

Building capacity in economic regulation and the promotion of public benefits in the electricity sector in Africa

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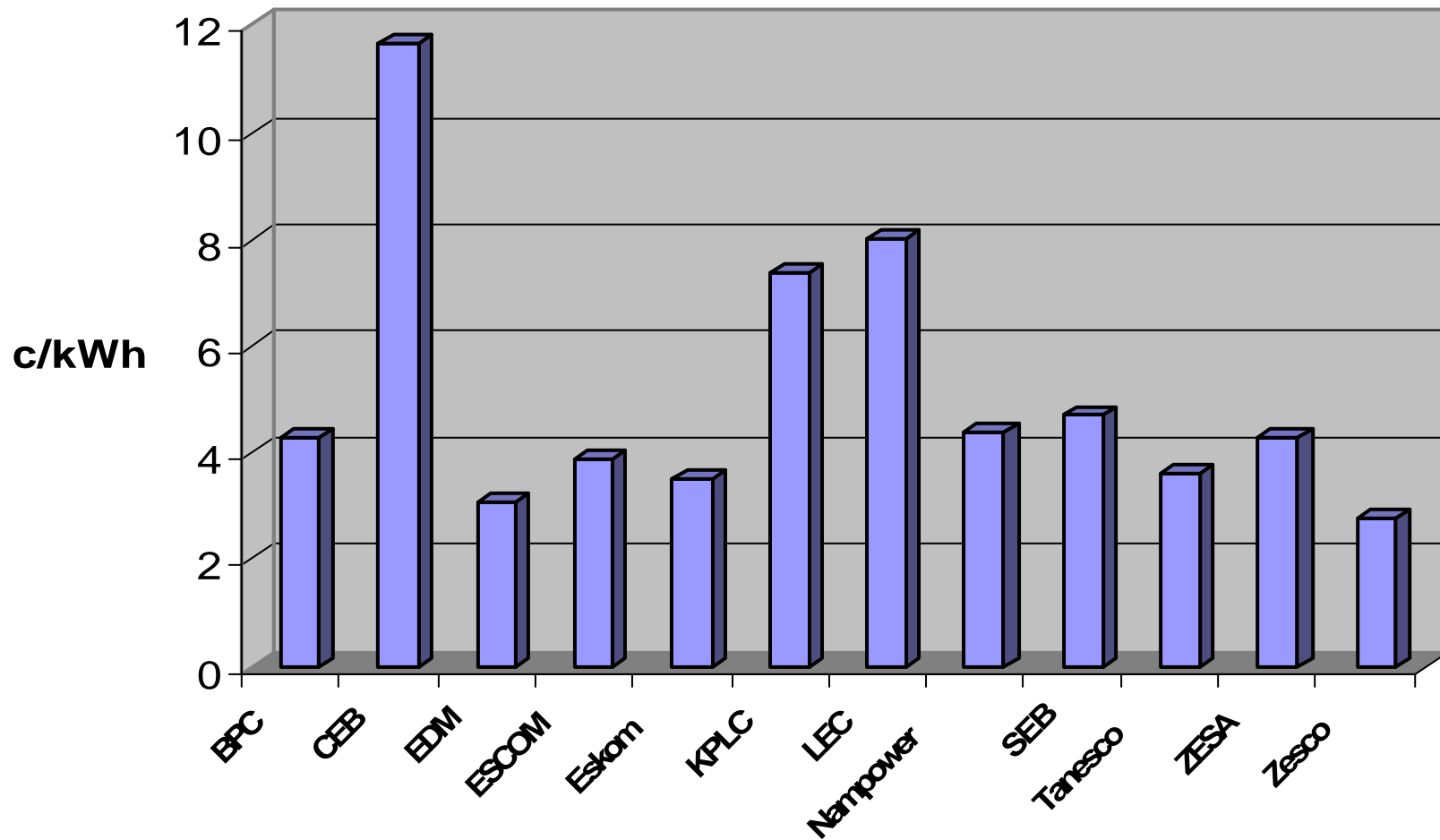
The challenge

