

# Carbonomics: The Impact of Carbon Trading on Business



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GLOBAL WARMING



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## ■ Global Warming and Carbon Emissions Trading

- The Greenhouse Effect (sources and sinks)
- The Kyoto Protocol (ratified by over 150 countries)

### ◆ International (Cross-Country) Mechanisms



- *Joint Implementation (JI)*
- *Clean Development Mechanism (CDM):*
- *International Emission Trading (IET)*

◆ All three mechanisms required the concept of a ‘**carbon credit**’ as a measurable and tradable instrument that is acceptable across nations.

### ● Carbon Credit:

- ◆ Each **carbon credit** represents *one metric tonne of  $CO_2$*
- ◆ either **removed** from the atmosphere or **saved from being emitted**.

- **Country Level Issues (Three principle Ways to ‘Manage’ Carbon Emission Targets):**

- ◆ By *Taxation*. By imposing a straight tax on emissions.
- ◆ By *Allocating* ‘permits’ or ‘ration cards’ to business entities or individuals for a **cap and trade** system.
- ◆ By *Approving* certain organisations as being able to issue carbon credits (called ‘**abatement certificates**’)



- **Carbon Emissions Trading (Requires a Cap-and-Trade system)**

- ◆ Ideally be based on **free-market principles**
- ◆ Each individual emission allowance has a ‘vintage year’ designation (that is, **the year an allowance may be used**)
- ◆ Brokers and other non-participants typically **buy and sell** emission allowances in (vibrant) **secondary markets**.
- ◆ The *European Union Emission Trading Scheme (EU ETS)* is the world’s **largest multi-country cap and trade system**.



## ● Carbon (Emission And Sequestration) Accounting

- ◆ **The CES accounting mechanism** must be sufficiently robust that the carbon trading market has **confidence** that the amount of carbon sequestered can be **measured**, i.e.:



*X trees = the sequestration of Y tonnes of CO<sub>2</sub> emissions = \$Z*



- ◆ Any **CES accounting standard** developed by a country or NGO will need to be consistent with the **Intergovernmental Panel on Climate Change (IPCC) principles** before carbon credits can be used in an emissions trading regime under the Kyoto Protocol.



◆ **CES measurement and reporting approaches** recognised in a global context are:

- ★ **GRI: The Global Reporting Initiative**
- ★ **UNCTAD: International Standards of Accounting and Reporting**
- ★ **Greenhouse Gas Protocol (GHG Protocol).**
- ★ There are at least **21 organisations** offering *accreditation and auditing services*, across the globe.

◆ In general, however, the new market is **largely unregulated and lacks transparency.**



## ● The Emerging Paradigm Of Carbonomics

◆ A number of lifestyle changes (from countries, organisations and individuals) are needed to achieve a substantial decrease in emissions (see TIME Magazine List):

- ★ Such as reduced energy demand
- ★ Increased energy efficiency
- ★ Using less fossil fuels and
- ★ More renewable energy sources



- ◆ It will also require research and development of **sustainable technologies** that reduce CO<sub>2</sub> emissions.
- ◆ There is a view developing in some businesses that there is a direct **measurable correlation** between **lifestyle changes, environmental efficiency** and economic results.

## Table One: Carbon Reduction Methods for Business

Change Lightbulbs to Low Emission	Shut off Computers (no standby)
Pay the Carbon Tax	Switch off the Lights At Quitting Time
Build a Skyscraper <sup>1</sup>	End the Paper Chase
Turn Up the Geothermal Heat	Play the Market
Capture the Carbon	Think Outside the Packaging
Let Employees Work Close to Home	Trade Carbon for Capital
Pay Your Bills Online	Set an Organisational Carbon Budget
Open a Window	Pay For Your Carbon Sins
Ask the Experts For An Energy Audit	Make One Right Turn After Another
Buy Green Power	Plant a Tree in the Tropics
Remove the tie (Everyday is Casual Friday)	Drive Green (Change company Vehicles to Bio fuels)
Fly Straight to Location	If You Must Burn Coal, Do it Right
Copy California's State Emission Levels	Set a Higher Carbon Emission Standard
Turn Food Into Fuel (Bio Fuels)	Illuminate Public Spaces with LEDs

