

TEMPLATE FOR THE GOOD PRACTICE

What is a good practice?

A good practice is not only a practice that is good, but a practice that has been proven to work well and produce good results, and is therefore recommended as a model. It is a successful experience, which has been tested and validated, in the broad sense, which has been repeated and deserves to be shared so that a greater number of people can adopt it.

Please follow the instructions included to fill in the template. You can replace the guiding questions for each element with your description.

Mandatory fields are defined by *

Element	Description
Title*	Developing the College of Machinery and Irrigation (VCMI) into a Centre of Excellence for Green TVET in Vietnam.
Name of the VET Provider	College of Machinery and Irrigation (VCMI)
Thematic domain	• Digital • Green • Inclusion • Creating partnerships/skills ecosystems
Introduction*	As Vietnam is promoting the transition towards a green economy, sustainable development, and the implementation of its Net Zero commitment, vocational education and training (VET) faces an urgent need to transform in order to provide a workforce equipped with green knowledge and skills that meet the emerging demands of the labour market. However, the process of greening vocational education and training still faces numerous challenges, particularly in terms of financial resources, infrastructure, equipment, staff capacity, and practical experience in implementing green vocational training. In response to these challenges, VCMI recognized the need to shift from individual environmental activities to a comprehensive whole-school greening model, encompassing the greening of the campus, training curricula, teaching

methods, community engagement, and school culture, integrated with quality management and environmental management.

The key challenge to be addressed is how to develop a VET institution capable of **training a green workforce that meets the needs of enterprises**, while effectively implementing school greening initiatives with limited resources, and ensuring that the model can be sustained, transferred, and replicated in other VET institutions.

Developing VCMI into a leading model institution in Vietnam in response to the needs of a sustainable green economy, based on five key pillars: (1) Greening the campus; (2) Greening training curricula; (3) Greening teaching methods; (4) Greening the community; and (5) Greening school culture, with the overall management of the VET institution as a cross-cutting element. This good practice has been implemented for more than three years.

The issues being addressed include:

- Ensuring that green spaces cover at least 30% of the total campus area.
- Having one building certified as a green building.
- Using at least 10% of electricity from renewable energy sources and reducing annual electricity consumption by 3%.
- Establishing systems for rainwater harvesting, wastewater collection and treatment, and reducing annual water consumption by a specified percentage.
- Reducing annual paper consumption by at least 5%.
- Ensuring that over 95% of solid waste is collected and treated, and 90% of hazardous waste is collected and treated in an environmentally friendly manner.
- Greening 100% of training curricula, including two specialized green vocational training programmes.
- Digitalizing at least 30% of training content.
- Achieving an annual reuse rate of practical training materials of over 30%.
- Ensuring that 100% of teaching equipment is labelled for energy efficiency.
- Providing training on greening vocational education and training (VET) and sustainable development to 100% of staff and lecturers.
- Organizing at least two community greening activities per year.
- Implementing quality management in accordance with ISO 9001:2015 and environmental management in accordance with ISO 14001:2015.

Stakeholders and Partners

- Beneficiaries, target groups, and users of the good practice: Students, lecturers, and workers, including disadvantaged and vulnerable groups.
- Institutions, partners, implementing agencies, and donors involved in the good practice and the nature of their involvement: The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the KfW Development

Bank (KfW), enterprises, and associations are involved in providing financial support, technical assistance, consultation on training curricula and learning outcomes, and opportunities for internships and employment for graduates.

Impact*

Tác động*

In term of training quality and satisfaction:

- According to the graduate tracer survey results, over 90% of students and graduates secured employment relevant to their field of training after graduation. In addition, 86.3% of students and 95% of enterprises considered the green knowledge and skills acquired during training to be relevant and necessary for enterprises.

- According to the survey results of teachers and management staff, 98.7% expressed satisfaction with the educational environment, reflecting the positive impact of the initiative on learners' motivation and holistic development.

In term of inclusion, gender equality and student support:

- 100% of the buildings have been constructed with accessible pathways for persons with disabilities; separate restroom facilities are provided for female students and persons with disabilities; and surveillance camera systems are installed to help prevent harassment and ensure safety.

- VCMI organizes events to encourage female students to pursue technical occupations and implements preferential admission policies for female students enrolling in green vocational training programmes and disadvantaged groups. These include tuition fee reductions or exemptions and dormitory fee reductions or exemptions for ethnic minority students from poor and near-poor households; scholarships for female students pursuing green occupations; and scholarships for students with disabilities.

- Every year, VCMI organizes reproductive health counselling activities for adolescent students, as well as legal awareness and education activities and school violence prevention programmes for all students across the institution.

- Every year, VCMI organizes at least two cultural, artistic, and sports activities to create a healthy and inclusive environment for students.

