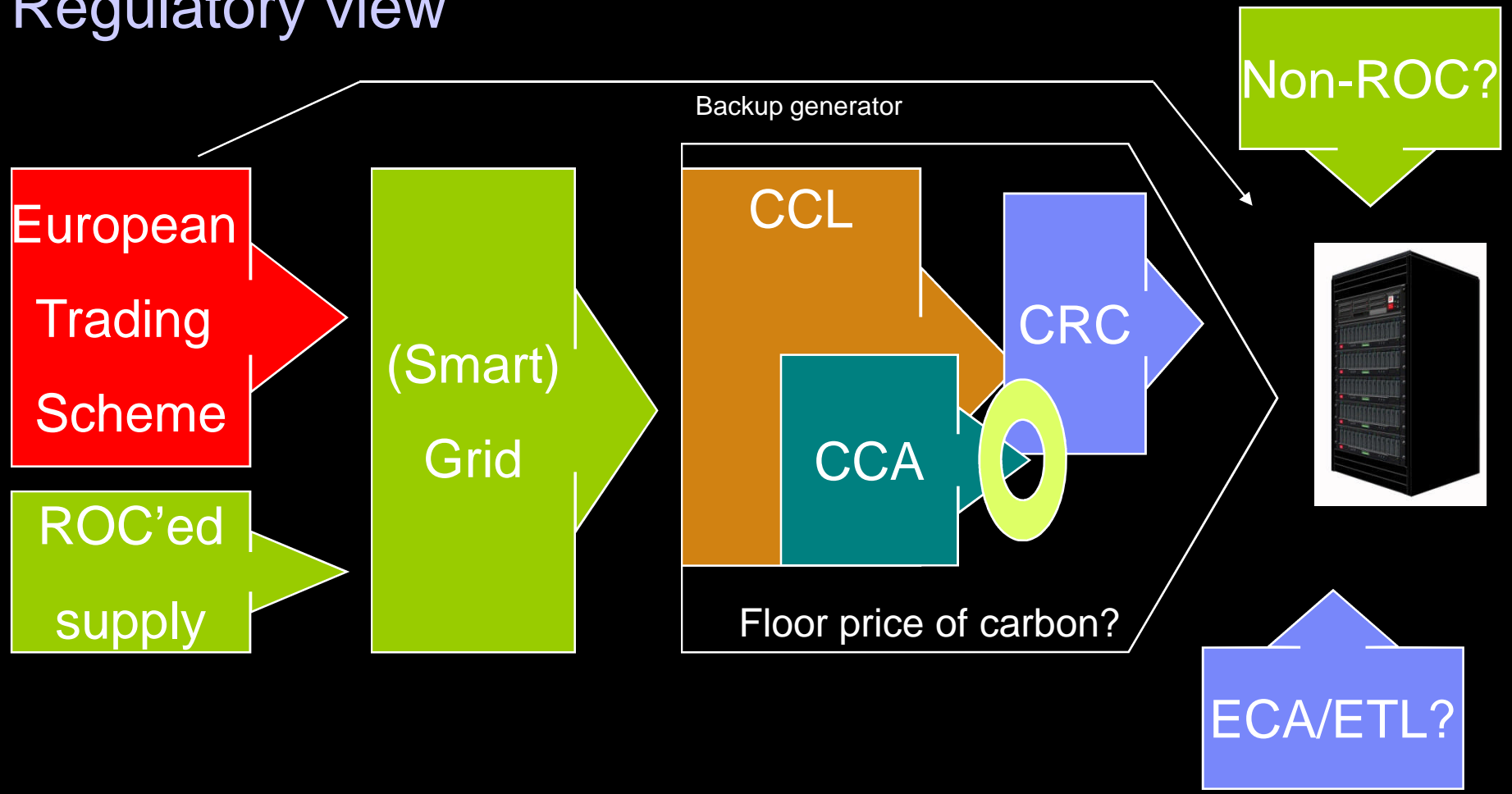




Regulatory overview

Impact on data centres and relation to energy
and climate change policies

Regulatory view



Key Points

- **CCA**

- Energy efficiency agreements to limit CCL impact on competitiveness for energy intensive activities
- Expires in 2013 – consultation on agreement to extend to 2017
- Excluded from CRC plus some associated activities
- Datacentres are energy intensive and subject to competition but not (yet) subject to CCA

