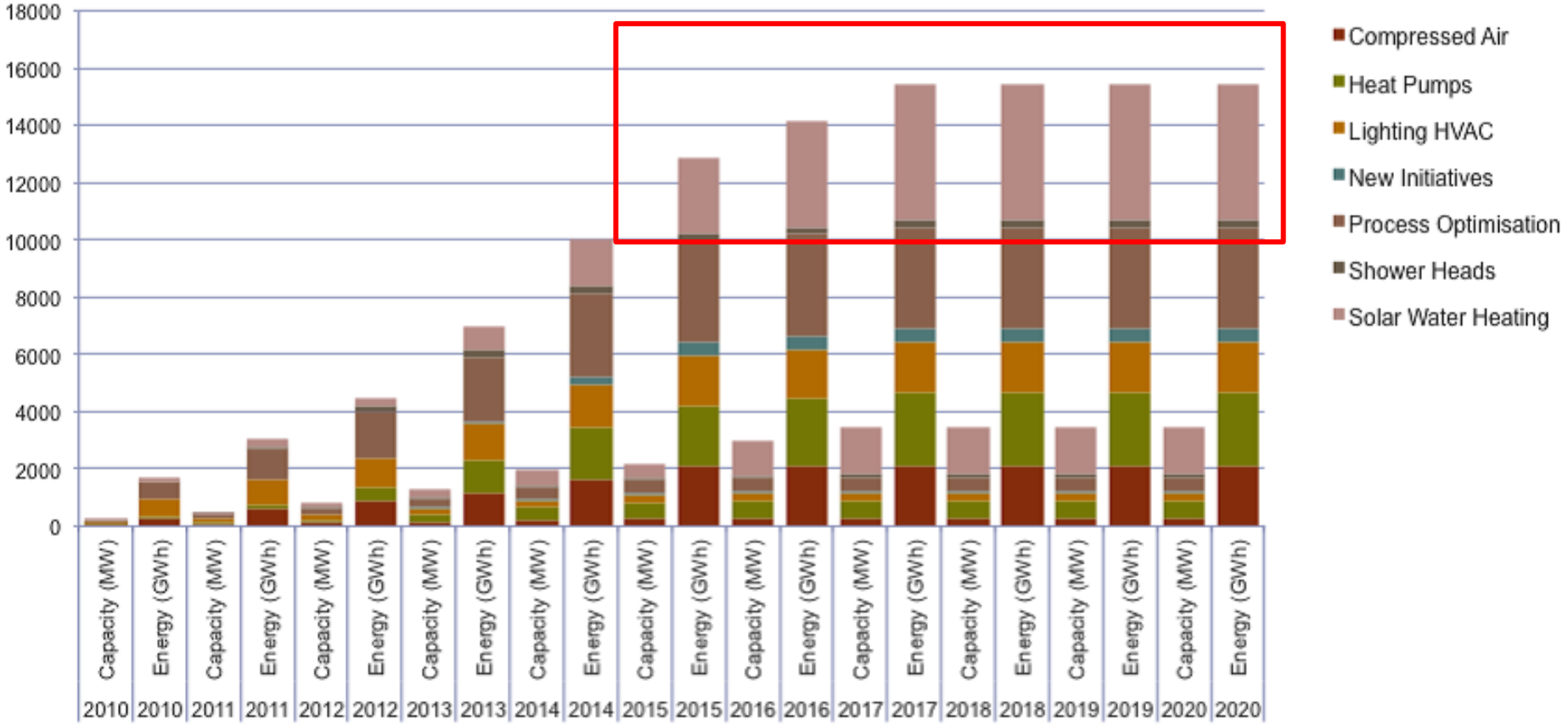
Source: ISGAN Case Book

Reserve Margin – Electricity Production



Source: ISGAN Case Book

The anticipated contribution from IDM interventions to the national electricity plan