- Reform has begun in most countries and most are establishing independent regulators
- New legislation
- Little prior experience in economic regulation
- Need to protect and advance public benefits
- Huge challenge
 - Managing the reform process so that goals are achieved
 - Creating new institutions
 - Maintaining independence
 - Developing capacity
 - Developing methodological frameworks and practice

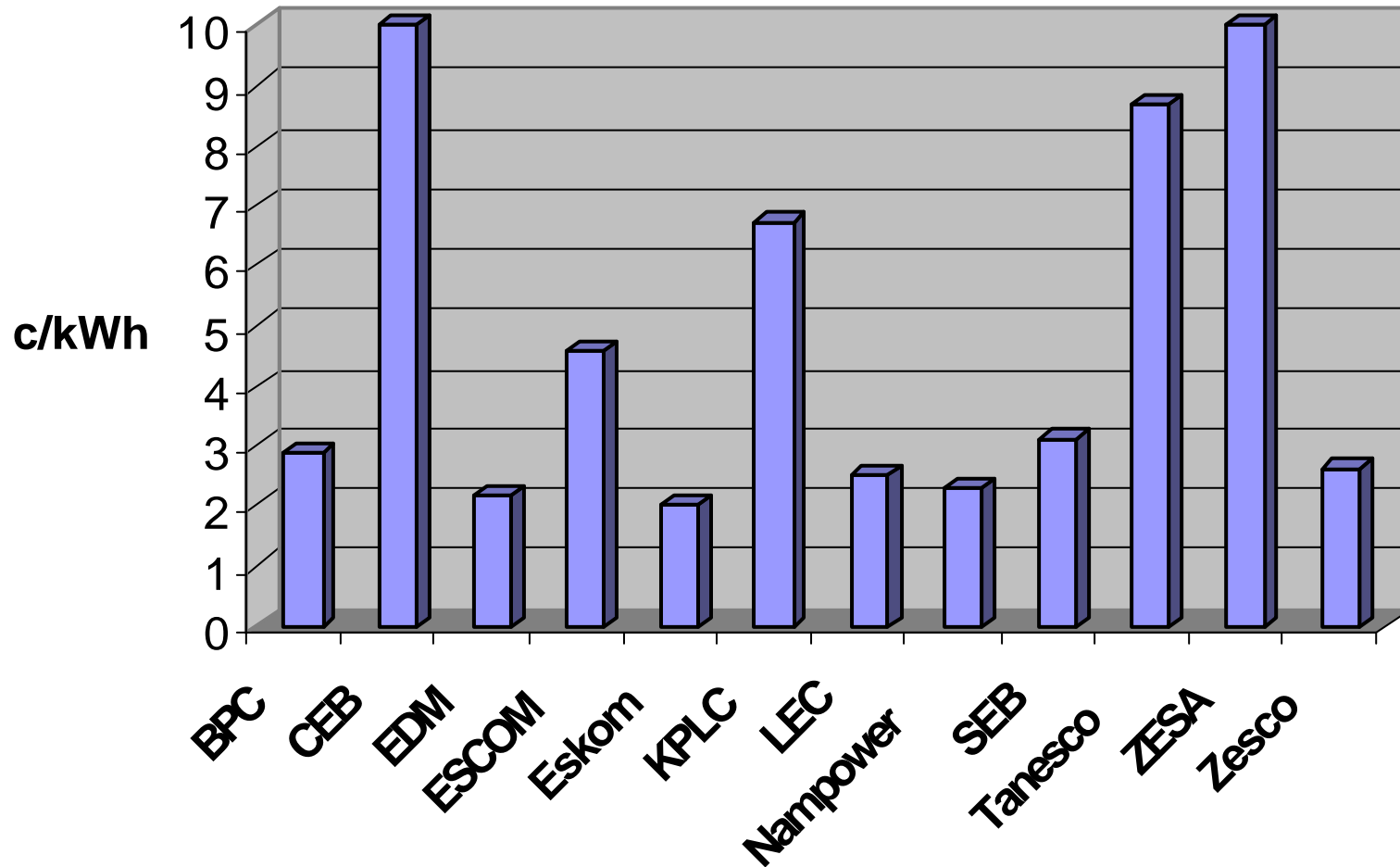
Focus of this presentation

- Need to build regulatory capacity in:
 - economic regulation / tariff setting
 - support for the reform process
 - advancing public benefits
- Suggested guidelines for establishing a regional training programme

