



# On The Road to a Low Carbon Digital Economy

## Strategies for Digital Oman



Information Technology Authority  
Sultanate of Oman

# ICT Industry Growing at a Phenomenal Rate

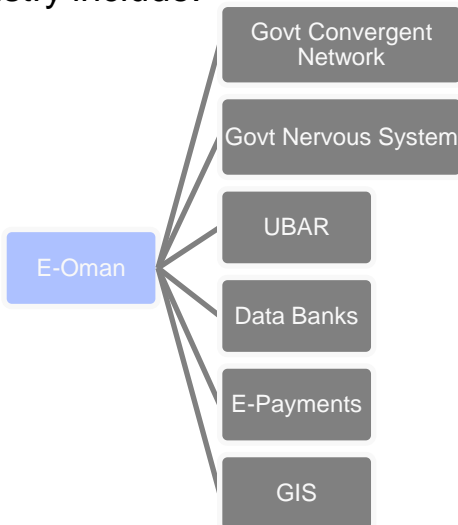
50 Billion Mobile Connections  
Size of the Digital World  
Increases by a factor of 44

2020

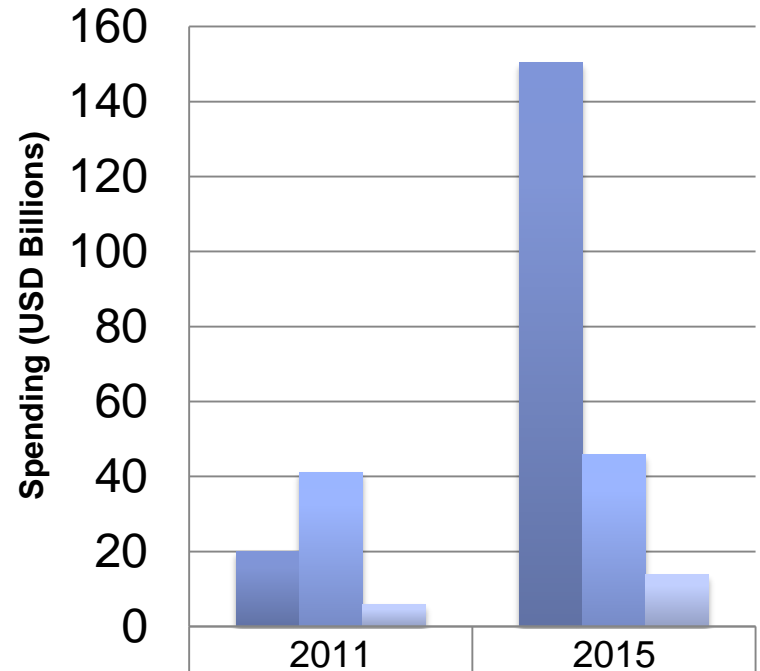
In 2012, Oman's ICT industry was worth US\$363M with a 6% CAGR.

\* Source: Business Monitor International

Growth Drivers for Oman's ICT Industry include:



## Forecasted Global ICT Spending



	2011	2015
Enterprise Equipment	20	150.3
Internet Access	41.2	45.9
IPTV Subscription	5.9	13.9

\* Source: Telecommunications Industry Association 2012 Market Review & Forecast

# With Growth Comes Challenges

2.0% of the world's carbon emissions is from ICT with an annual rate of increase of about 6%.

\* Source: SMARTer 2020 Report by Global e-Sustainability Initiative (GeSI) & Climate Group & separate study by Gartner

The global ICT industry was responsible for 900 million MTCO<sub>2</sub>e.

