Canada's Colleges and Institutes: Transitioning to a Culture of Green Innovation

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For

Colleges and Institutes Canada

(CICan)

Green Transitions

Meeting demands for green skills and green jobs through institutional:

- Initiatives
- Strategies
- Approaches

What are we learning?
What are the challenges?

- ❑ Re-thinking green skills
- ❑ Innovating in program design
- ❑ Leveraging community-based applied research

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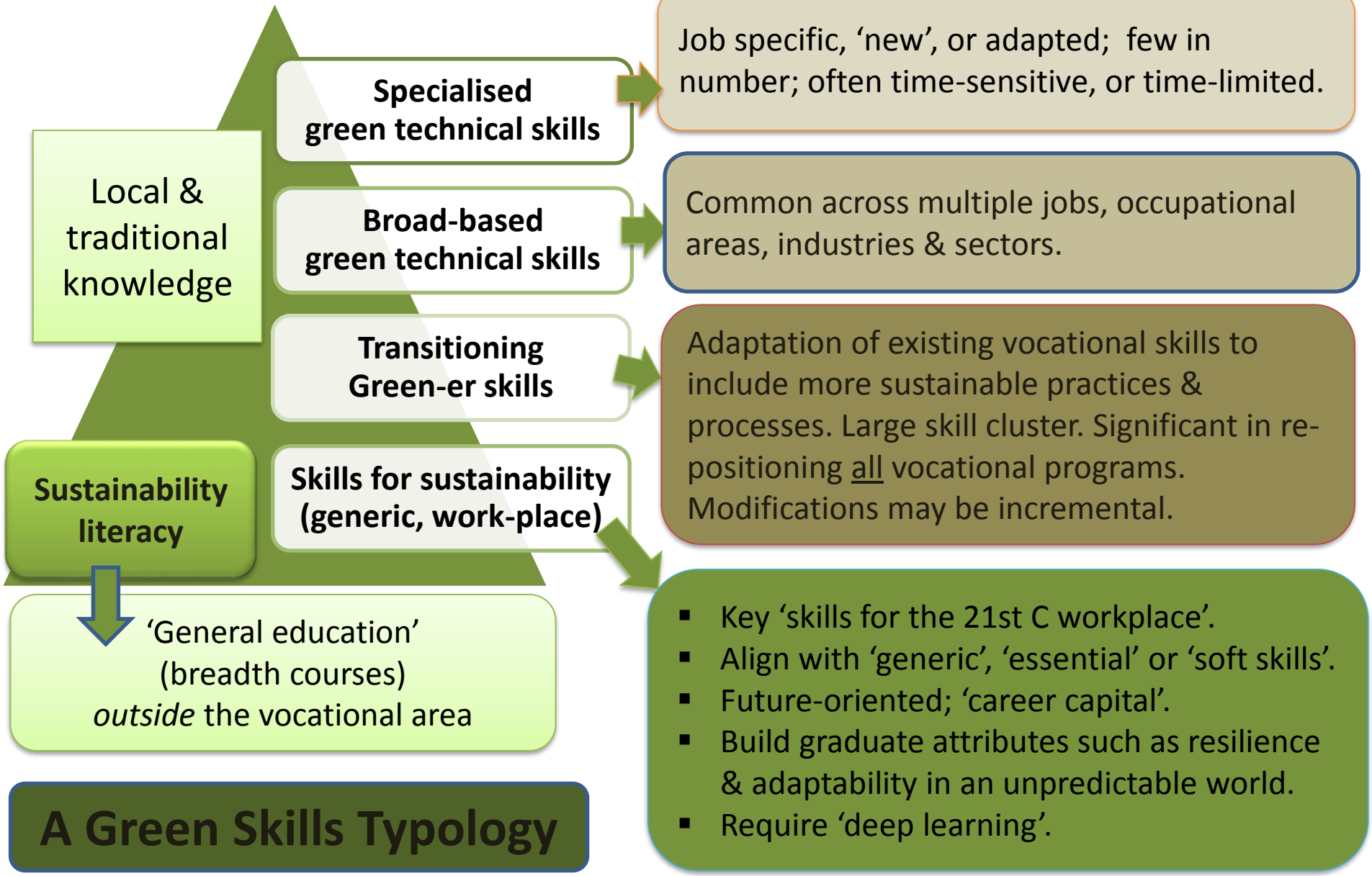
Characteristics of Skill Types



