Module 2
Creating an Enabling Environment for the Transition to a Green Economy

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Overview of Module 2

Module 2 presents the requirements for Caribbean countries to move toward a green economy. The module describes a variety of policy tools that will help to undertake a successful transition and describes some supporting conditions that need to be established that will facilitate effective policy implementation.

Module 4 provides sector-specific discussion and policy recommendations.

Objectives of Module 2

The objectives of Module 2 are to:

- Identify the key conditions that must be in place for transition to a green economy
- Examine different policy tools that can enable the green economy transition
- Understand how to account for market externalities
- Determine appropriate market-based tools to facilitate the green economy transition

Requirements for a Transition to a Green Economy

To make the transition to a green economy, specific enabling conditions will be required. UNEP's Green Economy Report defines enabling conditions as conditions that make green sectors attractive opportunities for investors and businesses. If the right mix of fiscal measures, laws, norms, international frameworks, expertise and infrastructure is in place, then the green economy should emerge as a result of general economic activity.

Enabling conditions consist of national regulations, policies, subsidies and incentives, as well as international market and legal infrastructure, trade and technical assistance. Currently, enabling conditions encourage the prevailing economy, which depends excessively on fossil fuels, resource depletion and environmental degradation.

In addition to these policies, creating the right conditions for investment in the green economy requires a combination of capacity building, information sharing, dissemination of good policy practice, social assistance, skill development, general education and awareness to make sure that green measures are well designed, implemented, enforced and understood.

Enabling conditions can be created by a wide range of actors and entities, including, first and foremost, governments, but also regional organizations (such as CARICOM), multilateral environmental agreements – notably the United Nations Framework Convention on Climate Change (UNFCCC), international and national non-governmental organizations (NGOs), unions, and private sector actors from multi-national corporations and large firms to small and medium-sized enterprises (SMEs).

CANARI notes that there are fundamental pre-requisites for a transition to a green economy. Based on the regional GE dialogue, it suggests that a shift to a more resilient and green economic pathway must be built upon a more secure, equitable and democratic foundation. The key elements of that foundation include:

- A shared vision, across political parties, nations, and sectors of society, which demonstrates a sense of a shared Caribbean identity and commitment to the collective social good
- Human security, including equitable access to health care, education, and economic opportunity
- Good governance that is democratic and transparent and that encourages respectful dialogue involving all sectors of society
- A strong research and information base, for understanding the underlying causes of problems and developing effective and efficient solutions
- A well-educated citizenry that is exposed to a wide range of ideas and perspectives and has the skills and tools to participate actively in the economy

- Involved young people who have a vision of the region's potential and the talents and motivation to become its future leaders
- An informed and mobilized civil society that takes a prominent role in national and regional debates on development priorities, that engages effectively with all sectors of society, that gives priority to the needs of the poor and marginalized, and that reflects a diversity of viewpoints and ideologies
- A commitment to pan-Caribbean cooperation across existing political, cultural and linguistic divides, that extends throughout the Caribbean diaspora, in order to expand economic markets and opportunities, facilitate the exchange of skills and labour, reduce dependence on uncontrollable external economic drivers, spread risk and increase resilience

Such a foundation would enable countries in the region to create a policy foundation for a green economy which UNEP has suggested should include:

- development of a regulatory framework to encourage green investment, protect environmental assets and set standards for sustainable production and consumption (including by governments themselves)
- protection of and investment in natural capital, including through incorporation of the value of natural capital into national accounts
- encouragement of low carbon technologies and green innovation through direct investment, tax incentives and other measures
- investment in work force reskilling to facilitate the shift from "brown" to "green" jobs

Policy Tools for a Transition to a Green Economy

Government policy plays a critical role within economies to encourage innovation and growth. A country's strategy for transition to a green economy may arise as a result of government decisions at the most senior level or may instead emerge gradually from initiatives being taken at a sectoral or sub-sectoral level by ministries and local government authorities, as well as in response to innovation from the private sector and civil society.