In terms of industry partnership and international cooperation:

- In the context of limited financial resources and infrastructure, VCMI has established Vocational Advisory Boards for the Mechanical Engineering and Electrical–Electronics sectors. Through these boards, VCMI makes use of the existing resources of its partner enterprises to implement jointly delivered training programmes at enterprises. Specifically, students spend 30% of their training time at enterprises, enabling VCMI to save 40–50% of the costs of investing in expensive machinery, equipment, and practical training materials,

while still ensuring that graduates meet the quality and competency requirements of enterprises.

- VCMI has proactively expanded international cooperation and partnerships with enterprises to mobilize support and resources from projects and partner enterprises to enhance its vocational training capacity in wind and solar energy, while continuing to expand training programmes incorporating new technologies related to climate and the environment. Specifically, VCMI has participated in DPP projects supported by the develoPPP.de programme of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the project “Capacity Building for Workers in the Renewable Energy Sector to Support a Green and Sustainable Economy,” funded by the Confederation of Danish Industry (DI).

Innovation and Success Factors *

* This good practice has contributed to innovation in the following ways:

(1) Greening the campus:

- Implementing quality management and environmental management in accordance with ISO 9001:2015 and ISO 14001:2015.

- Green spaces account for 44.8% of the total campus area, and the campus has a lake that helps regulate the surrounding air temperature.

- The institution has a building awarded the LOTUS Gold green building certification.

- The campus is equipped with a public lighting system using high-efficiency LED lights, reducing electricity consumption by 3–5%.

- VCMI has a centralized wastewater treatment system and an integrated rainwater collection system.

- Campus buildings are designed to be accessible to persons with disabilities.

- Classrooms are designed to ensure adequate natural lighting and ventilation.

- VCMI encourages staff and teachers to use electric vehicles instead of gasoline-powered vehicles.

(2) Greening training curricula:

- 100% of training curricula incorporate Green content.

- Two specialized green vocational training programmes have been developed in accordance with German standards.

- Integrating circular economy, renewable energy, and green logistics into training programmes.

(3) Greening teaching methods:

- Comprehensive digitalization of management and training activities through platforms and approaches such as Learning Management Systems (LMS), e-learning, blended learning, and project-based learning.

(4) Greening the community:

- Transferring Basic module on "Environmental protection, energy and resource efficiency" to 350 managers and lecturers from 42 vocational education and training (VET) institutions nationwide.
- Transferring two specialized green training programmes to eight VET institutions nationwide.
- Regularly organizing waste audits and environmental protection competitions.

(5) Greening school culture:

- Establishing guidelines for environmentally responsible behaviour.
- Organizing regular campus-wide cleaning activities every Friday afternoon.
- Encouraging staff, teachers, and students to reduce plastic waste.

* Conditions (institutional, economic, social, and environmental) required for the successful replication of the good practice in similar contexts include:

For VCMI's good practice in greening vocational education and training (VET) to be successfully replicated in similar contexts, a coordinated combination of institutional, economic, social, and environmental conditions is required.

Institutionally, attention, guidance, and support from relevant authorities are needed, along with clear standards, criteria, and guidance tools. At the same time, a core team of managers and teachers with the capacity to implement and transfer the good practice should be established.

Economically, minimum financial resources for investment and training must be ensured, while additional resources should be mobilized from enterprises and international organizations through cooperation in training, knowledge transfer, and green skills development.

Socially, the active participation of school leaders, teachers, learners, enterprises, and the community is essential. Inclusiveness must also be ensured by providing equal access opportunities for disadvantaged and vulnerable groups.

Environmentally, appropriate plans and conditions are needed for the effective management of energy, water, waste, and green spaces, as well as for integrating sustainable development content into training curricula.

Most importantly, when replicating the good practice, its core principles should be maintained while flexibly adapting objectives, solutions, and implementation roadmaps to the economic, social, and environmental conditions and workforce needs of each locality and VET institution.

Constraints*

VCMI has implemented the greening of VET in the context of limited financial resources, infrastructure, equipment, and experience in delivering green vocational training. Greening VET requires not only investment in facilities but also changes in training curricula, teaching methods, staff capacity, and the overall school culture.

To overcome these challenges, VCMI has adopted several key solutions. First, the institution makes use of enterprise resources through Industrial Advisory Boards and organizes jointly delivered training programmes at enterprises, with approximately 30% of training time spent at enterprises. This approach has helped VCMI reduce investment costs for equipment, machinery, and practical training materials by approximately 40–50%, while still ensuring that graduates meet the competency requirements of enterprises.

In addition, VCMI has proactively expanded international cooperation and partnerships with enterprises to mobilize resources, gain access to new technologies, and strengthen its training capacity in renewable energy and other fields related to the green economy. The institution has participated in projects and cooperation programmes with GIZ, BMZ, the Confederation of Danish Industry, and other international partners.