A Green Skills Typology

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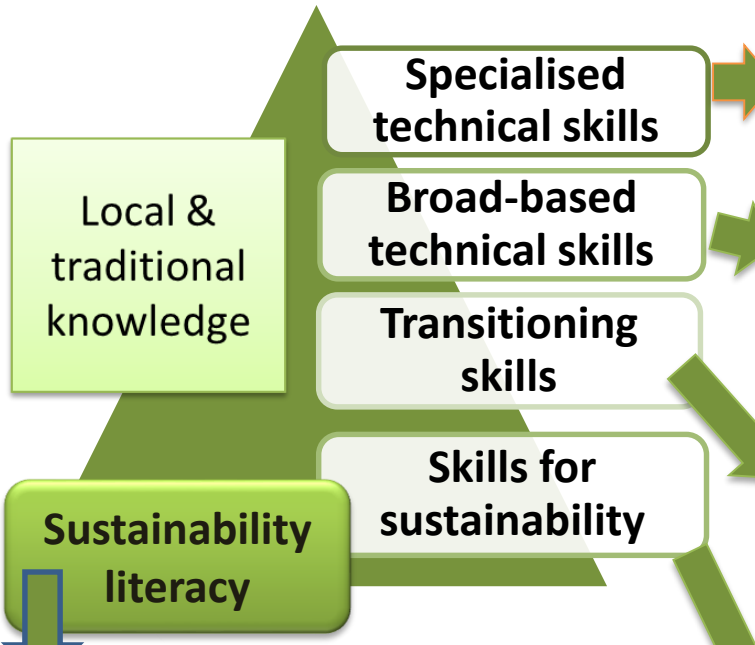
Examples of Skill Types



- Installation of Photo-Voltaic panels
- De-commissioning of wind turbines
- Design of geothermal systems

- Product life-cycle assessment
- Waste reduction and management
- Energy conservation and management

- **Business**: green procurement; corporate social responsibility; carbon accounting
- **Construction**: materials selection; life cycle analysis; building reclamation
- **Culinary arts**: local sourcing; food preservation; selection/use of energy efficient appliances

- How natural systems function
- Ethics and values
- Motivating sustainability behaviour and consumption
- Technological and economic relationships to sustainability

(Second Nature)

- Enterprise skills; innovation and creativity
- Capacity to solve complex problems
- Systems-thinking
- Ethical/moral decision-making
- Assessing consequences of one's actions