- **CRC**

- Complex and hard to predict
- Complex interaction between cap and trade and 2-3 relative metrics forming league tables
- Dominated absolute energy consumption in later years

- **Based on 'grid average'**

- **Coalition draft agreement commits to**

- Smart Grid
- Floor price of carbon (using CCL in Conservative Manifesto)

ICT and Data Centre priorities and evolution (draft)

- **Data Centres**

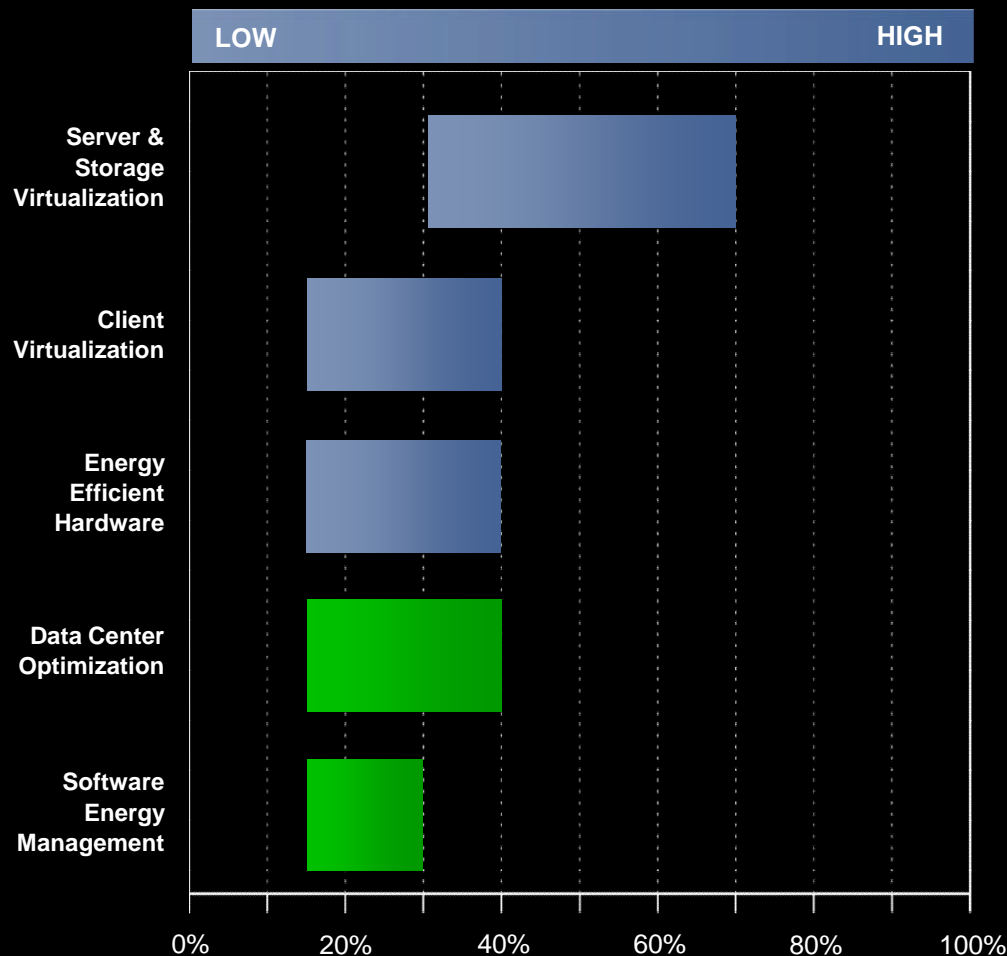
- Reliability and service levels
- EU Code of Conduct
- Energy efficiency through:
 - Controlling heat flows and alternative cooling
 - Improved approaches to computing load (virtualisation)

- **ICT**

- ICT provides productivity and efficiency benefits to enterprise users
- ICT can dematerialise physical product – reducing the link between economic growth and carbon footprint
- ‘Net’ provider of energy efficiency

Extend the life of the hardware, software, and facilities. Actions for cost savings with immediate paybacks.

Range of cost savings



Optimize IT infrastructure

Virtualization provides TCO savings.

Reduce costs and complexity with 30-40% TCO.

Leverage energy efficient IT technology.