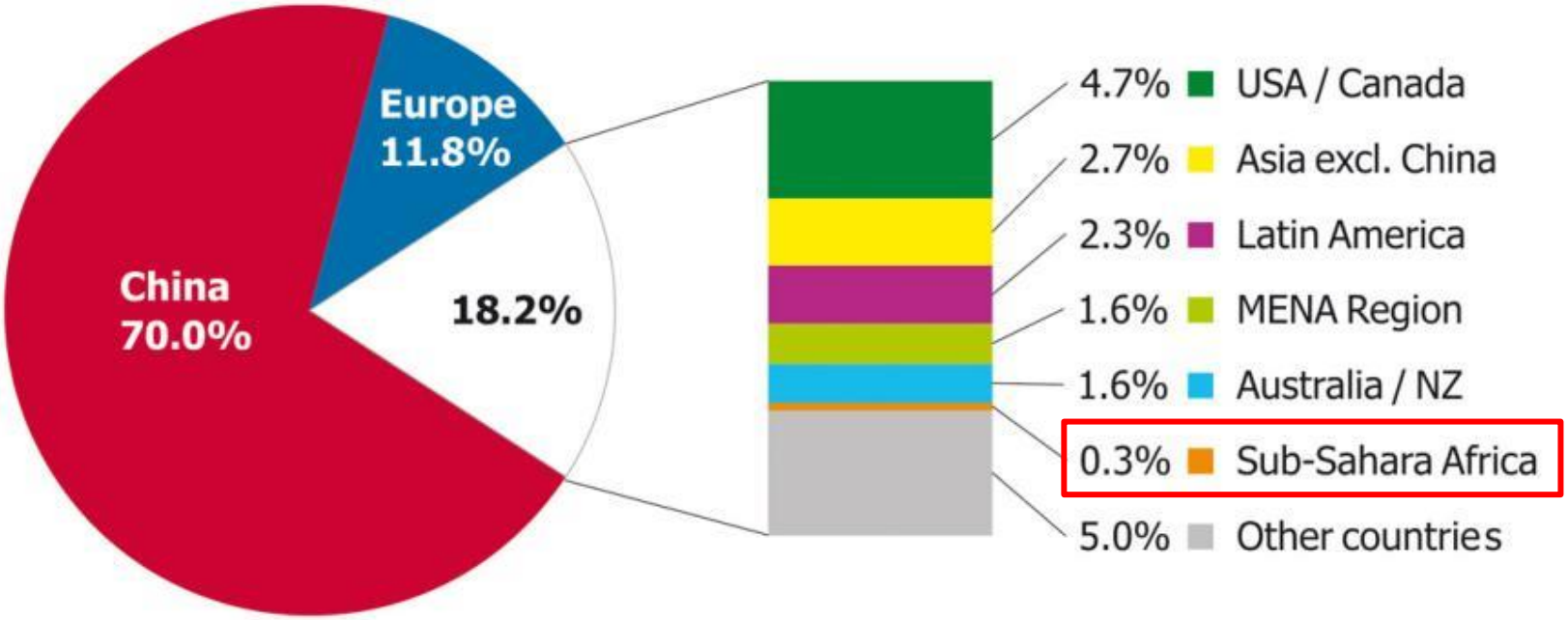


IDM = Integrated Demand Management Programme launched by ESCOM 2004

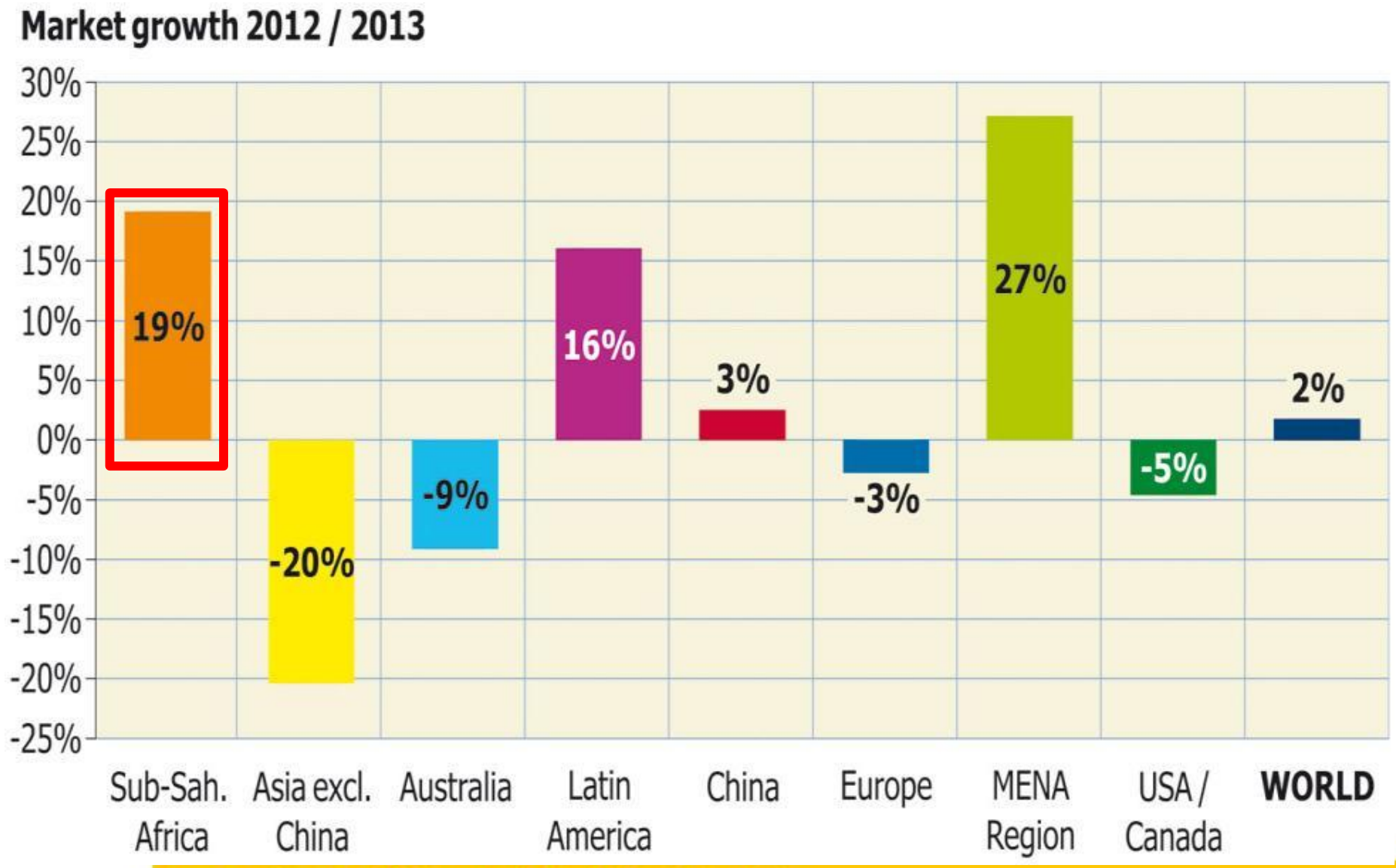
Source: ISGAN Case Book

Solar Resource in Southern and Eastern Africa

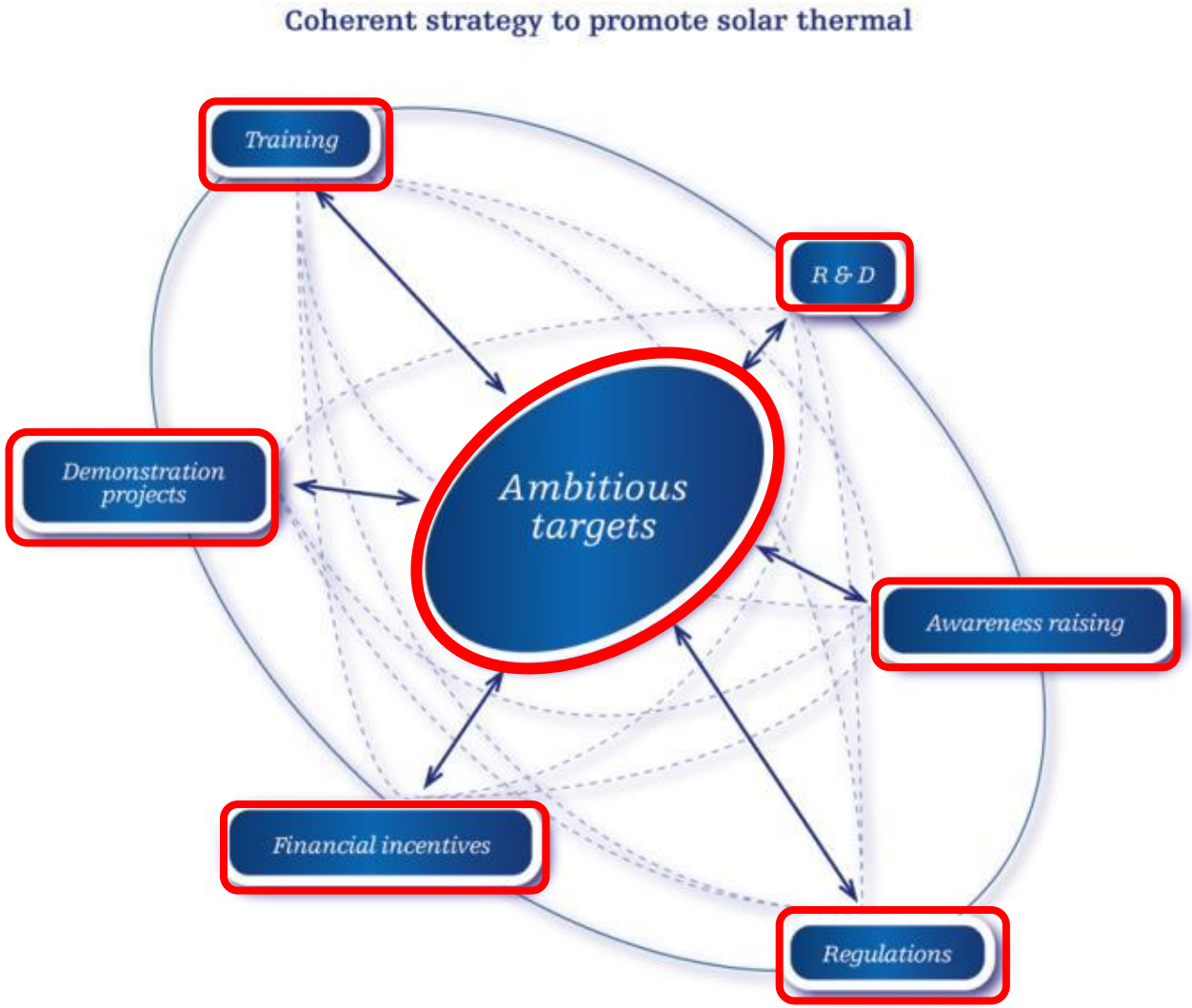
Global Solar Thermal Capacity
in Operation 2013



Market Growth



Measures for a successful deployment



Source: ESTIF

South African
1 Million Solar Water Heater Program

Up to now: Installation of 350,000 – 400,000 systems

Possible Improvements:

- Monitoring of the success (nb. of installations)
- Quality control
- Training of installers

Barriers to Implementation

Smart implementation of Solar Thermal Programs can play an important role in providing the energy needs of a country and can do so at a comparatively low cost. It furthermore presents an opportunity to create and protect employment and contribute to the environmental aspirations of the country.

Barriers to implementation

- required upfront capital investment
- long payback periods
- low levels of awareness and
- low confidence in projected energy and cost savings that will be achieved