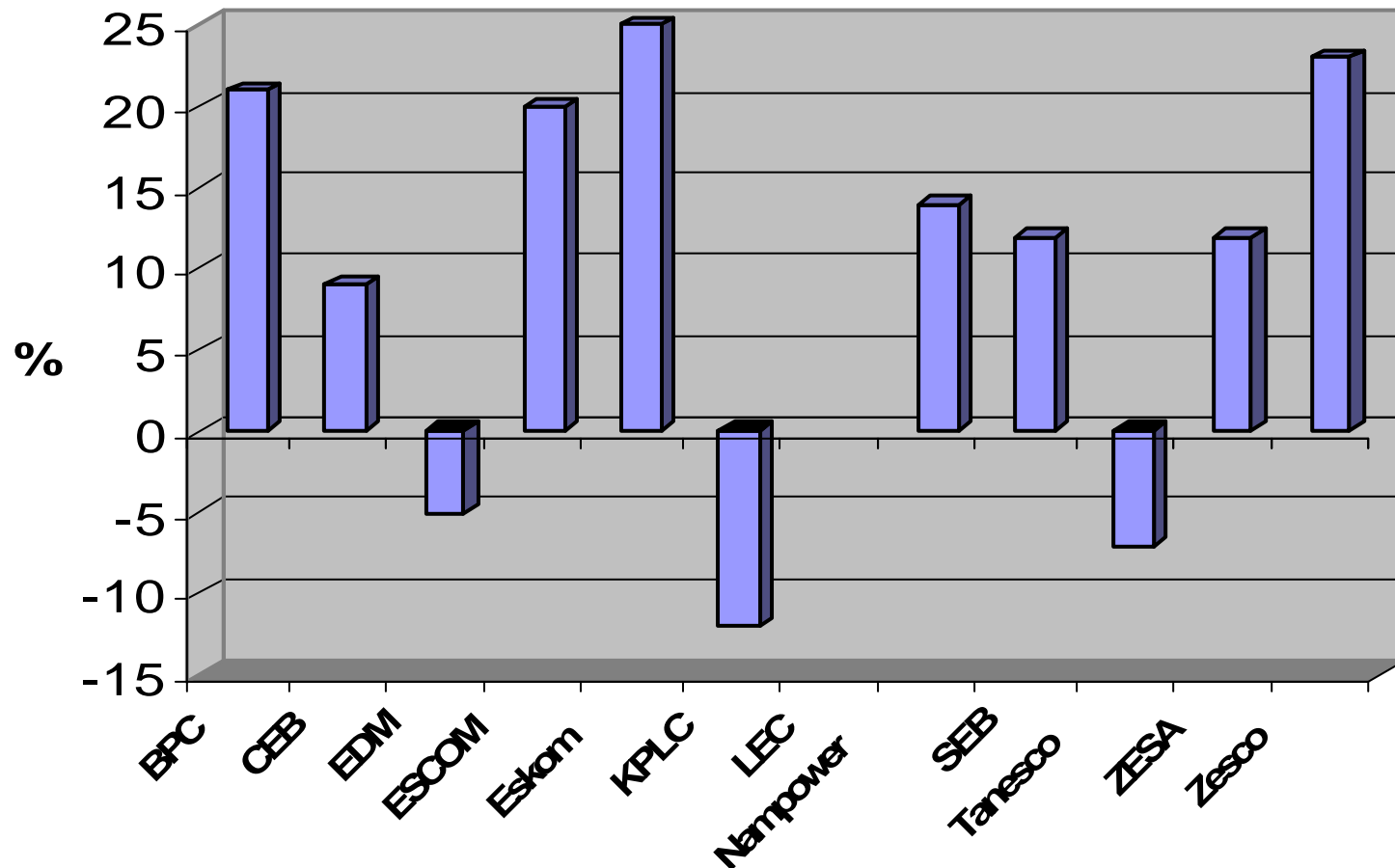
Electricity prices for domestic consumers (200kWh/month) in Southern Africa