\* Source: Based on data from International Energy Agency (IEA)

2011

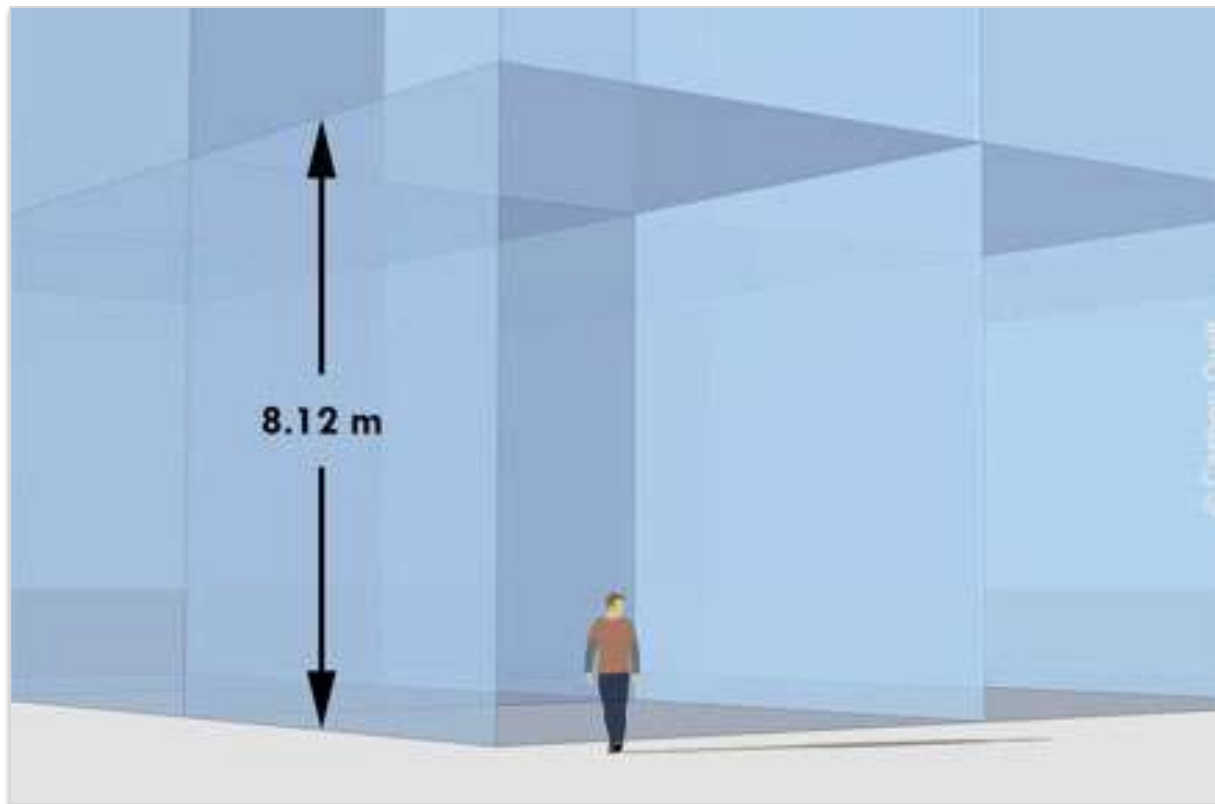
The local ICT industry consumed 1.76 billion KWh units of electricity.

\* Source: Based on 8% of total electricity and data from IEA and benchmarked against Australia, UK and USA.

The local ICT industry spend RO44 million on electricity and emitted 1.23 million MTCO<sub>2</sub>e.