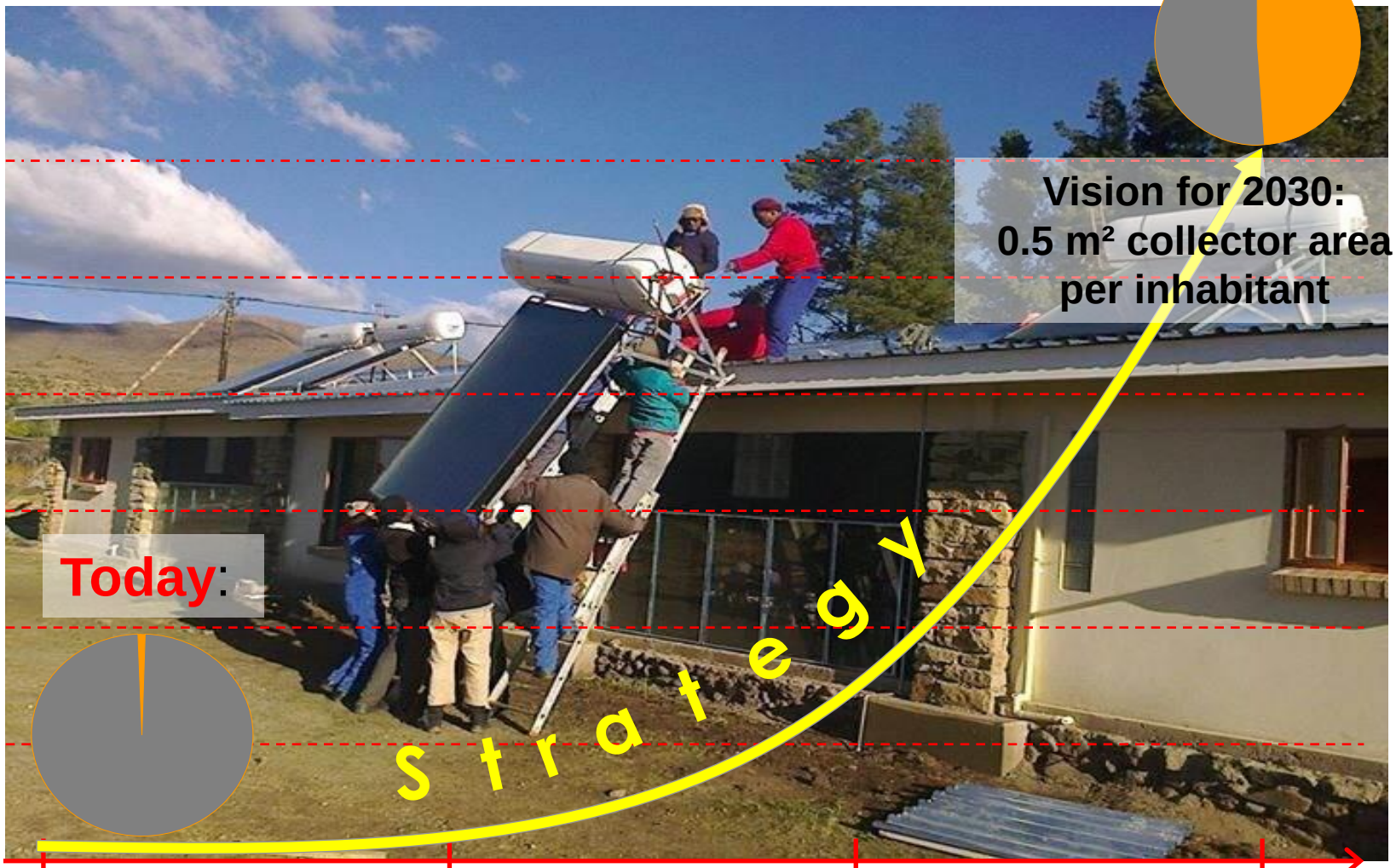
The most critical mitigation of barriers is a policy, regulatory and funding framework that promotes and supports solar thermal implementation and creates an appropriate and stable enabling environment.

A range of funding models, effective pricing structures and levels, channels to market and technology options assist to make incentives accessible to more consumers.