## ◆ There will be Winners and Losers

- ★ **Jobs will be created within companies in some industries (e.g. electricity companies) that are able to use carbon credits earned by using alternative energy sources like wind farms to offset carbon debt.**
- ★ **Similarly, forestry and logging companies can expand with assets (if grown after 1990) from which they can source a second source of income.**
- ★ **Thus, organisations will view carbon regulation as either a cost or a potential source of revenue.**
- ★ **A recent report found that early action by companies to reduce CO<sub>2</sub> emissions would add A\$2 trillion to GDP by 2050 and create more than 250,000 jobs in Australia (The Economics of Catastrophy)**

## ● Shifts in World Trade: Carbalisation

- ◆ A parochial stance will, cause a **shift in world trade**.
- ◆ In recent years there has been a significant shift from **'localisation' to 'globalisation'**, especially with the opening up of China, India and the Easter block
- ◆ However, as more people are encouraged to buy produce from the local farmer, etc. locally then a **shift back to localisation** is possible.
- ◆ We have termed shift in world trade as, **'Carbalisation'**.



◆ **‘Carbalisation’** is based on the concept of:



★ **Product-distance (in miles or kilo meters)**, i.e. the distance a product travels to get to its place of final purchase for consumption.

★ **For example, an imported bottled water** from Europe using approximately 80 kg of CO<sub>2</sub> emissions per metric tonne of bottles to be shipped to Australia, whilst from Egypt it is 70 kg and from nearby Fiji only 20 kg.

◆ Therefore, consumers may become **‘carbon sensitive’** by **checking labels** before buying,

◆ Thus, any **labour cost advantages** of products from countries such as China may **disappear**.



- ◆ **Another concern** expressed by some economists is that if the developed world takes the **cost impact of CO<sub>2</sub> emissions** cuts, this will reduce the purchasing power and the standards of living of their people.
- ◆ Thus although (developing world) countries like China and India are **allowed to catch-up** by not having stringent CO<sub>2</sub> emitting standards
  - ★ The **economic growth** of these **countries** will anyway **be stunted** by the **loss of purchasing power** in the **developed world**
  - ★ And as the **Developed Country populations** are urged to **buy locally** due to **carbalisation**.
- ◆ Further, **China** (the second biggest polluter behind the USA) **has recently stated:**
  - ★ That **economic considerations** come first
  - ★ Thus they will consider **reducing carbon emissions** only as a **secondary issue**.

- ◆ Thus, Chinese products will **continue to ‘cheaper’**:
  - ★ Not only due to **cheap labour**,
  - ★ But also due to the **non-incorporation of carbon costs**.
- ◆ **Developed Countries that import such products will**:
  - ★ Not only **adversely affect the economic viability** of their own country’s businesses,
  - ★ But also they will be the target of the Chinese **‘dumping’ carbon emissions on them**.
- ◆ The only way (**other than forcing China to accept their responsibilities by negotiation**) is to place a **countervailing tax on such imports** (similar to that placed when companies ‘dump’ products via **transfer pricing**).

## ● Carbon Cost Analysis

- ◆ In product costing, the ‘**cost**’ is computed up to the stage that **goods are available for sale**.
- ◆ Costs incurred **subsequent to the product being sold** may be also included via probability estimates of **warranty** and other **after-sales service** activities.
- ◆ **Carbon cost analysis** is a subset of the push towards ‘**environmental cost accounting**’ that highlights the cost impacts ‘**before**’ and ‘**beyond**’ those related to **manufacturing** a specific cost object.



◆ The following are typical **‘environmental costs’** of a product:

- ★ **Raw Materials:** (Production Wastage, Landfill Materials)
- ★ **Labour:** (Production Time Wastage, Recycling Labour)
- ★ **Overhead:** (Utility costs, such as water and energy, are also often overlooked in determining the true cost of waste generation)
- ★ **Waste Management:** (The treatment and disposal costs of waste generated in the production process).
- ★ **Recycling:** (Toyota Prius Example)

# Other Issues?

- Financial Accounting
- Assurance
- Marketing
- Supply Chain