Selection of National Policy

Each country will need prioritize its choice of policy based on a number of factors, including:

- **Existing development plans and commitments.** These include economic and development plans, national sustainable development strategies, poverty reduction strategies, national sector policies (e.g. for energy, tourism etc). To avoid duplication, policy tools for a green economy should complement and contribute to these existing strategies
- **National circumstances**. These include the cost of labour and capital, environmental and natural resource assets, availability of renewable energy resources, institutional capacity and governance strengths and weaknesses, political stability, demographic profile, and the strength of the private sector and civil society.
- **Sub-national differences**. In many cases, the greening of key sectors will have differential impacts on rural and urban areas.
- **Costs and timescales of different policies**. In some sectors, there are quick wins that can be targeted and achieved relatively quickly. Elsewhere, medium- to long-term preparation might be needed to overcome technical and political challenges. In some circumstances, such as investments in renewable energy, there might also be pressing reasons to act now to prevent significant future losses despite high financial and political costs in the short term.

A careful analysis of the above factors will also assist countries in assessing the feasibility of implementing a given policy reform or tool.

Promoting Investment and Spending in Areas that Stimulate a Green Economy

The careful use of public expenditure and investment incentives can play an important role in enabling markets to incentivize green economic activity and to attract investment from the private sector. Three important focuses for public spending are:

- promotion of innovation in new technologies and behaviours that are vital to green markets

- investment in common infrastructure that is required for green innovations to flourish
- fostering nascent green industries as part of a strategy to build comparative advantage and drive long-term employment and growth.

Public expenditure can be targeted specifically and strategically at changing market dynamics for green projects, sectors or investors. Considerable caution is needed, however, in considering such strategies because fiscal resources are scarce. Comprehensive analysis of national conditions and a range of potential interventions can help determine what to support and how – from investing in infrastructural improvements that will enable rural communities to embrace conservation agriculture, to establishing feed-in tariffs that will foster a new renewable energy industry.

Most interventions should:

- Be aligned with sustainable development priorities, taking into account possible impacts across economic sectors
- Be aligned, where possible, with strategies to strengthen a country's national comparative advantage
- Be solution-neutral, avoiding designating specific technologies or firms as champions, and allowing market forces to best determine how green outcomes
- can be achieved;
- Be strategically targeted to have long-term impacts on market dynamics, that will continue after the funding is withdrawn
- Be designed with mechanisms to control costs

Public Expenditure Measures

Many measures that governments can use to promote investment in the green economy can be considered a subsidy. Government subsidies for innovation may be needed where market barriers dissuade private investments, or where accelerating the development of an innovation is clearly in the public good. Innovation includes not only the development and deployment of new technologies, but also the modification of technologies to new contexts and the development of new behaviours. Short-term support from governments can give businesses the time they need to achieve competitiveness through producing at economies of scale, or establishing a customer base through market recognition.

CASE STUDY

In January 2009, at the height of the global recession, the Republic of Korea launched its national Green New Deal plan. At a cost of US$ 36 billion, or approximately 3 per cent of GDP, the initiative aims to create 960,000 jobs based on green infrastructure projects and public services. The low-carbon projects include developing railroads and mass transit, fuel efficient vehicles and clean fuels, energy conservation and environmentally friendly buildings. Additional projects aim to improve water management and ecological protection.

Examples of public expenditure measures that promote innovation

- subsidies to parts of the research and development (R&D) chain, from basic research in universities to applied research in labs and industry, often on a cost-sharing basis
- support for the demonstration of projects with costs that are too high to attract private investors
- creating clear demand for technology in the marketplace, such that the private sector has a strong incentive to drive the innovation process
- creation of common infrastructure required to green economic activity, such as smart grids, or affordable access to broadband internet connections
- targeted support to key green industries

