[1] Emergence of the green economy debate

Across the world, billions of dollars are now spent annually to subsidise carbon-emitting fossil fuels. But investment in renewable energy remains inadequate[2], threatening affordable and secure energy supply[3]. Investment in the agricultural sector, including water and soil conservation, has actually declined in the last ten years in the developing world, threatening food security when the world's major food producers have been subsidized to grow biofuels instead of food.

As the world emerges from recession, a clear message is emerging with it. 'Business as usual' is not working. In response, the 'green economy' (GE) movement has emerged. The idea of a green economy had its origins in the report "*Blueprint for a Green Economy*" prepared by Pearce, Markandya and Barbier (1989) for the UK Department of the Environment. In a report commissioned by UNEP[4], Barbier (2009) returned to this theme and explored the potential benefits of a Global Green New Deal (GGND) as a way of combating the recession and also securing long-term economic recovery. The report argued that the preservation and protection of our environment is crucial to long-term economic stability and the fight to alleviate poverty. Any policies aimed at economic recovery must also take into account the environmental challenges we are faced with, such as climate change, pollution and habitat loss.

UNEP'S Green Economy Initiative (GEI) aims to assist governments in "greening" their economies by reshaping and refocusing policies, investments and spending towards a range of sectors, such as clean technologies, renewable energies, water services, green transportation, waste management, green buildings and sustainable agriculture and forests (see: http://www.unep.org/greeneconomy/). GEI includes a range of advisory services, partnerships and research products. 'Greening the economy' refers to the process of reconfiguring businesses and infrastructure to deliver better returns on natural, human and economic capital investments, while at the same time reducing greenhouse gas emissions, extracting and using less natural resources, creating less waste and reducing social disparities.

In a major report on the GE, UNEP (2011) identifies 11 sectors which it considers to have potential for the transition to a green economy: agriculture, water, forests and fisheries which are also called natural capital and the sectors of renewable energies, manufacturing, waste, construction, transport, tourism and cities. The report's main conclusion argues that the "ecologisation" of economy does not need to hinder growth. Rather, it has potential as a new engine of growth, a net generator of decent and green jobs and a vital strategy to eliminate persistent poverty. The fundamental objective for the transition to a GE is to allow economic growth and investment, increasing the environmental quality and social inclusion.

The report suggests that, in the short term, economic growth in a green scenario may be less than under 'business-as-usual'; but, in the long term – beyond 2020 – growth will exceed 'business-as-usual' in both traditional measures (GDP growth) as well as more holistic measures (growth per capita). The report also concludes that, in a series of important sectors, such as agriculture, construction, forests and transport, GE offers more employment in the short-, medium- and

[2] The International Energy Agency reports that fossil fuels attracted about $523 billion in government subsidies in 2011, up by 30% from 2010. That compares to $88 billion for renewable energy (IEA 2012).
[3] Some might argue that the emergence of non-conventional gas sources (eg from hydraulic fracturing or fracking) offers a 'middle road' – providing an assured energy supply at a lower environmental cost. There is an increasing concern within the conservation community about a number of long-term, hidden environmental costs associated with so-called 'green' energy, eg bird and bat mortality associated with wind farms.
[4] As a 'backbone' for developing its Green Economy Report (UNEP 2011).

long-term than 'business-as-usual'. In sectors where natural capital and ecosystem services are seriously depleted, such as fishing, the transition to GE will imply a loss of income and employment in the short and medium terms – whilst natural stocks are allowed to recover, but this will prevent permanent loss of income and employment. In such cases, transitory solutions are necessary to protect workers from negative impacts on their subsistence.

The UNEP report interprets GE as "an economy that results in improved human well-being and reduced inequalities over the long term, while not exposing future generations to significant environmental risks and ecological scarcities". This is a 'do-no-harm' approach. GE is interpreted in different ways and there are several other definitions of green economy/green growth in use (Box 1).