Electricity prices for large industrial users in Southern Africa



Operating margins of utilities in Southern Africa



Economic regulation

- From political (command-and-control) tariff setting to transparent economic regulatory methodologies
- Rate-of-return, price-cap, revenue-cap, bench-marking, yardstick, franchise regulation
- Need to first establish economic tariff levels – and then establish efficiency incentives

Economic regulation

- Capacity in RoR regulation?

$$P \times Q = (B \times r + E + d + T)$$

$$\text{WACC: } r = \{E/(D+E)\} * K_e + \{D/(D+E)\} * K_d * (1-T)$$

$$\text{CAPM: } K_e = [R_f (1-t_c)] + [\beta \times (R_m - R_f (1-t_c))]$$

- Industry context for price-cap

$$P = RPI - X$$

Multiple responsibilities of regulators

- **Economic regulation** of monopoly components
 - Economic regulatory tools
 - Incentives for improved efficiencies
- Market surveillance of competitive components
 - Relationship with Competition Authorities
- Quality of supply
- Dispute resolution
- Market information
- Facilitation of new investment
- **Support for the reform process**
- **Advancing public benefits**

Special role of regulators in supporting reform process

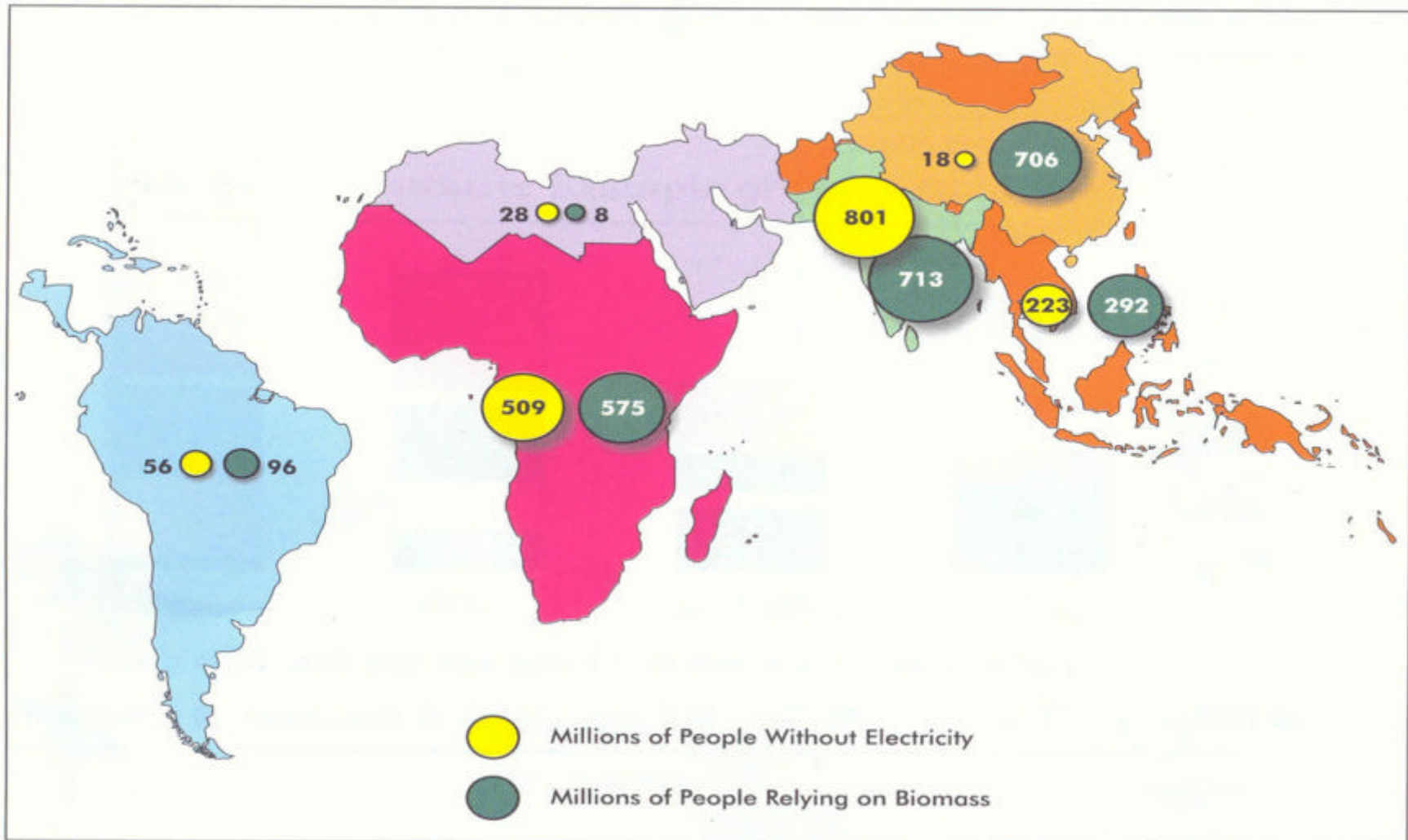
- Capacity in government also needs to be built
- Over time, professional competence and specialist knowledge resides in regulator
- Reform process slow and uncertain, regulator is often forced to intervene and assist in policy development
- Complex relationship with government, needs to be seen to be independent, but also needs to enhance quality of government decisions
- Political skill, relationships