Examples of government investment incentives

Government Investment Incentive	Country Example
Foregoing government revenue - by reducing or removing fees	Turkey offers reduced licence fees for entities applying for licences to construct renewable energy facilities and provides deductions for the rent and right of access and usage of the land during the investment period.
Tax incentives and rebates, e.g. on property tax, import taxes and duties, sales tax etc. for purchase of green technology or services – note that a disadvantage of tax credits is that they do not not lower the barrier of initial upfront payment, and therefore do not help low-income households as subsidies may	A number of municipalities in India have established a rebate in the property tax for users of solar water heaters. In some cases this rebate is 6-10 per cent of the property tax.
Accelerated depreciation, which allows an investor to depreciate the value of eligible fixed assets at a higher rate, which reduces the investor's taxable income – often used to encourage the	In Mexico, investors in environmentally sound infrastructure have benefited from accelerated depreciation since 2005, and in Hong Kong, buyers of environmentally friendly vehicles benefit from a reduction in

Government Investment Incentive	Country Example
production of energy from renewable sources	registration tax and other tax incentives
Loan support – through favourable lending conditions (such as loan guarantees or less stringent repayment conditions) or low-cost financing (such as subsidized interest rates or soft loans)	In Brazil, the São Paulo State Industrial Pollution Control Programme, established in 1980, provided preferential credit and technical assistance to polluters, making the pre-treatment process less burdensome. The project was funded by the state government and the World Bank.
Legislative support to favoured industries	The European Commission's Renewable Energy Directive requires EU countries to source 20 per cent of their energy from renewables by 2020 provides an incentive for development of renewable technologies.
Feed-in tariffs (FITs), requiring electricity suppliers to purchase electricity from renewable energy sourced producers at a pre-determined price that is sufficiently attractive to stimulate new investment in the renewable sector — this ensures that these producers have a guaranteed market and an attractive return on investment for the electricity they produce	Kenya has an FIT policy that stipulates long-term power purchase agreements of a minimum of 20 years for purchase of renewable energy from wind, biomass, small-hydro power, geothermal, biogas and solar energy. Targeted benefits are: additional renewables-based electricity generation capacity; enhancing employment and poverty alleviation in rural areas; and increasing income opportunities for business development.

Note that these policies all use scarce fiscal resources. Green industrial policy should be designed so that government investments are targeted at helping new industries mature, are closely monitored, and are strictly time-limited. Governments may consider conducting regular programme reviews, with agreed conditions for adjustment, as well as caps on total spending and clear sunset provisions. However, it is important that the support is stable and predictable, gives certainty to investors, and is phased out over time.

Green Public Procurement – A Special Type of Government Subsidy

Another type of government "subsidy" is green public procurement. Procurement of goods and services by governments and state-owned enterprises usually represents a large proportion of total public spending. Countries spend a considerable percentage of their GDP on procurement of such goods and services as buildings, rail and road

infrastructure, cleaning and other services, and purchases of office supplies and energy. By committing to purchase goods which meet certain criteria for sustainability, governments can therefore represent a powerful force of market demand.

Government demand for green goods and services can provide businesses with a high-volume and long-term buyer. Governmental purchase agreements can reduce uncertainty and spur market development through long-term contracts, pre-approved purchasing agreements and volume purchases. The market signal allows firms to make longer term investments in innovation, and allows producers to realise economies of scale, lowering costs. In turn, this can lead to the wider commercialization of green goods and services and thereby promote sustainable consumption.

Unlike most other subsidies, green procurement policies can be achieved largely through the reorientation of existing spending. It also provides governments with a valuable tool to demonstrate their commitment to sustainable development.

Group Exercise and Discussion

- Jamaica's Public Sector Procurement Policy includes a requirement that "goods and services to be supplied to government must comply with environmental regulations and standards. These relate to pollution control and prevention, waste management, recycling and water and energy conservation."
- Is this provision sufficient to make this a "sustainable procurement policy"?
- If not, what additional considerations would need to be added?

One study examining 10 product groups found that the most advanced sustainable public procurement programmes in Europe reduced the carbon footprint of procurement by an average of 25 per cent. The impact of Caribbean procurement policies on environmental goals has not been measured – there may not be the necessary data available to make this assessment.