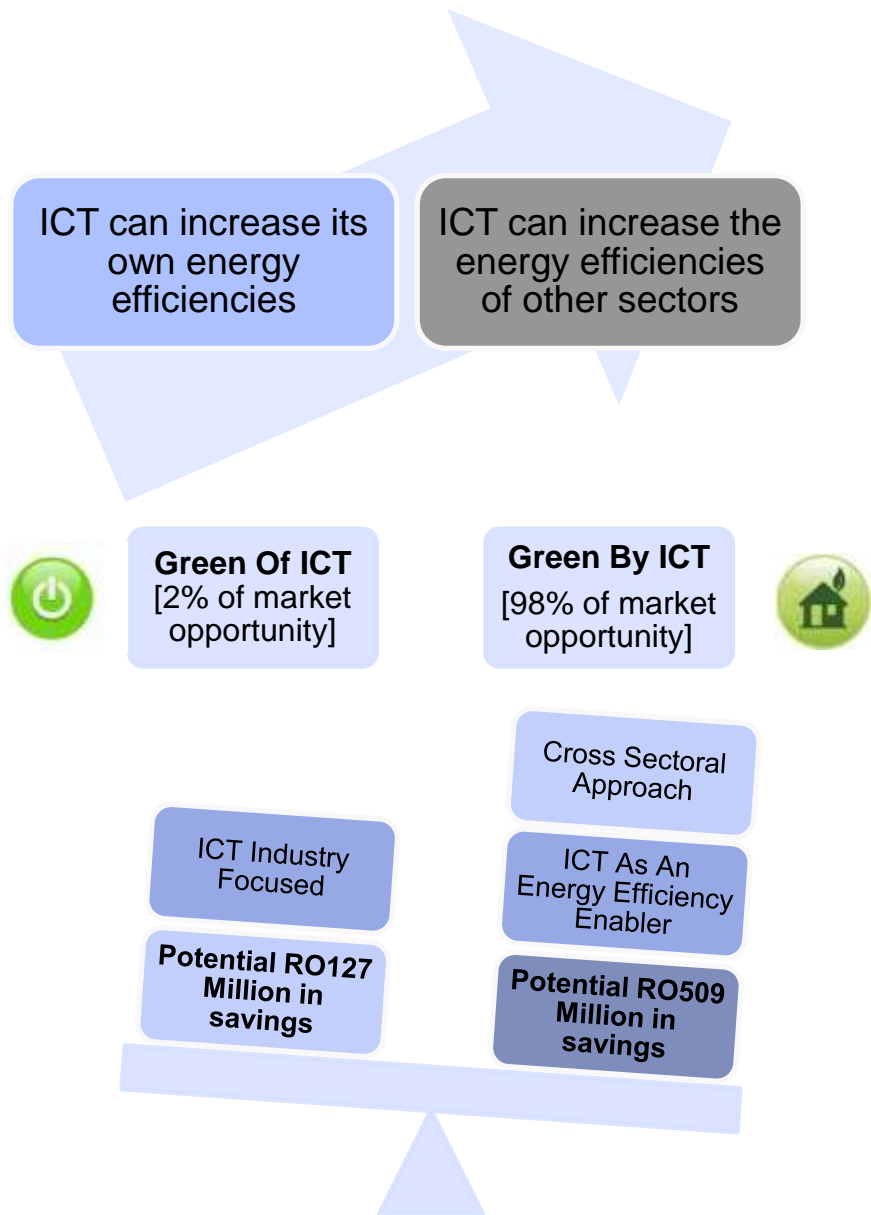
\* Source: Based on average of 25 bz per kWh & EF of 0.7