Reduce on-going IT energy costs over 30%.

Optimize data center infrastructure

Get the facts with an energy assessments.

Reduce costs 15-40% with < 2 year payback.

Add cooling capacity with High Density Zone.

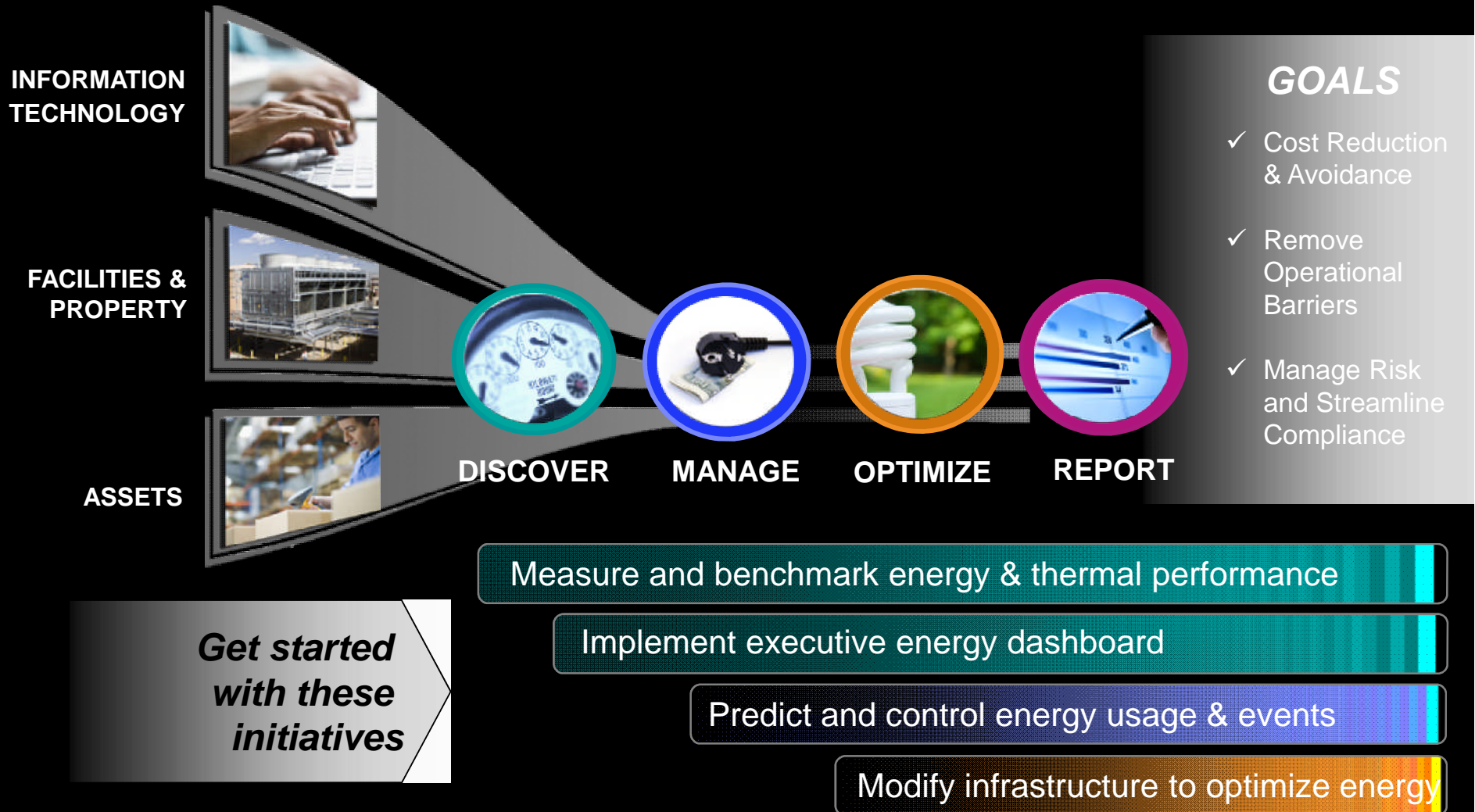
Cost effectively adopt new technology at up to 35% less than site retrofit.