Another challenge is how to sustain and replicate the model. VCMI has developed a Brochure on greening TVET at VCMI, established specific standards and criteria, and formed a core team of teachers who have been trained and certified by GIZ to support the transfer of the model to other VET institutions.

Lessons learned *

Key message: Greening VET should not be implemented as an isolated activity but should become a comprehensive transformation process of the entire institution, encompassing the greening of the campus, training curricula, teaching methods, community, and school culture, integrated with quality management and environmental management.

Based on VCMI's practical experience, several important lessons can be drawn:

- Greening VET must be aligned with the actual needs of the labour market and enterprises. Integrating circular economy, renewable energy, and green logistics into training curricula helps learners acquire skills that meet the demands of green development trends. According to the survey results, 95% of enterprises surveyed considered the green knowledge and skills acquired by learners to be relevant and necessary.

- Investing in people is just as important as investing in infrastructure and facilities. VCMI aims to ensure that 100% of its staff and teachers receive training on greening VET and sustainable development, while establishing a core team of teachers capable of providing training and transferring knowledge and practices to other VET institutions.

- Significant changes can be achieved even with limited resources by mobilizing and sharing resources with enterprises, international organizations, and other partners. VCMI's enterprise-based training model is a clear example of how costs can be reduced while maintaining the quality of training.

- Good practices need to be standardized to enable replication. The Brochure on greening TVET at VCMI, training modules, and specialized green vocational training curricula help transform VCMI's experience at the institutional level into resources that can be shared, transferred, and applied at other VET institutions.

- Greening must go hand in hand with inclusiveness. VCMI places emphasis on ensuring accessibility and equal opportunities for persons with disabilities, female students, ethnic minorities, people from poor and near-poor households, and other disadvantaged groups through accessible facilities, scholarships, and support policies.

Replicability and/or up-scaling

VCMI's practical experience demonstrates that the model has high potential for replication, as the institution has transferred the Basic module on "Environmental protection, energy and resource efficiency" to 350 managers and teachers from 42 VET institutions and transferred two specialized green training programme to eight VET institutions nationwide.

In the coming years, efforts to scale up the model could focus on:

1. Replicating the School Greening Standards and Handbook across VET institutions, providing a clear reference framework for institutions to conduct self-assessments and develop their own greening roadmaps.
2. Training and developing a core team of teachers, thereby establishing a network of VET institutions capable of implementing greening initiatives and providing further training on greening VET.
3. Expanding knowledge and skills transfer to enterprises through short-term training courses, demand-driven training, and programmes to enhance workers' green skills.
4. Strengthening international cooperation by leveraging the networks of GIZ, Aus4Skills, the Confederation of Danish Industry, EVBB, and other partners to share experiences and adapt the model to countries or VET institutions with similar conditions.

However, replication does not mean copying the model exactly as it is. To ensure that the good practice remains relevant and appropriate in new contexts, several conditions should be taken into consideration:

- Maintaining the core principles of the greening model while allowing each institution to select objectives and solutions appropriate to its economic conditions, facilities, and local workforce needs.
- Assessing the needs of local enterprises and the labour market before selecting vocational training fields, technologies, and green skills content.
- Adjusting the investment roadmap according to available resources, without necessarily investing in all components at the same time as VCMI.
- Developing a local core team to ensure the sustainability of the model after the initial support phase.
- Establishing cooperation mechanisms with enterprises and international partners to share costs, technologies, expertise, and practical training opportunities.
- Establishing a system of criteria and performance indicators to evaluate results, while allowing targets to be adjusted according to the scale, conditions, and characteristics of each institution.
- In particular, replication should maintain inclusiveness, ensuring that learners from disadvantaged groups, female students, and persons with disabilities have equal opportunities to access and benefit from the greening process.

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URL of the practice *<https://vcmi.edu.vn>*

Related resources that have been developed

Training manuals, guidelines, technical fact sheets, posters, pictures, video and audio documents, and/or Websites have been created and developed as a result of identifying the good practice.

- Brochure on greening TVET at VCMI
- Training module: Basic module on “Environmental protection, energy and resource efficiency”
- Two green training programme
- Communication materials, images, and videos:
- Communication and information-sharing content on digital platforms

* Accessibility: Information about VCMI's initiatives and activities can be accessed through the official VCMI website: <https://vcmi.edu.vn/>, the official Facebook page of the College of Machinery and Irrigation (VCMI), and VCMI's YouTube channel. The documentation also includes a YouTube video introducing VCMI's green model.

For training materials, handbooks, and programmes developed for knowledge transfer, the current documentation does not provide direct online access links. Therefore, these materials may be provided or shared directly by VCMI upon request for cooperation, training, or model transfer.