# Visualizing 1 Metric Ton of CO<sub>2</sub>



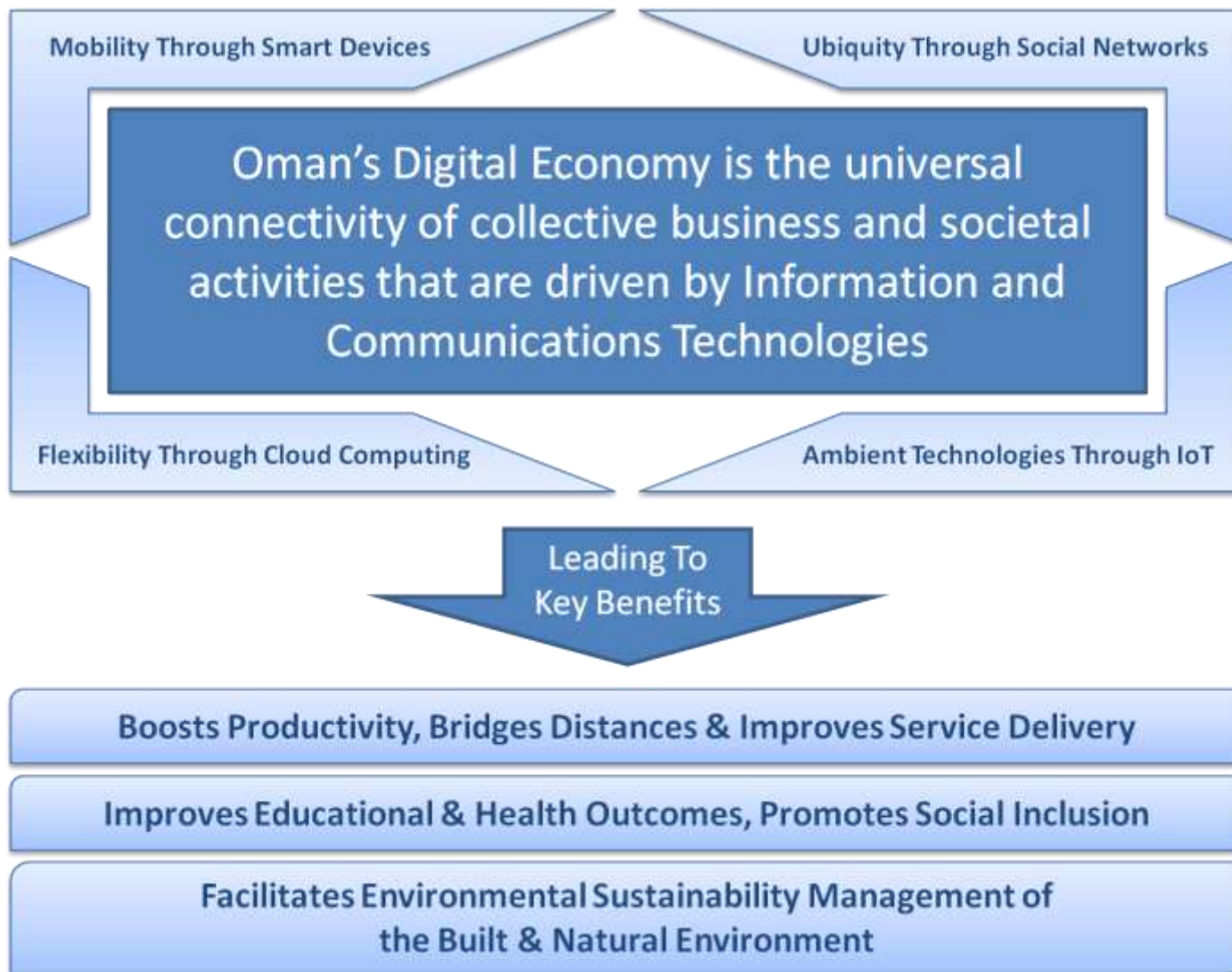
**Cube 8m x 8m x 8m / 27ft x 27ft x 27ft**

# With Challenges Come Opportunities



While the ICT industry can reduce its own emissions through effective energy efficiency strategies, there is a tremendous opportunity for ICT solutions that reduce the 97% of emissions coming from the rest of the economy.

# Oman's Digital Economy



# A Low Carbon Economy

A low carbon economy is one where all waste must be minimised, energy must be produced using low carbon energy sources and methods, all energy resources must be used efficiently, and wherever realistic local needs should be served by local production with a high awareness and compliance with environmental and social responsibility initiatives.