Optimize IT and data center infrastructure

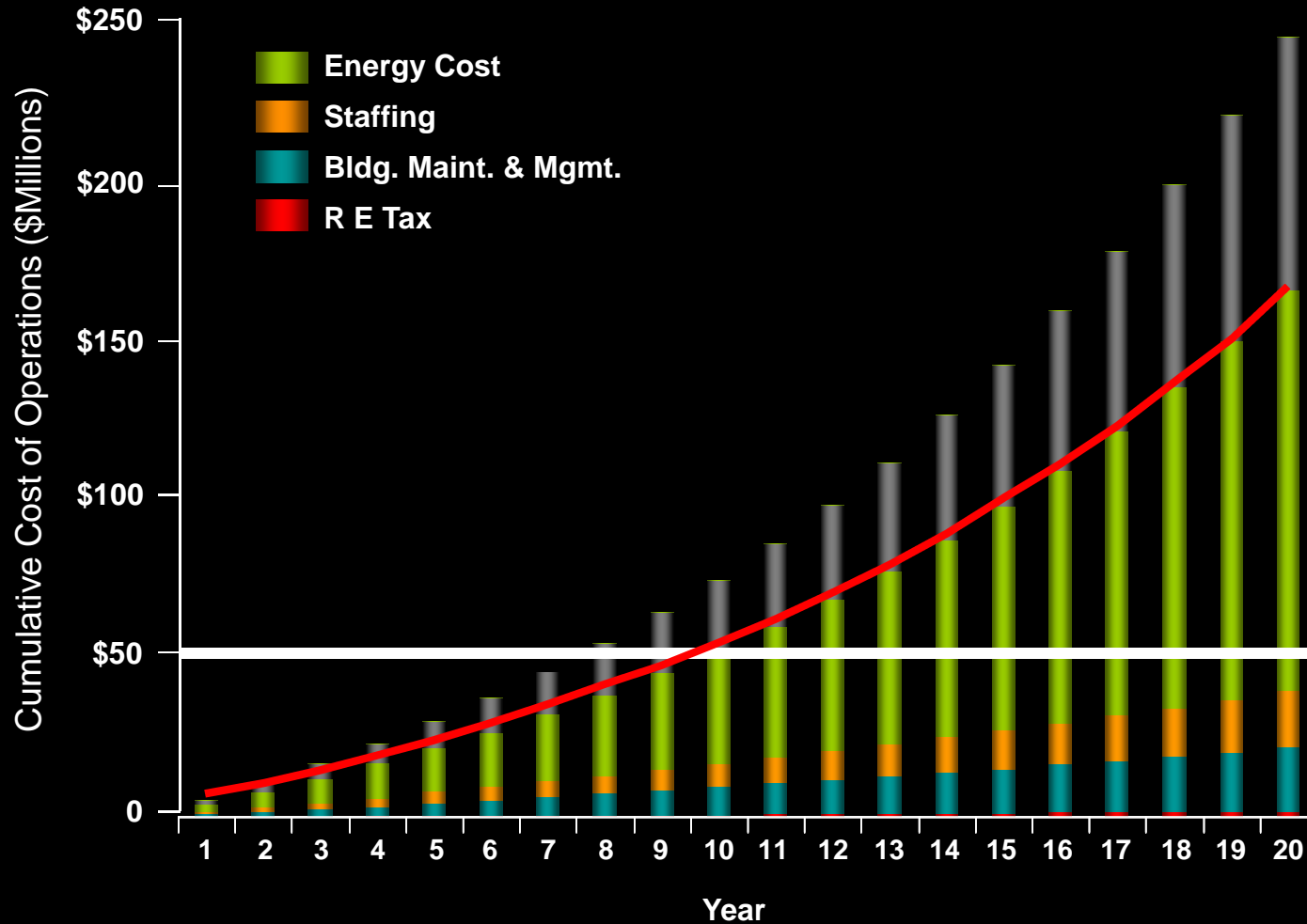
Monitor and manage energy use.

Integrate IT, data center, and buildings energy consumption to save 15-30% a year.

Extend the life with energy management. Integrate IT, data center, and building energy consumption.



Optimize lifecycle costs & reduce operational costs by up to 50%.



Example: One 20,000 square foot data center

- Cumulative cost to run a data center
- 10% annual energy increase
- Data center operational costs are 3-5 times the capital costs
- 75% of operation costs is for energy