One of the biggest hurdles facing governments is that environmentally and socially preferable goods and services can have higher up-front costs than less sustainable alternatives. There are a number of strategies to reduce these costs, such as:

- Focusing on goods and services that will have lower overall costs in the short-to-medium term once their efficiency gains in running costs are taken into account
- Considering long-term leasing of items such as electronic equipment, vehicles and furniture, which transfers the costs of maintenance, repair, upgrading and replacement back to the suppliers

- Transforming tenders for individual products into tenders for integrated services, exploring cooperative contracts and central purchasing platforms, through which the purchases of many agencies can be collectively negotiated to obtain sizable bulk discounts.

Ensuring Rational Public Expenditure

Direct spending

Direct spending to support the development of environmentally sound technologies may in some cases be preferable to tax incentives because it can be difficult to ensure that expenditure in the form of tax incentives promotes innovation that generates social rather than private benefits.

Performance incentives

Performance incentives can be used to ensure that economic activity is green. These incentives can be used to help reduce the cost of adherence to environmental and social standards without compromising those standards – for example establishing funds for the certification of management systems on environmental and social performance such as ISO 14000 series on environmental management and the ISO 14065 series on greenhouse gas monitoring.

Group Exercise

- Identify one example of a government investment incentive in your country that facilitates the transition to a green economy.
- Discuss what additional conditions or considerations could be added to improve its contribution to a green economy.

Market-based Instruments - Addressing Environmental Externalities and Market Failures

Supporting a green economic transition will require that governments address existing market failures such as:

- markets that are completely lacking, as is the case for many ecosystem services
- markets that fail to account for the true costs and benefits of the economic activity

Unsustainable economic activity often enjoys a price advantage when there is a

Externality – a cost or benefit that falls on third parties. This occurs when an entity takes an action but does not bear all the costs (negative externality) or receive all the benefits (positive externality).

Common negative externalities in economic sectors are:

- pollution
- health impacts
- loss of productivity
- waste

negative externality, where the production or consumption of goods and services has negative spill-over effects, the cost of which is not fully reflected in market prices. An externality means that the market price of an unsustainable good or service is lower than its actual social costs, with the difference borne primarily by people other than the buyer and seller. In addition to the problem of basic fairness, this is a problem because in order for markets to efficiently allocate resources, prices need to accurately reflect the full social costs of economic activity.

Market-based instruments can help to create a more level playing field between green activities and their unsustainable alternatives. Some of these policies also have the potential to increase public revenue, which could make an important contribution to the financing of a green economy.

Environment-Related Taxes

Pricing techniques can be used to internalize the cost of the externality in the price of a good or service via a corrective tax, charge or levy, also sometimes referred to as full-cost pricing. Such taxes can provide clear incentives to reduce emissions and use natural resources more efficiently and can stimulate innovation.

Environmentally related taxes can be broken down into two categories:

- **Polluter pays** – focused on charging producers or consumers at the point that they are responsible for the creation of a pollutant
- **User pays** – focused on charging for the extraction or use of natural resources

The revenue raised from environmental taxes can be used to:

- mitigate the damage done by unsustainable production and consumption; to promote green economic activity
- contribute to other priority spending areas

The overall tax burden can be kept unchanged by lowering negative incentive taxes simultaneously with the introduction of environment-related taxes (for example, replacing subsidies for fossil fuels with support for renewable energy). This can help make green taxes politically more acceptable and may also result in a double or even triple dividend – a reduction in pollution at the same time as an increase in efficiency and employment.

Key considerations for environment-related taxation instruments

- In cases where the activity should be prohibited, regulatory measures are typically a more appropriate instrument than taxes
- Green taxes will generally result in winners and losers within an economy. For example, low-income households are sensitive to any price increases and because energy use tends to use a higher portion of their total incomes, they might be unduly affected by a new tax

- Comprehensive research is should be undertaken to estimate how green taxes will affect an economy and to help design complementary policies that can ease transition
- Consider offsetting any negative social impacts by rechanneling tax revenues into social welfare safety nets or other welfare-enhancing programmes
- It is important that policies be well communicated if they are to help overcome political opposition to change
- Public support for green taxation can be increased if governments introduce effective measures to ensure transparency and accountability

Removal of Environmentally Harmful Subsidies

Provision of subsidies can come at a cost to provision of important public services. According to analysis by the World Bank, a large number of countries spend more on fuel subsidies than they do on public health. Subsidies can also encourage poor environmental and resource management. Artificially lowering the price of goods through subsidization encourages inefficiency, waste and overuse, leading to the premature scarcity of valuable finite resources or the degradation of renewable resources and ecosystems.