A Green Skills Typology

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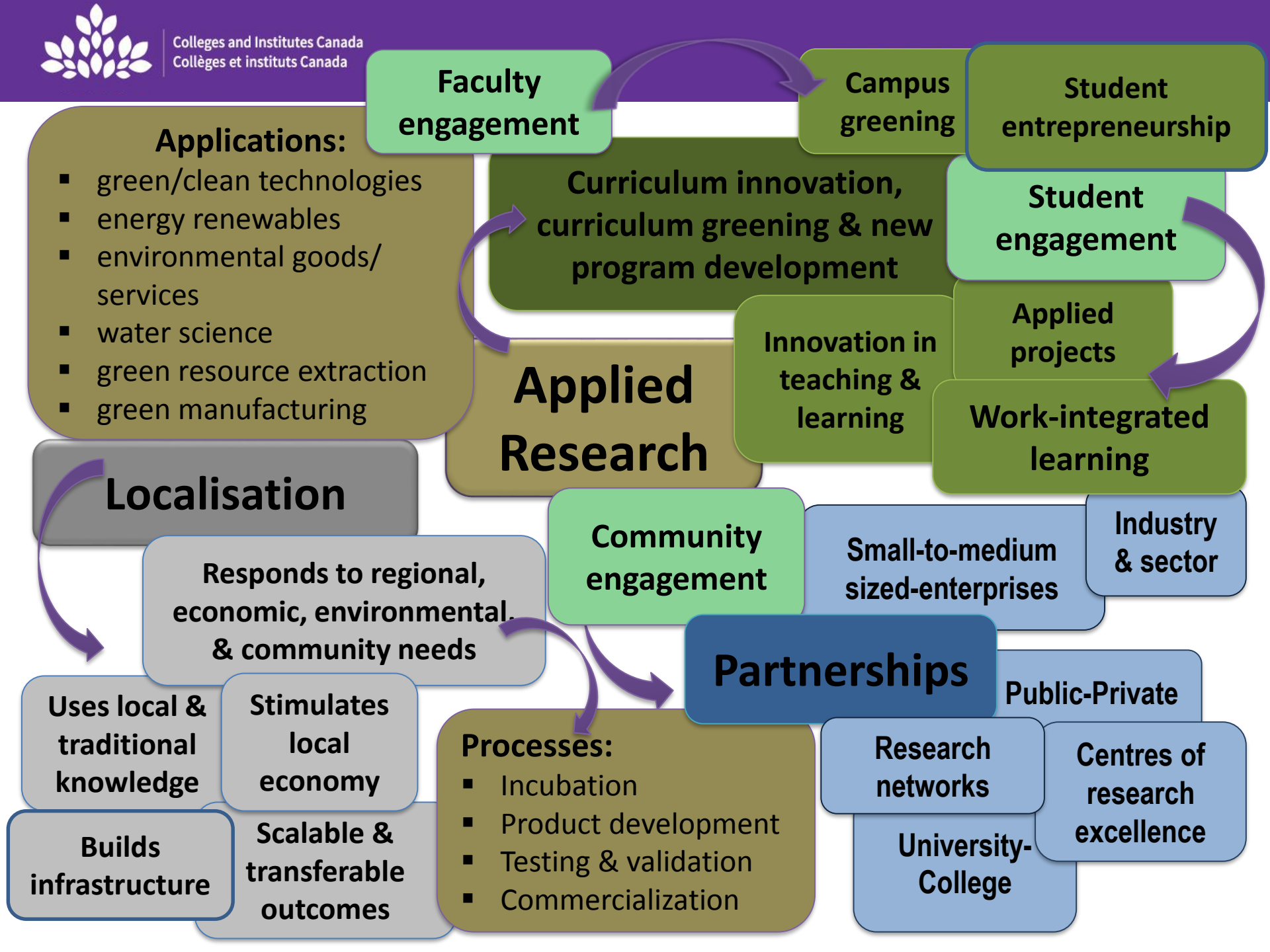
Greening of TVET Program Design

Traditional TVET Programs	Design of Transitioning & Future G-TVET Programs
Job specific, or limited in occupational scope	▪ Provides entry to emergent, diversifying, or evolving fields (cross-sectoral, cross-disciplinary) ▪ 'Occupational fusion' and new combinations of skills
Programs 'siloed' or 'stand alone'; career paths	Program clusters or hubs - common curriculum (e.g. STEM); career matrices
Single point of entry/exit	Multiple points of entry and exit
Meets needs of traditional school leaver	Promotes workforce mobility (re-skilling, up-skilling, multi-skilling, re-entry to workforce)
Limited capacity to respond to changing skills needs	▪ Responsive to time-sensitive/time-limited skills needs. ▪ Effective industry/sector advising; currency of LMI ▪ Responsive QA & qualifications frameworks.
Terminal qualification; limited *academic & workplace* mobility	Includes 'stackable credentials', 'up-skilling' (bridge programs, certifications, modules); transferable credits and new academic pathways.
Conventional delivery	Flexible and responsive program delivery. Changing strategies for teaching and learning.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Faculty engagement
Campus greening
Student entrepreneurship
Applications:
green/clean technologies
energy renewables
environmental goods/ services
water science
green resource extraction
green manufacturing
Curriculum innovation, curriculum greening & new program development
Student engagement
Applied projects
Innovation in teaching & learning
Work-integrated learning
Applied Research
Localisation
Community engagement
Small-to-medium sized-enterprises
Industry & sector
Responds to regional, economic, environmental, & community needs
Partnerships
Public-Private
Uses local & traditional knowledge
Stimulates local economy
Processes:
Incubation
Product development
Testing & validation
Commercialization
Research networks
Centres of research excellence
Builds infrastructure
Scalable & transferable outcomes
University-College