[Box 1] Some definitions of green economy/green growth

According to the OECD, green growth is *"the fostering of growth and development while ensuring that natural assets continue to provide the environmental resources and services on which human well-being relies"*.

UNEP defines green growth simply as *"resource-efficient, low-carbon, climate-resilient & socially-inclusive growth"*, and also uses the (interchangeable) term "green economy".

The World Bank has defined green growth as *"a strategy for promoting economic growth while adding an ecological quality to existing economic processes and creating additional jobs and income opportunities with a minimal environmental burden"*.

The Global Green Growth Institute also takes a strategic view by stating that it is *"growth that leapfrogs the resource-intensive and environmentally unsustainable model of industrial development pioneered by advanced economies"*.

The Green Economy Coalition defines green economy as a *"fair and resilient economy, which provides a better quality of life for all achieved within the ecological limits of one planet"*.

For some, GE is seen as a powerful new paradigm or vision for the 21st century, suggesting creative solutions to multiple global challenges by linking people, planet and prosperity – making more positive use of environmental assets within ecological limits. The innovations or building blocks – social and technological – already exist, or are being developed. They include, for example (see Box 2):

- Low-carbon energy, infrastructure and transport;
- Sustainable systems of food production, water and sanitation, and waste;
- Ways of protecting and sustainably using biodiversity and ecosystem services;
- Green jobs, decent work, sustainable lifestyles and livelihoods that ensure social justice and equity, and set real measures for progress and wellbeing;
- Investment in green sectors, environmental 'accounting' and the introduction of new business models;
- Policy reform.

GE is also interpreted to comprise a set of economic policies and instruments; while others promote GE as a series of micro-level outcomes.

The World Bank's ten year Environment Strategy also adopts a green economy-type approach. It sets out an "ambitious action agenda that seeks to respond to calls from [its] client countries for a new approach to development that supports growth while focusing more on sustainability and ensuring that the environment is a key enabler for green, more-inclusive growth" (World Bank 2012).

[Box 2] Some examples of green economy initiatives

Zero carbon – The European Supergrid

Supergrid is a wide area transmission network that makes it possible to trade high volumes of electricity across great distances, and to take advantage of distantly located renewable sources. It will be the transmission backbone of Europe's decarbonised power sector and will facilitate the trading of electricity across Europe, and strengthen security of supply. It will also create opportunities for European companies to export sustainable energy technology.

The Supergrid currently involves nine countries: Germany; France; Belgium; the Netherlands; Luxembourg; Denmark; Ireland; and the United Kingdom, along with Friends of the Supergrid (FOSG), involving ten companies which will deliver the infrastructure and related technology, together with companies that will develop, install, own and operate that infrastructure. The risks of providing this new transmission service will be reduced by the early knowledge gained during the policy formation and design stages.

Zero waste – Recycling aluminium cans in Brazil

Brazil is the global leader in aluminium can recycling. Over 10 billion cans were collected in 2006. Recycling saves the country nearly 2000 GWh of electricity annually that would be required to produce new aluminium, which is sufficient to supply a city of over one million inhabitants for one year. Recyling aluminium cans provides employment for about 170,000 people in Brazil, which has some 2,400 small companies and cooperatives involved in recycling and scrap metal trading.

The country has pioneered ways to improve recycling jobs, which can be dirty and dangerous and is often poorly paid. Recycling work is undertaken by an informal network of collectors who collect the material for revenue. The formation of cooperatives have helped raise the pay levels and working conditions. In Brazil 90% of recyclable material is collected by scrap collectors – *catadores de lixo* – who have organized themselves into a national cooperative movement with 500 cooperatives and 60,000 collectors in total. Belo Horizonte, one of Brazil's largest cities, launched the first recycling plant in 2005 run by associations of independent collectors. It avoids the middlemen and provides an increase of about 30% to the incomes of collectors.