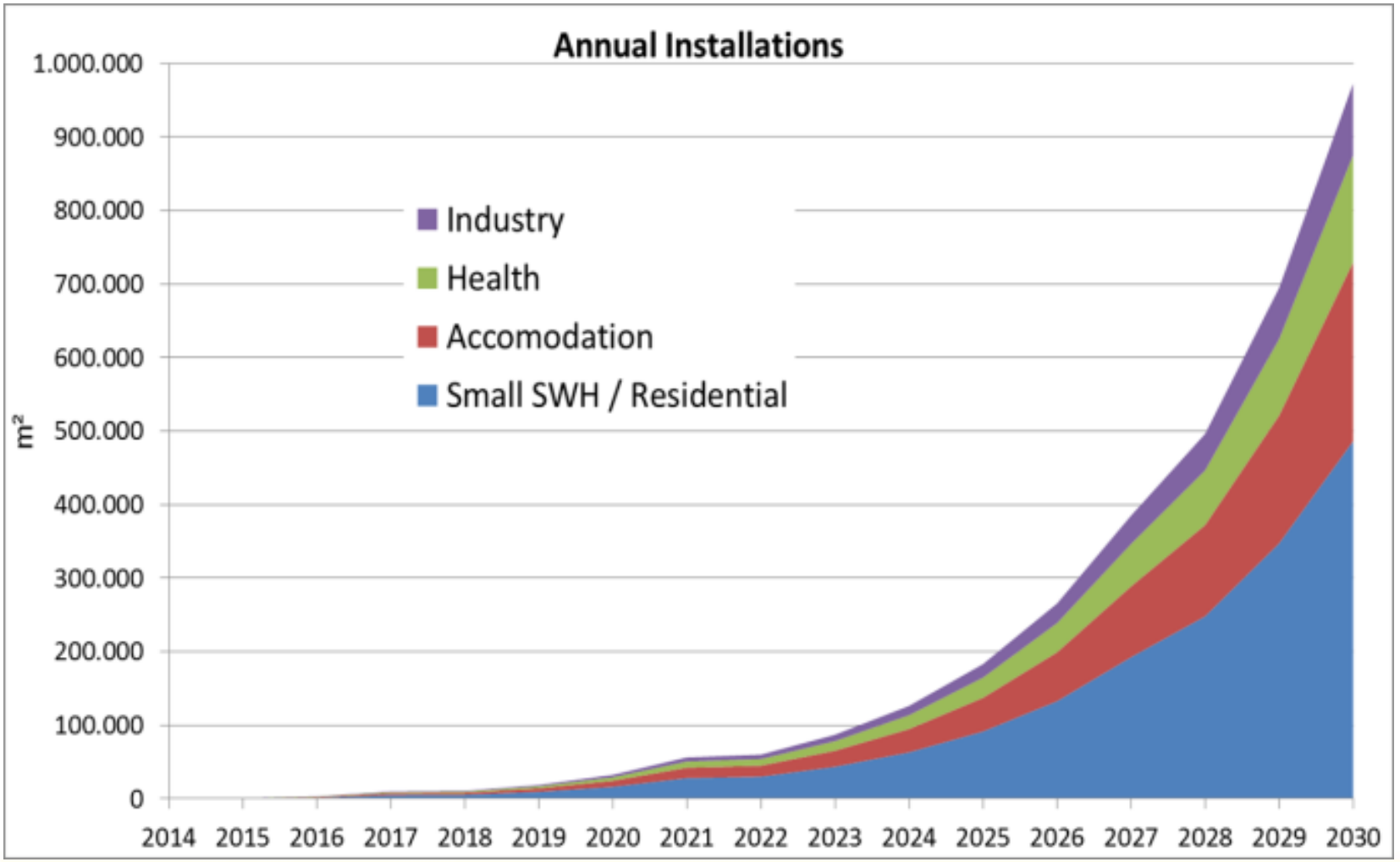
Effective communication is another critical aspect of successful implementation.

Solar Thermal Technology Roadmaps

Roadmap - Strategy for growth



Solar Thermal Technology Roadmaps



SAIREC 2015
South African International Renewable Energy Conference

SAIREC Side Event

SOLTRAIN

Results of the Southern African Solar Thermal Training and Demonstration Initiative

AUSTRIAN DEVELOPMENT AGENCY

Awareness Campaigns

Organized 22 stakeholder meetings with 680 participants
Participation at 21 trade fairs and exhibitions

Training Systems for Universities and VTCs

Test Centre at Stellenbosch University

Training Rig on Trailers

Demonstration Projects

Demonstration Projects

Company Support for Local Production