RISE OF THE GREEN ECONOMY: IMPLICATIONS ON THE NR INDUSTRY

Professor Dato’ Dr Ahmad Ibrahim
Academy of Sciences Malaysia

Abstract

There is no denying that the green economy is already upon us. And many are convinced that the phenomenon is unstoppable. Experts are unanimous on the fact that the world is destined to be ruled more and more by a growing preference for green products and services. Increasingly, customers worldwide are showing their detestation of products and services which pose serious threats to the environment and the natural ecosystem related to it. It is easy to understand why. Despite recent adverse rhetoric by the new US administration which dispute the phenomenon of global warming and the consequent climate change, most other countries are stuck to the belief that climate change is real. The evidences presented by world climate scientists are very convincing. Rising global temperatures, the melting of the arctic ice, rising sea water levels and frequent extreme weather conditions are all documented proofs that the global climate is undergoing drastic change. A change which, unless arrested or reversed, can spell disaster for the world community.

The green economy is not just about climate change. Another important megatrend driving the rise of the green economy is the growing depletion of key resources. These include energy, water and materials as a result of the burgeoning world population. The world population which has already exceeded 7 billion is inching towards the 8 billion mark in a matter of years. At the current rate of consumption, the demand for such resources is not going to be sustainable. Though the preference for renewable materials will rise, the capacity to generate them will be limited by land. And the opening up of new agricultural land is also strongly opposed by the need to preserve and conserve the environmentally sensitive areas of the forests. There is no doubt that the rise of the green economy bears serious implications on all industries, NR included. Their production systems will have to change. Their consumption patterns will also have to change. Undoubtedly the NR industry will face both threats and challenges. But there will also be opportunities. If the NR industry is carefully planned, with the right strategies, it is not impossible for the industry to neutralise such challenges and capture the opportunities. This is where investment in R&D and more intelligent production systems is key. This paper discusses the factors driving the rise in the global green economy and the positive and negative implications on the world NR industry.
Rise of the Green Economy: Implications on the NR Industry

By
Professor Dato’ Dr Ahmad Ibrahim
UCSI University
Fellow Academy of Sciences Malaysia

Contents of Presentation

• What is the Green Economy?
• Why Green Economy?
• What are the drivers?
• What do world leaders say?
• Responses from Business?
• What Does Green Economy Mean for NR?
1. Upstream
2. Downstream
• Capturing Opportunities
• Overcoming Challenges
What is «green economy»?

Green economy: a model based on the sustainable development of ecological economies with zero carbon emissions where all energy is derived from renewable resources which are naturally replenished.

Natural Capitalism
Some Examples

Green buildings

- Energy efficient buildings: Investments in improved energy efficient buildings = 2-3.5m jobs in Europe & USA.

- In Australia a proposed US$ 3b green housing over 4 years is expected to reduce greenhouse gases emissions by 3.8mtons/year = 160,000 jobs

- In the US it is estimated that US$ 100b to improve energy efficiency of buildings & cities over 4 years will generate 2m of new jobs.
Wind power

Wind power is the conversion of wind energy into a useful form of energy, such as using wind turbines to make electrical power, windmills for mechanical power, wind pumps for water pumping or drainage, or sails to propel ships. Large wind farms consist of hundreds of individual wind turbines which are connected to the electric power transmission network. Offshore wind is steadier and stronger than on land, and offshore farms have less visual impact, but construction and maintenance costs are considerably higher. Small onshore wind farms provide electricity to isolated locations.

Utility companies increasingly buy surplus electricity produced by small domestic wind turbines. Wind power, as an alternative to fossil fuels, is plentiful, renewable, widely distributed, clean.

It produces no greenhouse gas emissions during operation and uses little land. The effects on the environment are generally less problematic than those from other power sources.

PHOTOVOLTAIC SYSTEMS

There is another solution:
the photovoltaic system

Photovoltaic systems use solar panels to convert sunlight into electricity. A system is made up of one or more photovoltaic panels, a DC/AC power converter (also known as an inverter), a racking system that holds the solar panels, electrical interconnections and mounting for other components.