Sustainable transport – cleaner buses in Colombia

The city of Bogotá, Colombia, has built a novel public transportation system – bus rapid transit (BRT) – called TransMilenio, to reduce congestion and combat climate change. It is used for about 1.6 million trips per day and has allowed the removal of 7,000 small private buses from the city's roads, reducing the use of bus fuel and associated emissions by more than 59% since it first opened in 2001. The buses run on diesel but have high-efficiency engines and emit less than half the pollution of the older minibuses.

The city built seven intersecting bus routes by isolating existing traffic lanes with low walls, creating enclosed stations, and providing free shuttle buses to carry residents from outlying districts to terminals. It has made bus transport accessible to low-income users, while also being profitable for private operators and fundable by the state. Commuting has been reduced by 32%, and the system moves more passengers per mile every hour than almost any of the world's subways. Subways cost more than thirty times as much per mile than a BRT system. TransMilenio was the only large-scale transportation project approved by the UN to generate and sell carbon credits. Developed countries that exceed their emissions can buy credits from TransMilenio to balance their emissions budgets, bringing Bogotá an estimated US $100-300 million so far. It has inspired the planning of similar schemes in other rapidly expanding cities in India, China, Mexico and Indonesia.

Sustainable food – vertical farming

The world's population is expected to increase by about 3 billion by 2050 and nearly 80% of that population will live in urban centers. It is estimated that we will need 109 million hectares of new land (an area 20% larger than Brazil) to grow enough food to feed the growing population, if traditional farming practices continue as they are practiced today. Over 80% of the land that is suitable for raising crops is already in use.

Vertical farming is a proposed technique involving large-scale agriculture in urban high-rise buildings or 'farm-scrapers', many stories high, situated in the heart of the world's urban centers. If successfully implemented, they offer the promise of urban renewal, sustainable production of a safe and varied food supply, year-round crop production of fruit, vegetables, edible mushrooms and algae. By allowing traditional outdoor farms to revert to a natural state and reducing the energy costs needed to transport foods to consumers, vertical farms could also significantly alleviate climate change, and help restore ecosystems that have been sacrificed for horizontal farming.

There are several trials of vertical farming taking place: Valcent's VertiCrop vertical farming systems pilot plant at the Paignton Zoo Environmental Park in Devon, England; California high-tech greenhouses using vertical farming techniques (Houweling Nurseries); and a vertical farm using seawater in Dubai.

Adapting to climate change in Oceania

Mangroves are estimated to contribute up to US $900,000 per km^2 annually in ecosystem services such as protecting foreshores, fisheries production and supply of building materials (e.g. timber), tourism and recreation and improving water quality. They are very important in mitigating the adverse effects of climate change in the Oceania region – where it is anticipated that sea-level rise and flooding resulting from climate change will make things worse for vulnerable coastal areas and communities. But mangroves are threatened by coastal development, population dynamics and increasing demand for resources.

A new project *'Mangrove Ecosystems for Climate Change and Livelihoods'* (MESCAL), was launched in the Solomon Islands in 2010 to help mangrove managers and scientists from Fiji, Samoa, Solomon Islands, Tonga and Vanuatu and Pacific Islands to protect and conserve their mangroves, to improve livelihoods and build resilience to the impacts of climate change on coastal zones. It will develop a clear action strategy informed by multiple stakeholders.

Source: www.greeneconomycoalition.org

Recognising that all sectors have a stake in driving the transition – that none can do so alone, a new grouping has emerged to address the challenge: the Green Economy Coalition (Box 3). The coalition brings together three levels of attention that have tended to be treated separately – micro, macro and paradigm levels – to forge new ideas of economic governance. The coalition has defined nine key principles for a green economy (Box 4).

[Box 3] The Green Economy Coalition

The Green Economy Coalition (GEC) brings together environment, development, trade union, consumer and business sectors from North and South. It is committed to accelerating a transition to a new green inclusive economy. The GEC fosters a common understanding of green economy themes, and promotes learning, creativity and innovation across sectors. It aims to:

- improve communication between stakeholders and among green economy initiatives;
- forge a coherent new development vision that works for all;
- encourage that best practice is scaled up;
- promote ways of halting bad practice;
- encourage innovation that explores prosperity within planetary boundaries;
- influence key decision-makers.