Subsidies reduce the profitability of green investments. When subsidization makes unsustainable activity artificially cheap or low risk, it biases the market against investment in green alternatives. By artificially lowering the cost of using fossil fuels, such subsidies deter consumers and firms from adopting energy efficiency measures that would otherwise be cost-effective. There is consensus that these subsidies pose a significant barrier to the development of renewable energy technologies.

Global subsidies to fisheries have been estimated at US$ 27 billion annually, at least 60 per cent of which have been identified as harmful, and are thought to be one of the key factors driving over-fishing.

The difficulty of reforming subsidies is practical and political: careful policy implementation is needed to offset undesired secondary impacts, and a combination of strong political will and compensatory policies may be necessary to overcome opposition from vested interests. In some cases, subsidy reform can negatively affect the welfare of the poor, and complementary measures will be required to ensure a socially neutral or ideally progressive outcome.

A strategy for reforming subsidies should include the following:

- Design of complementary measures, such as short-term restructuring aid for industries, support and retraining for workers and welfare transfers for the poor
- Wide stakeholder consultation
- A strong communication strategy to reassure affected groups that they will be supported

- Ongoing monitoring and review, essential to determine the effectiveness and any unintended consequences of subsidy reform, and whether the mitigation policies – especially financial support – are reaching their intended beneficiaries and achieving their objectives

Tradable Permit Schemes

Tradable permit schemes establish an overall level of pollution allowed and then let the open market determine the price. The UNFCCC's Kyoto Protocol provides countries with the ability to trade greenhouse gas emissions reduction credits. In total, the Protocol resulted in 8.7 billion tonnes of carbon traded in 2009 with a value of US$ 144 billion (World Bank 2010).

CASE STUDY

The Clean Development Mechanism (CDM) was created under the UNFCCC to support emissions-reducing initiatives in developing countries. Projects that qualify to receive Certified Emission Reduction credits can sell them to historically high-emitting ("Annex 1") countries as "offsets", thereby helping those countries meet their emissions reduction targets. The qualification process for CDM projects is rigorous, and verification and other administrative requirements are significant. Two projects in the Region have qualified to date: a bagasse co-generation project in Guyana and the Wigton Wind Farm project in Jamaica.

For the CDM to effectively reduce global GHG emissions, it needs to become accessible to more countries, communities and small enterprises by adopting a programme approach that bundles small-scale initiatives and reduces transaction costs. The UNFCCC recently established an office in Grenada to encourage greater regional uptake.

Markets also exist for establishing payments for providing ecosystem services such as carbon sequestration, watershed protection, biodiversity benefits and landscape beauty. Payments for ecosystem services (PES) schemes aim to influence land use decisions by enabling landholders to capture more of the value of these environmental services than they would have done in the absence of the scheme.

The international PES scheme, REDD (Reducing Emissions from Deforestation and Forest Degradation) and the revised REDD+ were created to help reduce greenhouse gases and their contribution to climate change. REDD/REDD+ is a mechanism for transfers of finance between industrialized countries and developing countries in exchange for emission reductions resulting from activities that increase forest cover. The sums of money being estimated for full implementation of REDD+ are in the tens of billions of US dollars worldwide. The amounts committed so far provide grounds for optimism that this new mechanism can capture and transfer important new resources for ecosystem services provided by forests.

The IMF recommends a gradual reform strategy and suggests a number of potential short-term support measures, including the maintenance of subsidies that are most important to the budgets of the poor – mainly by replacing subsidies to producers with targeted consumption subsidies to poor households, and the redirection of funds into high priority areas for public spending, such as healthcare or education.

Group Exercise

- Identify one example of a market-based instrument in your country that facilitates the transition to a green economy.
- Discuss what additional conditions or considerations could be added to improve its contribution to a green economy.

