THE GREEN ECONOMY: HOW ARE WE PREPARING OUR WORKFORCE

Dr. Didacus Jules
Caribbean Examinations Council
May 2012
• Characteristics of the Green Economy

• The educational requirements of the Green Economy

• How can we prepare our workforce

• CXC’s contribution to this effort
CHARACTERISTICS OF THE GREEN ECONOMY
A green economy can be described as one that is low carbon, resource efficient and socially inclusive...

A green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks.

Model of economic development based on sustainable development paradigm and a knowledge of ecological economics
What does all of this essentially mean?

Are we finding the balance between the excesses of capitalism and the rigidities of communism?

**A different way of working and living** – a more communitarian world
The new political economy has been evolving for some time...

... but it's all about economics as if people and the environment matter!

Elinor Ostrom

- Nobel Prize in Economics in 2009 (the first woman to achieve this)

Analysis of economic governance, especially the governance of common property like air, water and public spaces.

Virtually all the world's most urgent problems require collective action. Be it environmental protection, the international financial system or the dimensions of inequality, Ostrom's work sheds light on the direction society must follow.
Interconnectedness of the problems necessitate multi-sectoral, multi-dimensional solutions
Management of pollution is segregated from that of fisheries, which in turn are rarely considered in the same place as shipping, or climate change. This means that impacts are discussed in isolation and by different people. But a view of the whole is far more alarming than the sum of its parts.

- Callum Roberts, Newsweek 21st May 2012
Active lifestyles
Organic food and nutrition

Health and sanitation
Food production

Green (waste-free) production
Recyclable waste

Sustainable utilization
Impact on positive lifestyles

Food production
Habitat, waste and lifestyles
Human well-being
our unplanned experiment with greenhouse gases is gradually infiltrating the deep sea, changing ocean chemistry, impacting temperatures and oxygen levels, and shifting patterns of underwater currents with dramatic consequences. The path we are on today is pushing ocean ecosystems to the edge of their viability

- Callum Roberts, Newsweek 21st May 2012
Active lifestyles
Production of organic food
Nutrition & health

Access to safe water
Irrigation
Flood/drought management
Water & human sanitation

Green (waste-free) production
Recycling programs
Waste to energy

Sustainable industries – tourism, agriculture, etc
Natural resource management

Localized, organic food production/import substitution
Balanced urban-rural development
Land use regulation
Climate change

Coastal protection for islands
Training for re-location/migration (Fiji)

Rural electrification
Sustainable energy sources
Carbon-free energy
New industries powered by sustainable energy
EDUCATIONAL REQUIREMENTS OF THE GREEN ECONOMY
“The Green Jobs Initiative (UNEP, ILO, ITUC and IOE) highlighted the dual challenge of green jobs:

to make economic growth and development compatible with climate stabilisation and a sustainable environmental footprint.

The shift towards **greening the economy** will require **the second greatest economic transformation** after the industrial revolution”

- Future Skill Needs for the Green Economy 2009
Environmental challenges raise serious concerns for the welfare of current and future generations.

Responses should be driven by independent but commonly reinforcing policies for environment, energy, transportation, employment, and training.

Responses should be driven by convergent and multi-sectorally reinforcing policies.
“Education must simultaneously provide maps of a complex world in constant turmoil and the compass that will enable people to find their way in it”

Delors Report
Rio-20’s essential lexicon

C21 competencies:
- Critical thinking
- Design thinking
- Collaboration

C21 skill sets:
- ICT
- Transdisciplinary TVET

the mating of knowledge, tradition and
Some key conclusions:

Education transformation – towards seamless system

National Qualifications Framework – vertical and horizontal career progression

Converging TVET and CBETA in education
HOW CAN WE PREPARE OUR WORKFORCE
1. Identification of the **strategic opportunities** for green business

2. Revaluation of **traditional and indigenous knowledge** on sustainable lifestyles and creating new business models in work and community

3. Determination of the **skill requirements** to support investment in these areas

4. Putting in place the architecture for **vertical and horizontal career progression** in these areas

5. Policies on **workforce training** must prioritize this as a central investment by Public-Private partnership in growing the new economy
1. Identification of the strategic opportunities for green business

**ENERGY**

1. **Solar, Wind, Geothermal**
   - The Caribbean – natural benefits of sunlight

2. **Waste to Energy**
   - Small states: conserving land space, eliminating waste,

3. **Rural electrification**
   - Improving lifestyles
   - Rural economic integration

4. **Energy for industry**
   - Reducing Opex
   - Improving competitiveness

5. **Reduction of oil imports**
   - Removing economic vulnerability
2. Revaluation of traditional and indigenous knowledge on sustainable lifestyles and creating new business models in work and community

**HEALTH**

- **Traditional medicines/cuisine**
  - Knowledge of traditional remedies
  - Knowledge of traditional nutritional practices
  - Valuation of local foods

- **Treatment of Non-Communicable Diseases**
  - Improving lifestyles
  - Savings on imported drugs
  - Identity valuation

- **Food Security**
  - Food import substitution

- **Food exports**
  - Organic food export
  - Niche food products
3. Determination of the skill requirements to support investment in the Green Economy

Knowledge: scientific, technical, traditional
Skills: TVET, Traditional,
Attitudes: Collaborative, inquisitive, inventive
4. Putting in place the architecture for vertical and horizontal career progression in these areas