The GEC has supported a series of regional and national dialogues to address what a green economy will mean – and how it can be achieved – in the specific context of particular region's or country's own set of unique ecological, economic and cultural circumstances. The coalition has also supported an online global consultation on the principles of a green economy.

See: www.greeneconomycoalition.org

[Box 4] Principles of a Green Economy

Through a series of national and regional dialogues and an extensive global online consultation process, the Green Economy Coalition has compiled a set of nine principles for a green economy:

1. **The Sustainable Principle. A green, fair and inclusive economy is a means to deliver sustainability**

- One of the vehicles to deliver sustainable development – not a replacement for it.
- Respects its dependency on a healthy environment and it strives to create wellbeing for all.
- Addresses all three dimensions (environmental, social and economic) and develops policy mixes that integrate and seek the best results across all of them.

2. **The Justice Principle. A green, fair and inclusive economy supports equity**

- Supports equity between and within countries and between generations.
- Respects human rights and cultural diversity.
- Promotes gender equality and recognises knowledge, skills, experience and contribution of each individual.
- Respects indigenous peoples rights to lands, territories and resources.

3. **The Dignity Principle. A green, fair and inclusive economy creates genuine prosperity and wellbeing for all**

- Alleviates poverty.
- Delivers a high level of human development in all countries. It provides food security and universal access to basic health, education, sanitation, water, energy and other essential services.
- Transforms traditional jobs by building capacity and skills, respects the rights of workers and actively develops new, decent green jobs and careers.
- Achieves a just transition.
- Acknowledges the contribution of unpaid work. It promotes the self-empowerment and education of women.
- Supports the right to development if delivered in a sustainable way.

4. **Healthy Planet Principle. A green, fair and inclusive economy restores lost biodiversity, invests in natural systems and rehabilitates those that are degraded**

- Recognizes its dependency on the productivity of ecosystems and biodiversity.
- Does not violate, disrupt, or overstep ecological boundaries and commits to co-operate within them, including reducing pollution, safeguarding ecosystems, biodiversity integrity, other natural resources including air, water, soil, and bio-geochemical cycles.
- Ensures that environmental integrity is maintained before allocating resources among competing uses.
- Ensures an efficient and wise use of natural resources, including water, natural gas, oil and mineral resources, without compromising future generations prospects.
- Supports the respect of all forms of life.
- Applies the precautionary principle.
- Assesses of the potential impact of new technologies and innovations before they are released.
- Assesses the environmental impacts of economic policies and seeks to find the least disruptive, most positive benefit for the environment and people.
- Promotes the restoration of balance between ecological and social relations.

5. **The Inclusion Principle. A green, fair and inclusive economy is inclusive and participatory in decision-making**

- Is based on transparency, sound science and the visible engagement of all relevant stakeholders.
- Supports good governance at all levels from local to global.
- Empowers citizens and promotes full and effective voluntary participation at all levels.
- Respects cultural values, is tolerant of religious views and lifestyle choices, and sensitive to ethical considerations.
- Builds societal awareness, developing education and skills.
- Is transparent, inclusive and participatory, giving equal opportunities to, and advocating further for the rights of, young and old, women and men, poor and low skilled workers, indigenous peoples, ethnic minorities and local communities.

6. **The Good Governance and Accountability Principle. A green, fair and inclusive economy is accountable**

- Provides a framework to structure markets and production in consultation with all stakeholders.
- Reports its sustainable progress on environmental, social and economic measures, in company, national and international accounts.
- Achieves transparency.
- Promotes international cooperation and defines international liability.
- Promotes global policy coherence and fair international cooperation.
- Promotes common but differentiated responsibilities.
- Commits to international human rights standards and environmental agreements.