Establishing Sound Regulatory Frameworks

A well-designed regulatory framework can create rights and incentives that drive green economic activity, remove barriers to green investments, and regulate the most harmful forms of unsustainable behaviour, either by creating minimum standards or prohibiting certain activities entirely.

Regulations provide the legal basis that government authorities can rely on for monitoring and enforcing compliance. A well-designed regulatory framework can reduce regulatory and business risks, and increase the confidence of investors and markets. It is often better for businesses to work to clear and effectively enforced standards, and not have to deal with uncertainty or face competition from those who do not comply with the rules. Moreover, regulations may also be particularly appropriate where market-based instruments are not applicable, such as where no market exists, for example, for ecosystem services.

In many cases, it is not necessary to establish new regulations, but instead existing regulatory frameworks should be better aligned with government objectives to promote green economic activity. This process has already started within many if not all Caribbean countries in response to their commitments to various multilateral environmental agreements and emerging sustainable energy policies.

To use regulatory tools to promote green economic activity in key sectors, it is important to first establish the extent to which existing regulatory frameworks are aligned with policy objectives. This makes it possible to decide which laws should be amended and whether or not any new legislation is needed.

Standards

Standards can be effective tools for achieving environmental objectives and enabling markets in sustainable goods and services. Standards inform consumers about products and production processes, and create or strengthen demand for sustainable products. Technical standards (i.e. requirements on products and/or processes and production methods) are developed and implemented mainly at the national level, although standards that aim at enhancing energy efficiency and that set targets for emission reductions are also developed internationally. The requirements may be based on the design or the particular characteristics required, such as many biofuel standards, or they may be performance-based, as is the case with many energy efficiency standards. Mandatory – as opposed to voluntary – standards can be very effective in achieving a desired outcome. Incorporation of energy efficiency into building codes is an example of standard setting.

The development of standards poses some risks. In many cases, it can be difficult to establish a standard with certainty. Also, a standard can eventually become obsolete and failing to adequately promote further improvements in performance. Complex standards also risk discriminating against small and medium-sized enterprises, which often lack adequate resources to comply with legislation and demonstrate compliance to regulatory authorities. To minimize these concerns, governments should establish mechanisms for regular review and revision of standards.

Property Laws and Zoning Regulations

It is evident that unless people have clear rights over a resource, they will lack the incentive to manage it well. In the case of agriculture, an absence or weakness of legal rights over farmland gives farmers little reason to manage it for the long term. Access rights can also have important effects on the management of a resource: there is little incentive for individual entities to make sustainable use of fisheries and water resources, for example, when they know that other users may simply increase their own use. This is the classic tragedy of the commons problem, and it can lead to degradation of ecosystems and the natural environment upon which Caribbean nations' economies and welfare depend.

Zoning regulations can be crucial in coordinating and integrating green infrastructure investments. Establishing strong zoning regulations would establish clear geographical limits around cities to restrict urban sprawl. Well-designed zoning regulations can also be instrumental to create green corridors that protect ecosystems or to prioritize the development of the poorest areas of a city in an environmentally sustainable manner.

Property laws and zoning regulations are politically challenging to establish and change. They may also have to address an additional layer of complexity when national legislation overlaps with international legislation, as in the case of transboundary fish stocks and cross-border water sources.

Voluntary agreements

Voluntary agreements and industry self-regulation measures are established by governments negotiating with firms, or by one or more firms taking voluntary action themselves, and usually consist of non-binding commitments to certain standards or principles. They can be a useful complement to government rules and regulations as they take away some of the burden of information and administrative costs from government authorities. Moreover, they can be in the interest of businesses if they involve cost-savings (eco-efficiency) or create positive branding. However, they are not a substitute for mandatory government regulations.

CASE STUDY

Sandals Resorts – the English-speaking Caribbean's largest Caribbean-owned hotel chain – has participated in the voluntary EarthCheck benchmarking and certification programme for the past ten years. All properties participate in the programme which has green initiatives for waste management, energy and water conservation, control of hazardous substances, prevention of air pollution, and protecting marine life, coupled with staff awareness and community engagement.