Special role of regulators in advancing public benefit programmes

- Primary role is economic and technical
- But can also ensure social delivery
 - Policy advice to government
 - Connection targets in licences
 - Poverty tariffs
 - Manage a degree of cross-subsidisation, transparently
 - Energy efficiency programmes & renewables
 - R & D
 - IRP

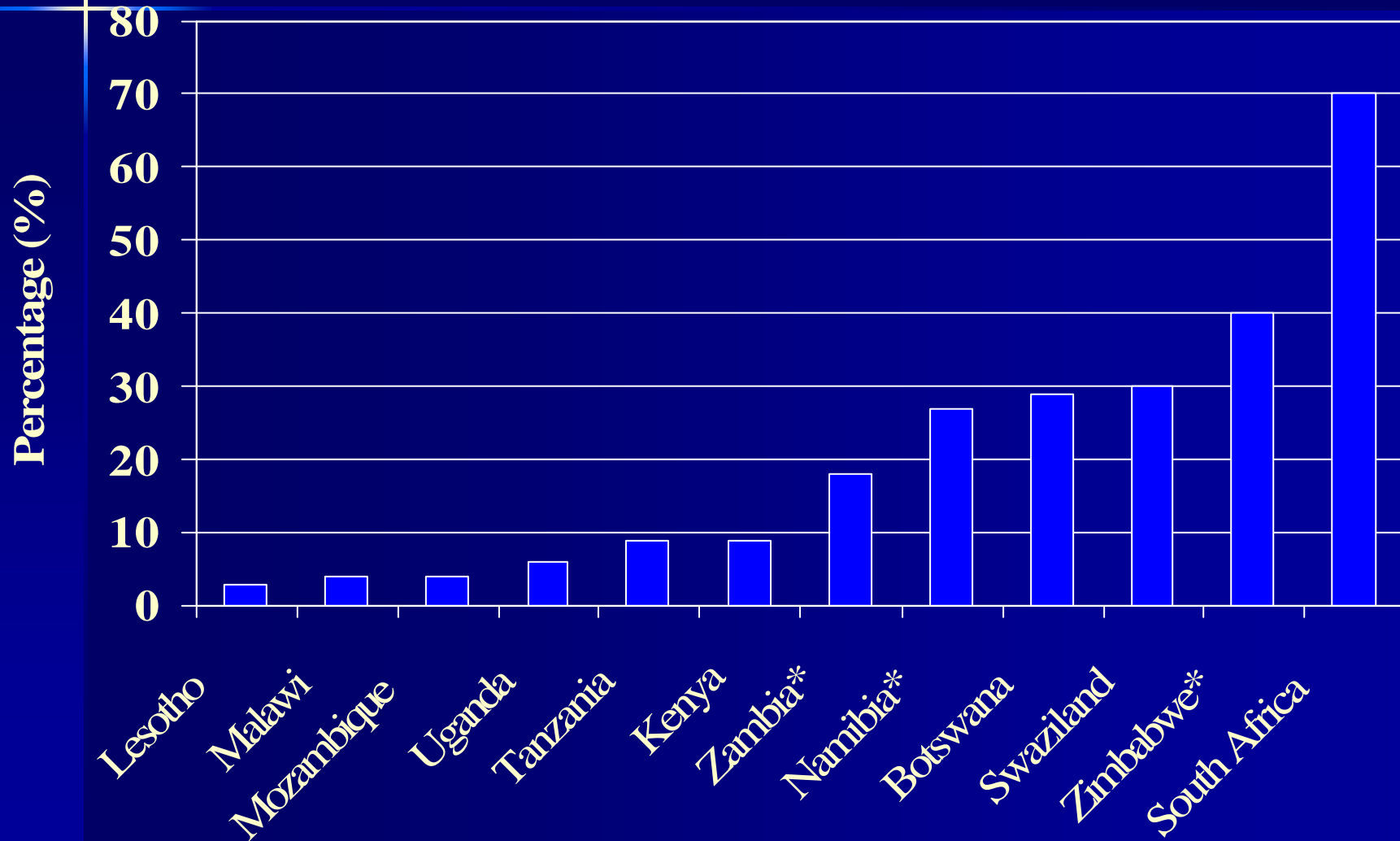
Access to electricity

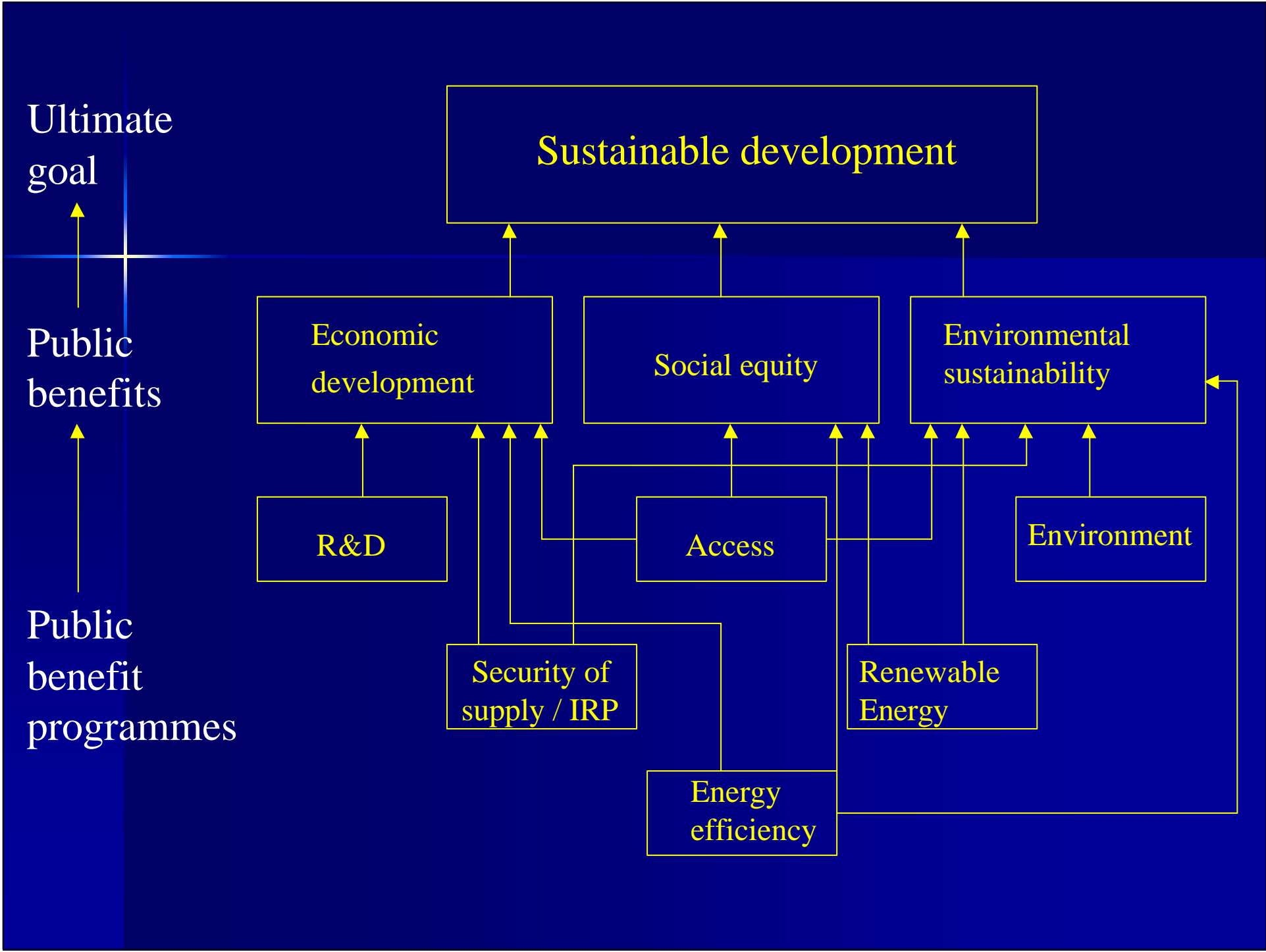
Figure 13.3: Global Energy Poverty



Source: IEA analysis.