7. **The Resilience Principle. A green, fair and inclusive economy contributes to economic, social and environmental resilience**

- Supports the development of social and environmental protection systems, and preparedness against and adaptation for climate extreme events and disasters.
- Creates a universal social protection floor.
- Promotes a variety of green economy models relevant to different cultural, social and environmental contexts.
- Considers indigenous local knowledge and promotes the sharing of diverse knowledge systems.
- Builds on local skills and capacities and develops these further.
- Supports sustainable, diverse economies and local livelihoods.
- Promotes systems approaches, recognising the interdependence and integrated nature of these systems, underpinned by culture and ethical values.

8. **The Efficiency and Sufficiency Principle. A green, fair and inclusive economy delivers sustainable consumption and production**
- Seeks to ensure prices reflect true costs incorporating social and environmental externalities.
- Implements the polluter pays principle.
- Supports life-cycle management, and strives for zero emission, zero waste, resource efficiency and optimal water use.
- Prioritises renewable energy and renewable resources.
- Seeks absolute decoupling of production and consumption from negative social and environmental impact.
- Delivers sustainable lifestyles supporting a major cultural transformation.
- Promotes social, economic and environmental innovation.
- Gives fair rights to access intellectual property within a global legal framework.

9. **The Generations Principle. A green, fair and inclusive economy invests for the present and the future**
- Delivers inter-generational and intra-generational fairness.
- Promotes conservation of resources and the quality of life over the long term.
- Influences and regulates the finance sector so that it invests in the green, fair and inclusive economy and achieves a stable global monetary system.
- Prioritises long-term, scientifically-sound, decision-making above the short-term.
- Promotes equitable education at all levels and sustainability education for children.

Source: http://www.greeneconomycoalition.org/updates/sign-9-principles-green-economy

In June 2009, OECD ministers adopted a Declaration on Green Growth and the OECD has developed a Green Growth Strategy. This includes a green growth 'policy toolkit' focusing, for example, on: green jobs and social aspects; green taxes and regulatory approaches; industrial restructuring and renewal; fiscal consolidation; green technologies; green indicators; peer reviews; co-operation between OECD countries and emerging economies; and involvement of stakeholders (see: http://www.oecd.org/document/10/0,3343,en_2649_37465_44076170_1_1_1_1,00.html).

Building on the findings of the Green Growth Strategy, in June 2012, the OECD released a draft report for consultation at Rio+20 on *Green Growth and Developing Countries* (OECD 2012a). It aims to connect developing countries to the wealth of OECD's experience, expertise, diagnostics, policy and measurement frameworks on the topic of green growth and development. The draft reviews economic growth and environmental trends over recent years and speculates on how economic and social trends will evolve in the years to come. Relevant national frameworks and a range of policy instruments (national and local, public and private) are articulated. The report provides a conceptual outline for green growth in a developing country context. It provides a rationale for green growth, and examines the concerns held by some developing countries about the green growth agenda informed by a series of continuing consultations. The draft report (section 3.5) identifies SEA as a key mechanism for integrating development and environment interests in pursuing a green growth strategy. The final report is due to published by June 2013.

Despite the varied perspectives of GE, the emphasis remains on linking both the environmental and economic dimensions of sustainable development, although the main emphasis is on economy. In a speech to African ministers of finance, planning and economic development in Ethiopia[5], Achim Steiner, Executive Director of UNEP, noted that "the green economy is not a substitute for sustainable development, but a way of realising it".

[5] On 28 March 2011– see http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=2636&ArticleID=8675&l=en&t=long)

Some countries are strongly promoting green growth. For example, Korea and Mexico have made green growth a central policy platform and have used their respective Presidencies of the G20 to generate consensus on the green growth theme. Korea has enshrined green growth in its national development strategy and established a Presidential Committee on Green Growth. It has also established the Global Green Growth Institute (GGGI) as an inter-disciplinary, multi-stakeholder organisation to promote green growth[6]. The GGGI is now working with developing countries on 'green growth planning' including Ethiopia, Cambodia, Brazil, Guyana, Kazakhstan, Mongolia, Papua New Guinea and Philippines. But while more countries are showing interest in the concept of green economy, others remain concerned that it could foster protectionism and restrict trade. For example, Venezuela and Bolivia have criticised the green growth approach on the basis that it is another form of green capitalism and global imperialism. Meanwhile, civil society appears to be divided on the concept of green economy.

