



Knowledge hub
-
Collection of best practices

Summary of the best practice

1. Title of the best practice (e.g. name of policy, programme, project, etc.) *

Vocational training for sustainable construction methods

2. Country or countries where the practice is implemented *

Denmark

3. Please select the **most relevant** Action Track(s) the best practice applies to *

- Action Track 1. Inclusive, equitable, safe, and healthy schools
- Action Track 2. Learning and skills for life, work, and sustainable development
- Action Track 3. Teachers, teaching and the teaching profession
- Action Track 4. Digital learning and transformation
- Action Track 5. Financing of education

4. Implementation lead/partner organization(s) *

RCE Denmark, UNU IAS

5. Key words (5-15 words): Please add key descriptive words around aims, modalities, target groups etc. *

TVET, ESD, sustainable construction, skills development

6. What makes it a best practice? *

Sustainable development were integrated into a formal construction TVET curriculum, from selecting building materials, to gender equality in the field, to the right to organize unions.

Description of the best practice

7. Introduction (350-400 words)

This section should ideally provide the context of, and justification for, the practice and address the following issues:

- i) Which population was affected?
- ii) What was the problem that needed to be addressed?
- iii) Which approach was taken and what objectives were achieved? *

In the Northern European region, there is a solid sustainable forestry tradition. When building with wood as the building material, carbon emissions are lower than building with conventional building materials. A cubic metre of conventional building material involves emissions of 1.2 to 1.5 tonnes of CO₂ during production. On the other hand, a cubic metre of wood as building material can store 0.7 to 1.0 tonnes of CO₂ (Træ Information n.d.). In other words, there is a great potential for a green transformation of the construction and building industry if wood is used as a sustainable building material. This transformation starts in the educational system by developing teaching materials on building methods using wood in order to reduce carbon emissions.

8. Implementation (350-450 words)

Please describe the implementation modalities or processes, where possible in relation to:

- i) What are the main activities carried out?
- ii) When and where the activities were carried out (including the start date and whether it is ongoing)?
- iii) Who were the key implementation actors and collaborators? (civil society organizations, private sector, foundations, coalitions, networks etc.)?
- iv) What were the resources needed (budget and sources) for the implementation?

*

RCE Denmark has signed a contract of cooperation with NEXT Education in Copenhagen on a four-year innovative project (the project detailed here), where most carpentry apprentices in the metropolitan area of Copenhagen are given the opportunity to receive a certificate of sustainable building construction together with their apprenticeship. The goal is – by 2024 – to have the first graduates being able to do sustainable construction based on the newest knowledge and research available. The title of the project is 'The wood construction industry for sustainability'

The project is initiated and driven by the carpentry apprentices themselves, their teachers, and the school's management, in cooperation with all partners in RCE Denmark. This first phase of the project (completed in February 2021) was seen as a test pilot for the full project which is expected to run from August 2021 until 2024. In the main project the wood worker apprentices and their teachers are also participating.

The apprentices gain knowledge on and practise with sustainable construction materials (wood fibre both as isolation material and panels) and new construction methods (constructing walls (interior and exterior) and roofs (outer and inner) all while having the least amount of impact on the environment as possible. Additionally, the apprentices are introduced to the SDGs, balancing the three dimensions of sustainable development; economic, social, and environmental, with specific examples in the curriculum on:

- Life cycle assessment in building construction;
- Recycling and waste sorting;
- Equality between the sexes and ethnic groups;
- Social benefits with a well-functioning tax system; and,
- Acknowledgement of the right to organise unions.

9. Results – outputs and outcomes (250-350 words)

To the extent possible, please reply to the questions below:

- i) How was the practice identified as transformative? (e.g., impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities etc.);
- ii) What were the concrete results achieved with regard to outputs and outcomes?
- iii) Has an assessment of the practice been carried out? If yes, what were the results? *

The preliminary results are already very promising:

- More and more apprentices are getting involved with the project and want to achieve the learning and competencies needed for a green transition of the building and construction industry.
- Both carpentry education and business are very maledominated industries, but the focus on sustainability seems to attract women, and there are more women among the apprentices studying sustainable building construction, compared to apprentices in other carpentry programmes. A positive consequence of that is also more debate about equality, the different conditions of the sexes and how to ensure young women's well-being.
- The apprentices become ambassadors in the companies and inspire their master carpenters, who themselves start looking for training and how to restructure their business in a more sustainable way.
- The project has experienced great support and curiosity from the entire value chain in the building construction industry, from other educational institutions, the Danish National Commission for UNESCO, as well as from the Danish Ministry of Foreign Affairs (due to its connection to the SDGs).

10. Lessons learnt (300 words)

To the extent possible, please reply to the following questions:

- i) What were the key triggers for transformation?
- ii) What worked really well – what facilitated this?
- iii) What did not work – why did it not work? *

It is also very interesting to learn how the collaborative environment between apprentices and teachers is empowered and leveraged, as they all are in the same boat together so to speak. A very important notion here is that everyone participates voluntarily in this ESD project.

11. Conclusions (250 words)

Please describe why may this intervention be considered a “best practice”. What recommendations can be made for those intending to adopt the documented “best practice” or how can it help people working on the same issue(s)? *

An educational institution who wants to develop the crafting industry in a sustainable direction needs to do a lot of research on sustainable methods, since it will probably be a frontrunner of a new movement. The methods used in this project specifically are based on sustainable forestry. The two organisations involved in the project made a lot effort to make sure that the building methods were buildable solutions, meaning that all materials needed were part of an all-in-one solution to local needs and resources, and fit in with national regulation (relating to security, fire, and moisture). This project is based on a combination of the formal educational system, effective collaboration with the private sector, and voluntary participation from apprentices, teachers and stakeholders. This combination has given an enormous driving force and sense of empowerment.

12. Further reading

Please provide a list and URLs of key reference documents for additional information on the “best practice” for those who may be interested in knowing how the results benefited the beneficiary group/s. *

https://rcenetwork.org/portal/sites/default/files/flipping_book/pdf/01_UNU_RCE_Climate_Contributions_2021.pdf (p52-55)

<https://www.rcenetwork.org/portal/rce-denmark-2021?user=144&year=2021>