Information-based tools

Information-based tools can be used to help promote a green economy. Examples are:

- Awareness campaigns to raise general understanding about a particular issue and potentially to achieve political buy-in and support
- Information programmes to teach basic skills and promote behaviour that reinforces green economy objectives
- Regulations to make the provision of certain information mandatory, to enable consumers and investors to more effectively assess the sustainability performance of firms, including their ecological and carbon footprints
- Voluntary certification and labelling programmes to help consumers make decisions that will be in keeping with a green economy
- Corporate social responsibility (CSR) programmes in companies

Group Exercise

- Identify one example of a standard, property law, voluntary agreement or information tool in your country that facilitates the transition to a green economy.
- Discuss what additional conditions or considerations could be added to improve its contribution to a green economy.

Supporting Actions for Policy Implementation

Supporting capacity building and the strengthening of institutions

There are three important capacity-building issues for transitioning to a green economy.

Improved information-based capabilities

Developing policy for a green economy requires the following to ensure policy effectiveness and accountability:

- Establish systems for research, data collection and data management
- Ensure that data and scientific analysis are appropriately factored into policy decision making

Integrated planning

A holistic approach to policy-making is necessary to ensure decisions are aligned with the overall objectives of a green economy. This includes:

- the development of processes and norms to systematize taking into account how policies in one sector might affect others
- carefully assessing decisions that have long-term consequences
- incorporating skills development policies
- using an appropriate mix of policy tools to achieve a given objective

Adequate enforcement of policy requirements and laws

To ensure that policy tools are appropriately implemented, the following systems must be put in place:

- Verification of the use of appropriate award of tenders in sustainable public procurement
- Ensuring that environmentally related taxation is being levied on relevant economic activity.
- Adequate monitoring of compliance
- Ensuring that appropriate penalties are levied where protocol and regulations are violated

Investing in training and education

Training and skill enhancement programmes will be needed to prepare the workforce for a green economy transition. In some cases, a transition to a green economy could mean that jobs would be lost, and in other cases, it is expected that new green jobs would be created. Available studies on a sectoral and economy-wide level suggest that, on balance, there will be more jobs in a green economy. Renewable energy, for example, creates more jobs per dollar invested, per unit of installed capacity and per unit of power generated than conventional power generation. Likewise, public transport tends to generate more employment than reliance on individual cars and trucks. It is also estimated that the pace of green job creation is likely to accelerate in the future.

To enable a transition to a green economy, the following will be needed:

- Focus education efforts on aligning skills with the needs of the labour market
- Ensure that managers develop the new perspectives, awareness and capacities required for ensuring a smooth transition.
- Support to shift workers to new jobs or provide social assistance.

> "Businesses will need to ensure that their managers are able to learn and understand the new skills needed to respond to the changes taking place within their realms of responsibility; to develop more green-oriented managerial capacities; as well as to make adequate use of the skills their staff has obtained" (OECD)

Group Exercise

- Identify one example of a supporting action related to capacity building or institutional strengthening in your country that facilitates the transition to a green economy.
- Discuss what additional conditions or considerations could be added to improve its contribution to a green economy.

Understanding the full range and value of ecosystem services can help governments and businesses make the most efficient, cost-effective, and responsible decisions. It can reveal opportunities for cost savings through timely or targeted action, such as where ecosystem services could be provided at lower cost than man-made alternatives (e.g., for water purification/ provision, carbon storage or flood control). In some cases, it may be sufficient to simply recognize the value of ecosystems and biodiversity to ensure their sustainability. These values can often be described in qualitative terms and reflect the intrinsic, spiritual or social value of nature.

In other cases, it may be necessary to determine the value of ecosystems and biodiversity in economic terms – through a method referred to as natural resource valuation – to ensure balanced and informed decision making. This is particularly true when policy makers and businesses make decisions impacting ecosystems based on a cost and benefit calculation. A failure to demonstrate ecosystem values in such cases can easily lead to perverse policy and business decisions. For instance, when considering the conversion of wetlands for agricultural or industrial use, a policy-maker would not have the full picture if the value of the wetland in terms of water filtration and flood control services is ignored.