Of course, even though not presented under a green economy label, for some years now many companies have been taking steps to adopt green measures in their operations. A large body of corporate policies and practices is now in place to address the adverse environmental and social impacts of industrial or other economically-driven activities and, more optimally, to promote positive measures and steps towards the redesign of products, processes and services on a sustainability basis. This is captured in the application by business of such approaches as the 'triple bottom line' (Elkington 1994), corporate social responsibility (see Hopkins, 2008) and The Natural Step (see http://www.naturalstep.org/com/TNS_for_business/). At the international level, such work has been driven by the World Business Council on Sustainable Development (www.wbcsd.org). In some cases, however, companies have been criticised for applying little more than 'greenwash' – a patina of green language without genuine changes towards green actions in practice. But, in the main, corporate private sector efforts reflect wide acceptance that sustainability is not a peripheral element of good business practice, but is at its heart. This is not born out of philanthropy but out of an enlightened self interest that recognises that the traditional business goals of survival, profit and growth are intricately linked to environmental and social performance – environmental sustainability underwrites economic sustainability. It is now also recognised that there is competitive advantage in a company going beyond compliance with legislation and being seen to be sincerely committed to the broader societal goals that sustainable development requires (Chapter 10 in Dalal-Clayton and Sadler, 2011).

In November 2011, the South African Government, business organisations, trade unions, community organisations and other social partners signed a comprehensive Green Economy Accord[7] at parliament, which commits signatories to a partnership to build and grow the green economy and create 300,000 jobs over 10 years. The Accord also contains a monitoring and evaluation mechanism to ensure that its goals are met.

Despite progress, there remains significant controversy about the concept of green economy. Civil society in particular remains divided. As Benson and Greenfield (2012) note about debate on green economy at Rio+20:

> *"The key issues raised by Major Groups and other stakeholders cluster around the following themes. First, that the policy tools associated with a green economy such as Payment for Ecosystem Services (PES) put economic values on our environment, thereby further cementing the capitalist model rather than reforming it. Grassroots campaigns such as 'No to a green economy' have formed to reject the commodification of nature. Indigenous and community groups stress that a green economy approach is already sanctioning land grabs and cite evidence from Bolivia and Uganda. Similarly, the ETC group published 'Who Will Control the Green Economy' describing*

[6] See http://www.gggi.org/
[7] Available at http://www.info.gov.za/view/DownloadFileAction?id=159756

how the world's largest companies are now preparing for a post-petrochemical future by securing access to biomass and any associated technologies, which is driving a new dawn of bioengineering and the exploitation of natural resources. The second area of contention is whether green growth can indeed be inclusive and there is mixed evidence that policy tools to drive resource efficiency, such as certification or public procurement, can help poor communities. Finally, and relatedly, civil society groups are concerned that developed nations will use the guise of green economy and green growth to evade their responsibility to curb their own consumption patterns or tackle growing global inequality".

In the build-up to the UN Rio+20 summit in Brazil (June 2012), many countries and organisations undertook preparatory work to consider what a GE might mean in the context of their own particular ecological, economic and cultural circumstances, and a range of regional workshops were organised. For example, In April 2012, WWF facilitated an East African conference on GE in Maputo which produced a 'roadmap' – a proposed integrated framework – for a green economy in Mozambique which includes developing integrated planning tools and procedures (economic, social, ecological), such as SEA, to support the country's next Five Year Plan process (WWF 2012).