Access to electricity

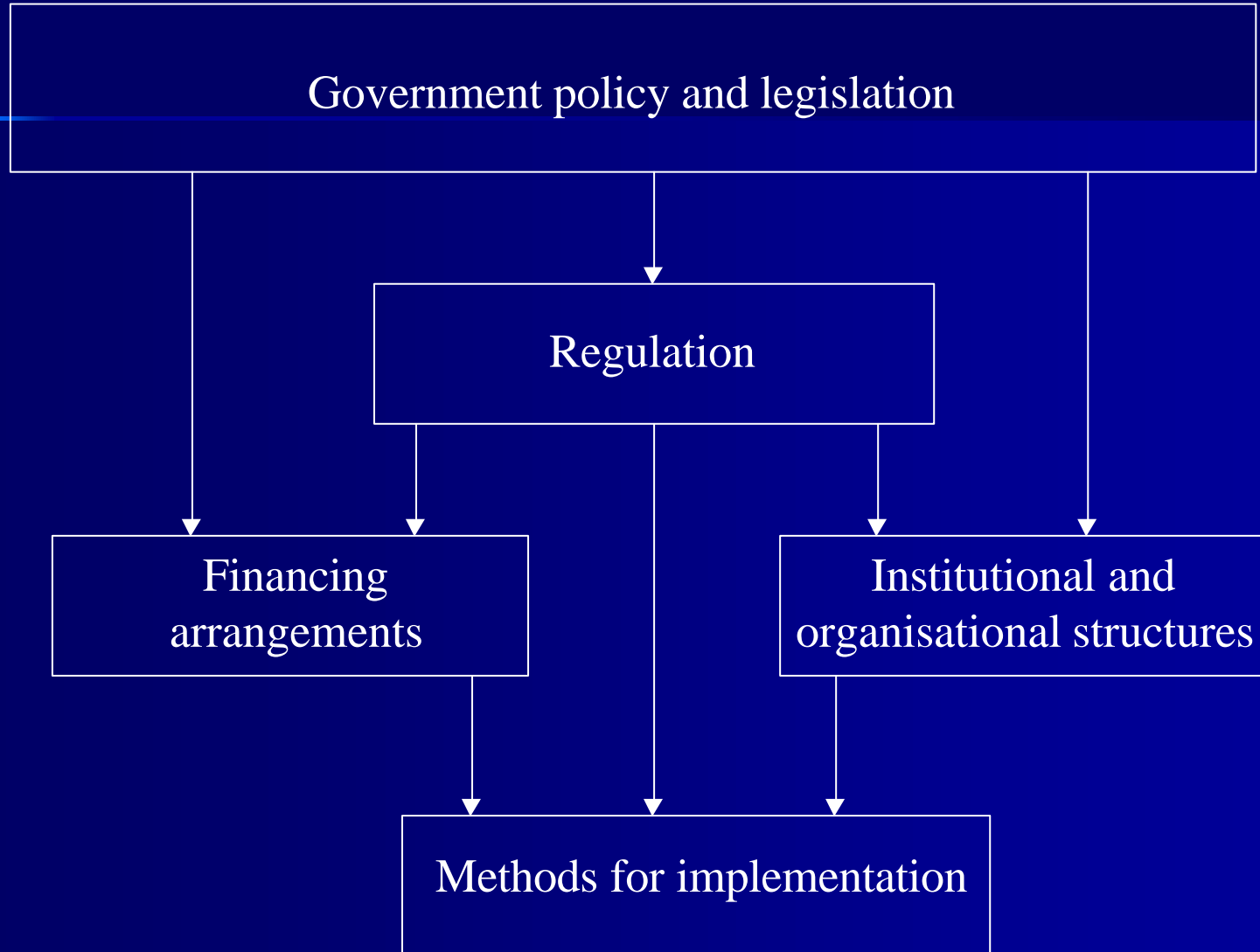




Has opportunity been created to advance public benefits as power sectors are reformed?

- Not always – PBPs can be a casualty
- But our research indicates that reform has produced space and occasion for advancement of PBPs. How?
 - Fresh legislation creates opportunity to insert commitment to advance public benefits
 - Distribution reform creating a viable channel for delivery
 - Comprehensive review of role of public sector
 - New space for additional players, innovation, and release of additional sources of finances
 - But still areas of market failure and potential role for regulation

What is the role of regulation in advancing public benefits?



Regulation to promote public benefits

- Regulation effective if backed by government policy, defined financing mechanisms and institutional means for implementation
- Regulation can promote access through target setting in licences, creation of electrification funds, competitive allocation of connection subsidies, transparent tariff cross-subsidies, monitoring and evaluation.....
- Best-practice international examples in regulatory support for investments in energy efficiency, renewables and R&D
- New role for IRP

Building regulatory capacity

- Fly-in courses of limited value
- Co-operate rather than duplicate
- Focus on regional, local problems and challenges, but informed by international experience
- Each course builds on learning from previous courses
- Build alumni and network of regulators
- Need to build sustainable training capacity in developing countries
- International training partnerships
- Examples: Cape Town <-> PURC

Training programmes at the University of Cape Town

PART 1: STRATEGIC UNDERSTANDING

Day 1 : Restructuring experience

- Drivers for ESI reform
- ESI reform models
- International and African experience

Day 2: Competition and privatisation

- Understanding electricity markets
- Competition theory, policy and law
- Privatisation & valuation approaches

Day 3: Regulation & strategy

- Financial techniques
- Principles and applications of regulation
- Strategic management of reform & regulatory process
- Regulatory instruments to advance public benefits

Training programmes at the University of Cape Town

PART 2: ECONOMIC REGULATION

Day 4: Theory / application

- Theory of natural monopoly – market failure
- Application of rate-of-return regulation
- Application of price/revenue cap regulation
- How to conduct a price review

Day 5

- Key constraints in regulatory practice
- Dealing with difficulties in economic regulation

Building regulatory capacity in the region

We need a co-ordinated suite of training programmes that respond to local needs

that are built around centres of excellence in the region

and which are developed in conjunction with international partnerships