Energy Efficiency

Minimal Waste

Low Carbon Energy

Locally Sourced

Environmental Compliance

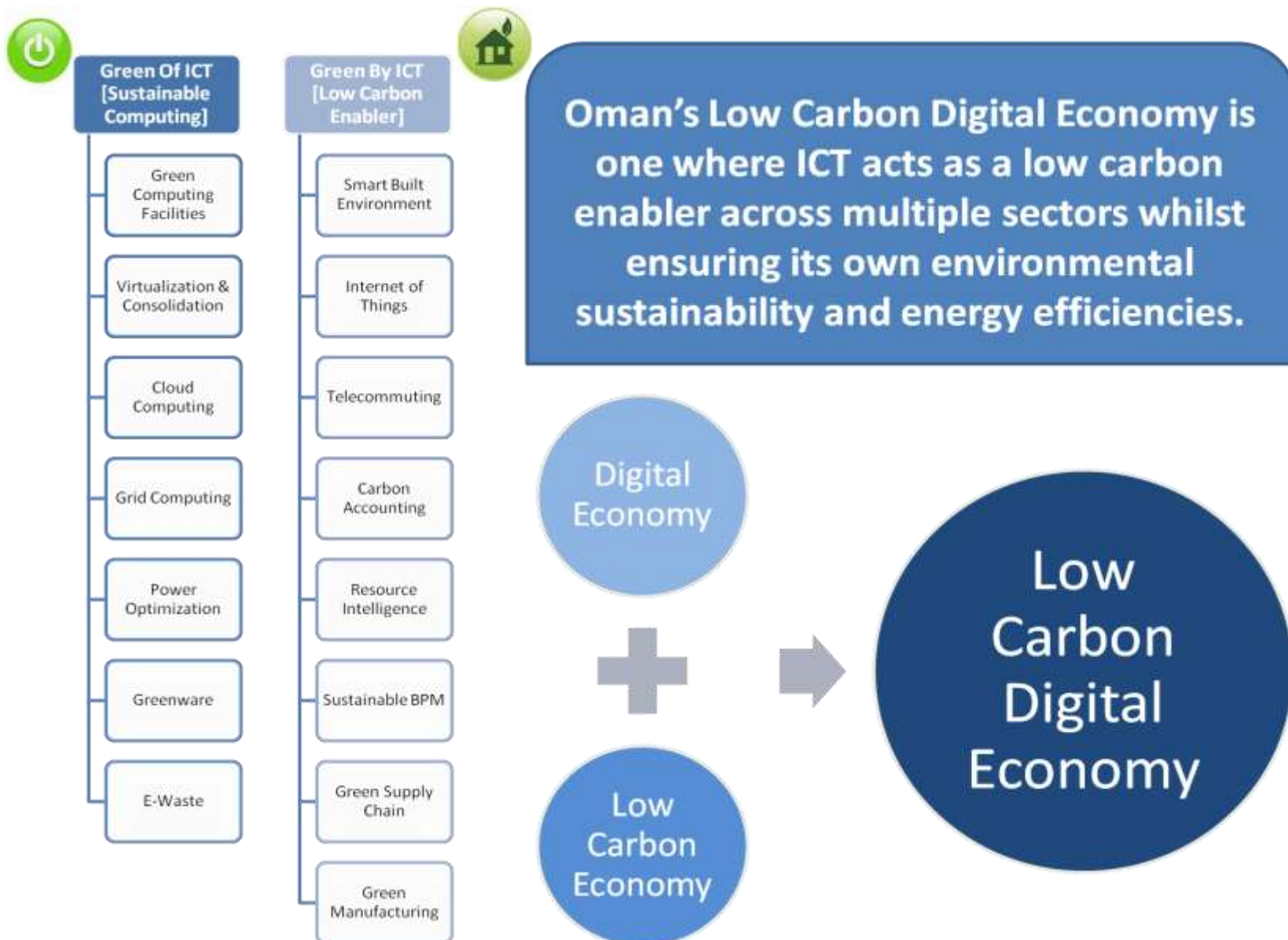
Social Responsibility

Leading To  
Key Benefits

Lasting Energy Security, Energy Cost Savings, Environmental Stewardship

Green Jobs Generation, GNI Contributions, Quality of Life Improvements

# Oman's Low Carbon Digital Economy





## The Case for a Low Carbon Digital Economy: Key Benefits

<b>Economic Benefits</b>	Generation of high knowledge-add green jobs
	Creation of a new class of ecology entrepreneurs called Ecopreneurs
	Increased ICT exports
	Increased GNI, FDI and DDI
	Improved global innovative competitiveness
<b>Environmental Benefits</b>	The potential reduction in green house gas emissions through a low carbon digital economy is substantial
	E-waste initiatives contribute to a host of other environmental protection strategies
<b>Social Benefits</b>	Improvements in the quality of life, health, and well-being of Omani citizens

## Wise to invest now to build future sustainability, whilst stimulating the economy and generating jobs

The stimulus money being spent in the Asian and Pacific countries for green, such as the Republic of Korea, China and Japan, are focused on energy efficiency, green jobs, energy efficient transport and buildings.