The Government of the Netherlands, the United Nations Department of Economic and Social Affairs (UN-DESA) and Business Action for Sustainable Development organized a High Level Consultation in April 2012 involving senior business executives and ministers or equivalent level government representatives. The discussions were on how best to cooperate to promote movement towards an inclusive and green economy and address critical private sector issues.

The main outcome document of Rio+20, *The Future We Want*[8], contains a whole section devoted to green economy in the context of sustainable development and poverty eradication. This recognises that:

"Each country can choose an appropriate approach in accordance with national sustainable development plans, strategies and priorities" (para 59);

and encourages:

"Each country to consider the implementation of green economy policies in the context of sustainable development and poverty eradication, in a manner that endeavours to drive sustained, inclusive and equitable economic growth and job creation, particularly for women, youth and the poor" (para 62);

and recognises:

"The importance of the evaluation of the range of social, environmental and economic factors and encouraging, where national circumstances and conditions allow, their integration into decision-making (Para 63) (a key role of SEA).

An analysis by the Green Economy Coalition of the green economy context post Rio+20 points to an escalation of green economy activity. However, it resides predominately in the business and government spheres. Consequently, the issues dominating the green economy agenda are resource efficiency, resilient supply chains, low-carbon energy, food and water security and, more generally, stimulating economic growth. These discussions are not explicit enough in their attempts to achieve more inclusive economic reform that delivers poverty reduction and improved ecosystem health[9].

[8] Available at: http://www.uncsd2012.org/content/documents/814UNCSD%20REPORT%20final%20revs.pdf
[9] Available at http://www.greeneconomycoalition.org/sites/greeneconomycoalition.org/files/Background%20paper%20%28LIVE%20DRAFT%20FOR%20COMMENT%29.pdf

As discussed above, political and institutional support for the concept of the GE is gathering momentum, particularly in developed countries. Whilst there persists a view of GE as a 'northern protectionist' idea in some developing countries, in others there is an emerging view in support of the concept. For example an article in the Zambia Daily Mail (9 February 2011) comments: *"Investing in the green economy is not an optional expense. It is a smart investment for a more equitable, prosperous future"*[10].

GE has begun to be used in political party campaigns (eg in the UK) and a range of countries have already introduced GE-related laws. For example, a Green Energy and Green Economy Act was passed in May 2009 by the Canadian province of Ontario. This places a priority on expanding Ontario's use of clean and renewable sources of energy including wind, water, solar, biomass and biogas power. And, in December 2010, the UK's coalition government introduced an Energy Bill designed to provide for a step change in the provision of energy efficiency measures to homes and businesses, and to enable and secure, low carbon energy supplies and fair competition in the energy markets.

It is likely that an increasing range of laws and policies, plans and programmes (PPPs) will be promoted to encourage and take to scale and wider uptake the kinds of initiatives listed in Box 2 (many more examples are available at www.greeneconomycoalition.org).

A range of tools, instruments and strategies are available to promote green growth/economy. The OECD (2011) discuss the policy framework for green growth, covering: policy design, market instruments, regulations and the regulatory environment, changing consumer behaviour, innovation, investing in infrastructure, and issues to do with institutions and governance, and how to measure progress. In a recent draft report, the (OECD (2012a) examines policy frameworks for green growth in developing countries and considers a range of policy instruments:

- Payments for ecosystem services;
- Sustainable public procurement;
- Shifting subsidies from "brown" towards green growth;
- Environmental taxes/environmental fiscal reform;
- Green energy investment frameworks and incentives;
- Certification of sustainable production and trade;
- Green innovation;
- Inclusive green social enterprise;
- Green growth institutional mechanisms for continuous improvement;

and institutional mechanisms for continuous improvement:

- National Councils for Sustainable Development;
- Green accounting processes and alternative development measures "beyond GDP";
- Public expenditure review;
- Strategic Environmental Assessment (SEA).

Amongst these, SEA is increasingly being formalised in legislation and with government institutions responsible for its application.

[10] Available at: http://www.daily-mail.co.zm/media/news/viewnews.cgi?category=19&id=1235389978