The electricity generated can be either stored, used directly, or fed into a large electricity grid powered by central generation plants, or combined with one or many domestic electricity generators to feed into a small grid (hybrid plant). Systems are generally designed in order to ensure the highest energy yield for a given investment.
Rise of the green economy: implications on the NR industry

The evolution of The Global Green Economy

- Emergence of **new technologies and practices** that are responding to the challenges of **climate change and scarcity of natural resources**.
- Increase in **public understanding** of the need to guard the Earth’s natural resources.
- Global and local **demand** is emerging for ‘green’ goods and services.

Global value of The Green Economy

- Global scale estimated to be $5 trillion in 2010.
- Employing in excess of 30 million people worldwide.
- Sector that is growing - projected to increase to the order of $6 trillion by 2015.
- Average growth rate of 3.7% per annum.

(Delivering our Green Potential (2012))
Investment in The Green Economy.

- Significant interest by investors in companies involved in the sustainability arena.
- Global investment in renewable power generation running annually in excess of US$200 billion.

What do leaders say?
Rise of the green economy: implications on the NR industry

What world political leaders say

«China will honour its commitment to grow a green economy and promote the conservation culture...the key is to combine economic growth, equality and of course the protection, preservation or even the rehabilitation of the natural resources or natural capital»

President of the Chinese Committee, 24th April 2010

«Our green economic mantra is pro-growth, pro-job, pro-poor, pro-environment – and of course pro-business...The success of this program (REDD+ Initiative) is critical to our success in pursuing a green economy. Therefore, let me once again invite all captains of industries here to contribute to the creation of a green economy and low-carbon future”

President of Indonesia, 28th April 2011

“We have spoken a great deal about using cleaner sources of energy. Today we reaffirm that commitment and determination to move towards a low-carbon economy.”

President of South Africa, 5th December 2011

Obama’s speech

"The path towards sustainable energy sources will be long and sometimes difficult. But America cannot resist this transition; we must lead it. We cannot cede to other nations the technology that will power new jobs and new industries – we must claim its promise. That is how we will maintain our economic vitality and our national treasure – our forests and waterways; our croplands and snowcapped peaks. That is how we will preserve our planet, commanded to our care by God. That’s what will lend meaning to the creed our fathers once declared”. 
How are businesses responding?

Strategies for green economy: opportunities and challenges in the new world of business

New business companies are entering the green market at breakneck speed to keep pace with societies and customers’ demands to reduce their environmental impact. But “greening one’s business” is not an easy feat. While clear opportunities abound in this new field, business leaders pursuing green strategies are trying to find innovative roadmaps and establish new rules, offering plenty of hidden twists and turns; but how can a company succeed in a world going “green”? As regards the formulation of original strategies, Joel Makower, one of the world’s foremost green business companies experts, has provided a clear roadmap to get to such a daring objective. Makower offers insights and inspiration, thanks to his 20 years’ experience and hard work, helping 500 companies and start-ups formulate strategies that align environmental and business goals. Providing a comprehensive and realistic look at both opportunities and challenges, Green Economy new strategies show how leadership companies are finding their way in the field of green economy, while their competitors still struggle to succeed in it.
Businesses are also trying to find ways to reduce costs through greater resource efficiency and energy saving measures.

This has spawned the ‘Green Economy’ which is one of the fastest-growing markets in the world.

INDUSTRY 4.0
ELECTRIC CARS

The Real Drivers of the Green Economy
Rise of the green economy: implications on the NR industry

**Continued Environmental Neglect**

- Global economic growth in past 50 years accompanied by accelerated environmental decline
- 1981 – 2005: global GDP more than doubled, but 60% of world's ecosystems degraded/exploited unsustainably

**The Real Movers**

- Policies- UN SDGs, National Policies
- Certification- NGOs, Governments
- Consumers
- Competition- Globalisation
The Three Pillars of Energy Provision

Secure Energy Provision

Environmental implication of energy provision

Economic competitiveness — Cost of energy

To meet our future energy requirements we need...

Low Carbon Economy

Innovation which allows us to harness, use and store alternative energy sources

Innovation which allows us to use current and future energy sources more efficiently
What are the implications on NR industry

Upstream Implications

- Greater Precision- plantation practices
- Energy Efficient
- Water Management
- Fertilizer Wastage
- Better Management of Chemicals
- Automation
Downstream

- Green Products - opportunities
- Natural Capitalism
- LCA Based Ecological Declaration
- Industry 4.0 practices

TERIMA KASIH