Country	Green Measures as a Percentage of Total Stimulus	Amount Spent on Green Measures (billions USD)	Total Amount Spent on Fiscal Stimulus (billions USD)
Republic of Korea	81%	\$30.70	\$38.10
European Union	59%	\$22.90	\$38.80
China	38%	\$221.30	\$586.10
United States of America	12%	\$112.30	\$972.00
Australia	9%	\$2.50	\$26.70
United Kingdom	7%	\$2.10	\$30.40
Japan	3%	\$12.40	\$145.90

# A Guiding Framework

## ECOSYSTEM ENGAGEMENTS

Employees Business Investors

Regulatory Customers

Technology

Governance

Policy

Proficiency

Attitude

## Green of IT

[Green Computing]

Green Computing  
Lifecycle  
Management

Green Computing  
Processes

Green Computing  
Functions

Equipment Lifecycle  
Management

Renewable &  
Efficient Energy  
Sources

## Green by IT

[IT as a Low Carbon  
Enabler]

Sustainable Business  
Process  
Management

Carbon Accounting

Internet of Things

Smart & Sustainable  
Built Environment

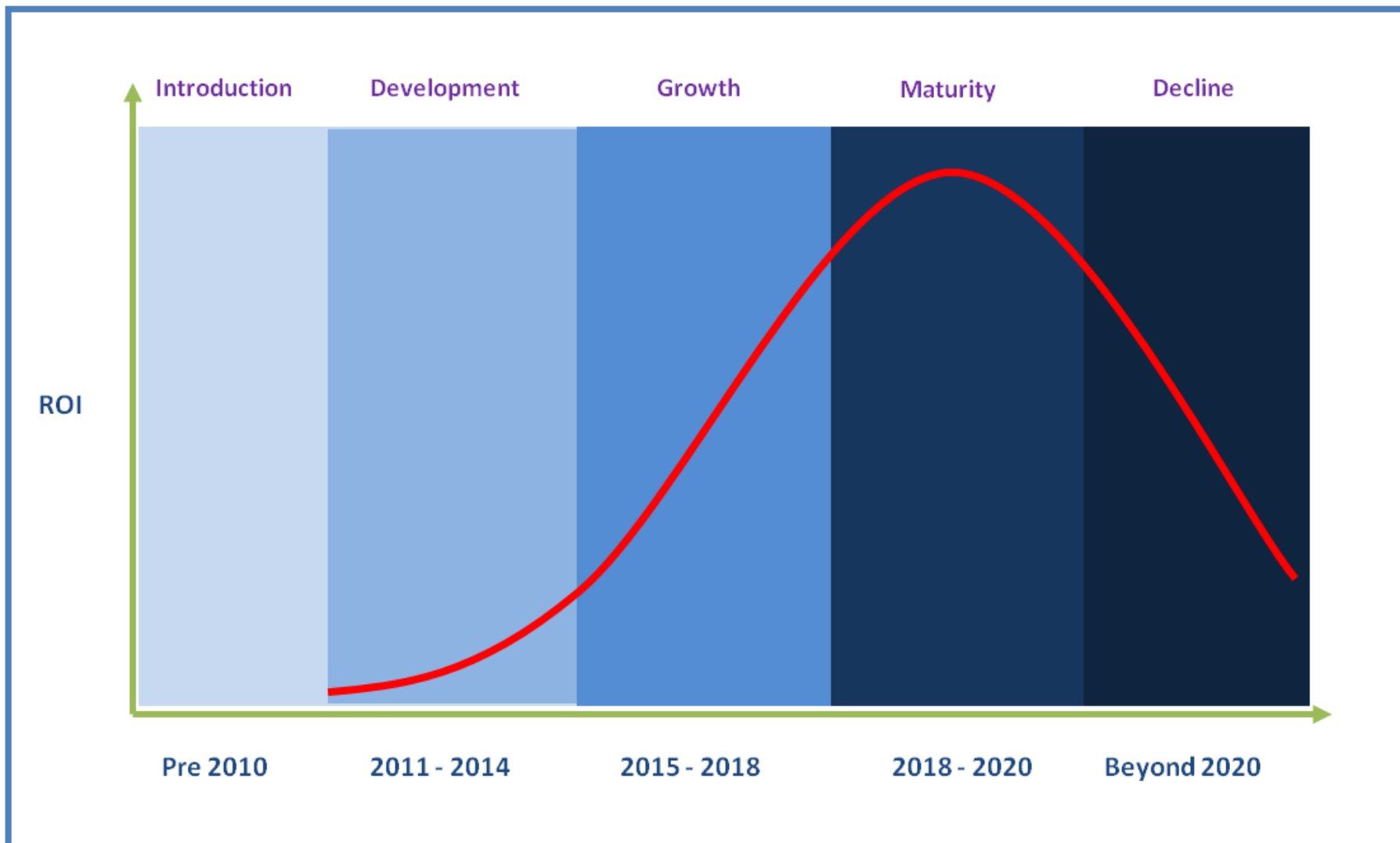
Telecommuting

Green Supply Chain  
& Manufacturing

Resource Intelligence

Biomimetics

# Green ICT Industry Gaining Traction



# Current Trends in Green ICT

**Increasing  
Electricity Tariffs  
Making OPEX  
Higher**

**Accountability for  
ICT Energy Costs  
Being Taken By IT  
Head**

**CEO's Executing  
Their Responsibility  
To Embed  
Sustainability**

**Regulatory  
Requirements for  
Reporting and  
Carbon Tax**

**Innovation on  
Green ICT**

**Incentivizing Going  
Green**