Once values have been demonstrated, they can be captured through various policy instruments, such as Payments for Ecosystem Services (PES), which provide financial incentives for the responsible stewardship of the services.

Natural Resource Valuation

Natural resource valuation, or environmental valuation, is a series of techniques that economists use to assess the economic value of market and non-market goods, namely natural resources and resource services. It applies the welfare economics concepts of producer and consumer surplus to issues involving natural resources and the state of the environment. Welfare economics tries to answer the question “Is society better off?” Environmental valuation is the application of welfare economics when the differences in circumstances relate to the uses or states of natural resources or the quality of the environment.

Economic value is measured by the most someone is willing to give up in other goods and services in order to obtain a good, service, or state of the world. In a market economy, dollars (or some other currency) are a universally accepted measure of economic value, because the number of dollars that a person is willing to pay for something tells how much of all other goods and services they are willing to give up to get that item. This is often referred to as “willingness to pay.”

In assessing the value of some policy or management plan, the economist is interested in estimating how much an individual's (or society's) well-being would change: how much it will decrease if a natural resource were lost or increase if a natural resource or resource service were better managed or its quality improved. In other words, when economists try to estimate the economic value of a natural resource or resource service, they attempt to answer one of two questions:

- How much are people willing to trade (give up) of other goods and services to have some natural resource or resource service?
- How much better off would people be if a policy or management plan action was implemented and the amount or quality of a resource or resource service was improved?

The theory behind attaching economic value and cost associated with the ecosystem functions (e.g., clean air, freshwater, fertile soil and stable landscapes), is that decisions will be based on a more complete understanding of the full cost (i.e., the socio-economic opportunity cost) of development that alters the environment, directly or indirectly. For example, the cost of damage from past hurricanes would be reflected as an economic value associated with the protection of barrier reefs and mangroves, among others. Similarly, the cost of economic damage due to flooding and landslides is an economic value of maintaining adequate forest ground cover upstream.

CASE STUDY

Valuation studies demonstrated that self-financing is a viable option in many Caribbean protected areas, especially those that attract large numbers of visitors. Several protected areas now have effective revenue generation strategies, and as a result are among the best managed in the region. The most successful examples in the region include Nelson's Dockyard National Park (Antigua), Bonaire and Saba Marine Park, Brimstone Hill Fortress National Park (St. Kitts) and Pigeon Island National Park (Saint Lucia). Economic valuation played an important role in the establishment of these self-funded systems (NEPA, 2010).

Environmental Impact Assessment

Environmental impact assessment (EIA) is now a standard part of international development. In fact, EIA is a stipulated prerequisite for projects funded by the World Bank, IDB, USAID and EU. The purpose of an EIA is to identify and evaluate the potential impacts (beneficial or adverse) of development projects on the environment.

There is now little doubt that the environmental consequences of any proposed project or development need to be taken into account by decision makers along with the other

more conventional assessment criteria such as economic efficiency; for example the use of cost-benefit analysis and internal rates of return. Environmental Impact Assessment is now one of the tools used to determine the viability of a project and is particularly useful in the sense that it can be applied as early as the pre-feasibility stage of the project before enormous amounts of time, energy and money have been committed.

An EIA is a decision-aiding tool. Its ultimate objective is to give decision makers a clear picture of alternatives which were considered, the environmental changes which were predicted and the advantages and disadvantages of each alternative. The report that is produced usually includes a set of recommendations.

An effective EIA process should include:

- clear standards and requirements for documentation to be used in EIA preparation
- tools for the identification of significant impacts
- requirements for specification of impact mitigation measures and environmental management plans

By attaching financial and economic value to ecosystem functions, EIAs would allow for a more accurate representation of the costs associated with development. Thus, the decision-making process becomes a more holistic enterprise, one that better enables environmentally sound and sustainable development. However, there is a risk that the decision-making process will not adequately consider the economic values of ecosystem functions. These values may be heavily discounted on the basis of low or unknown probabilities and greater weight given to development on the basis of high priority short-term socio-economic benefits.