<table>
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<tr>
<th>QUALIFICATION</th>
<th>QUALIFICATIONS FRAMEWORK</th>
<th>CREDITS</th>
<th>DESCRIPTORS</th>
<th>OCCUPATIONAL LEVEL</th>
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<tr>
<td>Second Degree</td>
<td>V</td>
<td>480</td>
<td>Recognition of high professional knowledge, expert work and study competencies and the performance of these at the senior manager and professional levels</td>
<td>Advanced professional Chartered professional (Senior Manager)</td>
</tr>
<tr>
<td>First Degree</td>
<td>IV</td>
<td>360</td>
<td>Recognition of high specialised and expert work and study competencies and skills and the performance of these in a wide range of contexts. This includes at managerial, master craftsman, entrepreneurs, and technologists</td>
<td>Manager Master Craftsmen Technician (Para Professional)</td>
</tr>
<tr>
<td>Associate Degree/ Diploma</td>
<td>III</td>
<td>300</td>
<td>Recognition of the ability to achieve detailed work and study competences and skills and the performance of these within autonomy. Can perform supervisory work. Equivalence: NVQ 3, CACE Units, GCE A Level, City &amp; Guilds 3</td>
<td>Technician (Supervisor)</td>
</tr>
<tr>
<td>Certificate</td>
<td>II</td>
<td>240</td>
<td>Recognition of the ability to achieve a very good comprehension of work and study competencies and skills and the performance of these under minimal supervision or guidance. Equivalence: NVQ 2, CACE 1 - 8, GCE A - O, CACE 3 subjects – Competent (Masonery, City &amp; Guilds 2)</td>
<td>Skilled worker (Unsupervised)</td>
</tr>
<tr>
<td>Certificate</td>
<td>I</td>
<td>120</td>
<td>Entry level qualification that recognizes preparatory competencies and skills, and the application of these in everyday situations under direct supervision. Equivalence: NVQ 1, CACE 1 - 5, CACE 4 (individual awards), City &amp; Guilds 1</td>
<td>Entry-level worker (supervised)</td>
</tr>
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- Enable progression from any level to another
- Design of competency based education, training and assessment
- Tertiary level opportunities in TVET areas
- Incentivize business to invest Green and to grow human capacity
5. Policies on workforce training must prioritize this as a central investment by Public-Private partnership in growing the new economy.
CXC’S CONTRIBUTION TO THIS PROCESS
Deepening CXC’s internationalization

- Recognition by Accreditation bodies
- Articulation with universities
- Awards to top performers
### CARIBBEAN QUALIFICATIONS FRAMEWORK

<table>
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<tr>
<th>Levels</th>
<th>Knowledge</th>
<th>Skills &amp; application</th>
<th>Autonomy and responsibility</th>
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</thead>
<tbody>
<tr>
<td>Notes</td>
<td>(Theoretical &amp; factual )</td>
<td>(Cognitive, practical &amp; communication skills and the context for their application)</td>
<td>(Including team role)</td>
</tr>
</tbody>
</table>
| I      | Basic general knowledge of a field of work or study | Range of skills: Basic general, logical and practical skills  
Type of activity/ Context: Routine, repetitive situations  
Communication: Read and write limited types and lengths of materials; understand and follow simple instructions; identify and report facts. | Needs direct supervision and detailed guidance to complete routine, repetitive tasks. |
| II     | Foundational factual and operational knowledge of a field of work or study | Range of skills: Foundational, logical and practical skills  
Type of activity/ Context: Defined, routine, structured  
Communication: Extract information from specified range of sources; produce simple written documents using templates; take part in discussion. | Needs some supervision and clear instructions in order to perform on structured assignments and achieve set goals. |

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SAMPLE – work in progress
Articulation of certification

ASSOCIATE DEGREE
- Facilitates advanced job placement or career focus
- Provides credits for degree level studies

CPEA®
- Changing teaching, learning and assessment at primary school. Focus on key competencies

CVQ®
- Specific technical skills directly applicable to different occupations

CCSLC®
- Foundational programme for secondary level
- Emphasis on competencies necessary for future success

CSEC®
- Completion of 5 years of secondary level
- Entry standards for further study or world of work

CAPE®
- Pre-University programme
- Foundation blocks for tertiary education

19 countries
Articulation of certification

ACADEMIC

COGNITIVE

AFFECTIVE

PSYCHOMOTOR

Technical & Vocational

LEARNING DISTRIBUTION BETWEEN TWO DOMAINS

© CXC 2009
articulate TVET offerings and rationalize the sector
CXC partnerships

Policy advocacy and education reform
Mission synergies
Articulation of certification
Syllabus & Exam revitalization
Improving learning & teaching
Funding support

Creating mutually reinforcing synergies
Systematic review of subjects in each level of certification: CVQ, CSEC, CAPE

Creation of new subjects corresponding to new global opportunities or challenges:

- CAPE Tourism & Recreation
- CAPE Entrepreneurship
- CAPE Agriculture
- CAPE Digital Media
OBJECTIVES:

- Demonstrate the application of knowledge
- Demonstrate civic responsibility
- Display entrepreneurship or innovation

Trans-disciplinary approaches
Converging assessment with real world opportunity
Critical thinking; problem solving; design thinking; innovation contests
MODE OF INTERFACING WITH CXC

REGIONAL ORGANIZATION

Core business

public education dimension

• Infusion
• Strand development
• N-Master
• Support material

SYLLABI

EXAMS

• standards
• competence
• Certification
• SBA projects

PUBLIC SENSITIZATION

• knowledge valuation
• Social media dissemination
the best way to predict the future is to invent it
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Taking CXC to the next level; be part of the journey.