# An Example of Green ICT Innovation [Eco<sup>2</sup>]



# A Proposed Strategic Plan: Oman's Low Carbon Digital Economy

## KICK START A STRATEGIC MOVE TOWARDS A LOW CARBON DIGITAL ECONOMY

### Proposed ITA Initiative

### Key 2020 Ambitions

#### Targets

Initiate development of an environmentally sustainable Green ICT industry that exports globally whilst producing ecopreneurs and high value green jobs locally.

8M MT Reduction in GHG Emissions

6800 Green Jobs  
500 Ecopreneurs

Oman to rank in Top 20 of Global ICT Exporters

Oman to rank in Top 20 of IMD Health & Environment

#### Situational Analysis

**Burgeoning global ICT spending reached \$4.3 billion in 2011 and expected to increase exponentially by 2020.**

- Global Green ICT industry at infancy stage and presents strategic opportunities for Oman's exports. [Consumption to Production]
- Ecopreneurs and Green Jobs are in a sunrise industry with high value and high knowledge add factors. [Low Knowledge Add to High Knowledge Add]
- Extensive ICT spending locally in 2020 will generate demand for energy security, health safety and environmental stewardship. [Supply To Demand]

#### Recommendations

**Capitalise on a global sunrise industry while enhancing Omanis' quality of life.**

- Produce Green By ICT and Green Of ICT products and solutions for the global market.
- Generate high value Green Jobs by tapping on current and future ICT workers.
- Create a new breed of ecopreneurs who innovate and establish new business models.
- Reduce the energy and operating costs of the ICT industry & other industries while generating new GNI.
- Increase citizens' health standards and quality of life by establishing regulations and policies.
- Ensure the nation's energy security whilst ensuring sustainable environmental practices.



Thank You!

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