The secrets of how to educate the future now.
Green capital of Europe
VET is like a village
With all kinds of good initiatives (for society)
Only when the school is a textbook example for sustainable development
Only when the school is a textbook example for sustainable development it can show and learn how.
Only when the school is a textbook example for sustainable development it can show and learn how - to save energy, materials, food refuse, reuse, rethink, redesign
Only when the school is a textbook example for sustainable development it can show and learn how:
- to save energy, materials, food refuse, reuse, rethink, redesign
- to use renewable energy, materials and food renewables
Only when the school is a textbook example for sustainable development it can show and learn how:
- to save energy, materials, food, refuse, reuse, rethink, redesign
- to use renewable energy, materials and food, renewables
- to deal with it as long as possible, maintain, repair, refurbish, remanufacture, recycle, recover
Only when the school is a textbook example for sustainable development it can show and learn how
- to save energy, materials, food refuse, reuse, rethink, redesign
- to use renewable energy, materials and food renewables
- to deal with it as long as possible maintain, repair, refurbish, remanufacture recycle, recover
- with care for each other and biodiversity
Only when the school is a textbook example for sustainable development it can show and learn how:

- to save energy, materials, food refuse, reuse, rethink, redesign
- to use renewable energy, materials and food renewables
- to deal with it as long as possible maintain, repair, refurbish, remanufacture, recover
- with care for each other and biodiversity

Through creativity, entrepreneurship and IT skills
350,000 - 400,000 kuub gas
> 300 houses
Excursions for students
A sustainable, circular, flexible building
Excursions for students
Disassembly

Larix uit Drenthe € 220,000 8 minuten in NL 40 sec in Europa
Cross laminated timber
While preserving buildings
Material and energy saving
Air treatment in the showroom
Excursions for students
Sedum roof
Shed roofs
Shed roofs
Solar panels
CO$_2$ -sensors
Teach the trias transition competences
- to save energy, materials, food refuse, reuse, rethink, redesign
- to use renewable energy, materials and food renewables
- to deal with it as long as possible maintain, repair, refurbish, remanufacture recycle, recover

for the energy transition and the circular economy
Teach the trias transition competences
- to save energy, materials, food refuse, reuse, rethink, redesign
- to use renewable energy, materials and food renewables
- to deal with it as long as possible maintain, repair, refurbish, remanufacture recycle, recover
for the energy transition and the circular economy
- with care for nature
for ecological sustainable development
Teach the trias transition competences
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- to deal with it as long as possible maintain, repair, refurbish, remanufacture recycle, recover
for the energy transition and the circular economy
- with care for nature
for ecological sustainable development
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for sustainable development and the SDG’s
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for the energy transition and the circular economy
- with care for nature
for ecological sustainable development
- with care for each other
for sustainable development and the SDG’s

By setting a good example as a school yourself.
Walk the talk!
Secret I

Does your school sets a good example in building?
Does your school Walk the talk!
Is it really necessary?
In all areas of the whole school approach
In all areas of the whole school approach
In all areas of the whole school approach

- Pedagogy
- Facility management
- Teacher training
- Society

The housing
Energy
Water
Waste
Catering
Mobility
Biodiversity
Purchase
Communication
In all areas of the whole school approach

- pedagogy
- facility management
- teacher training
- society

---

The housing
Energy
Water
Waste
Catering
Mobility
Biodiversity
Purchase
Communication

---

Lessons
Internships

Local
District
National
European
Mondial

Ad hoc
Optional
Structural
Integrated
In final exams

---

plan
act
check

---

curriculum
society
pedagogy
vision
dofacility management

---

Lessons
Internships
<table>
<thead>
<tr>
<th>01</th>
<th>Vision and policy with regarding sustainability</th>
<th>B1</th>
<th>Vision and policy sustainable business operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Sustainability training 1 2 3 4 5 *</td>
<td>B2</td>
<td>Gas</td>
</tr>
<tr>
<td>03</td>
<td>The SDGs in trainings</td>
<td>B3</td>
<td>Electricity</td>
</tr>
<tr>
<td>04</td>
<td>Assignments from society</td>
<td>B4</td>
<td>Water</td>
</tr>
<tr>
<td>05</td>
<td>Social sustainability</td>
<td>B5</td>
<td>Waste</td>
</tr>
<tr>
<td>P1</td>
<td>Sustainable internships</td>
<td>B6</td>
<td>Mobility</td>
</tr>
<tr>
<td>P2</td>
<td>Sustainable assignments for the internships</td>
<td>B7</td>
<td>Catering</td>
</tr>
<tr>
<td>P3</td>
<td>Networks</td>
<td>B8</td>
<td>Biodiversity</td>
</tr>
<tr>
<td>P4</td>
<td>Communication + clarification</td>
<td>B9</td>
<td>Purchase</td>
</tr>
<tr>
<td>P5</td>
<td>Education and training</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Determine and describe together
• - Vision, mission, aims
• - Plan
• - Do
• - Check
• - Act
Share
Learn from each other
Determine and describe together
- Vision, mission, aims
- Plan
- Do
- Check
- Act

Share
Learn from each other

Has your school got this approach and documents?
Do you believe this is useful?
It is all about skills!
New green skills
Build up skills adviser app

https://buildupskillsnl.anewspring.com
<table>
<thead>
<tr>
<th>Solar panels installation</th>
<th>Small windmill installation</th>
<th>Building management systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimalsation of heating</td>
<td>Solar heaters</td>
<td>Ventilation systems</td>
</tr>
<tr>
<td>VERVALDATUM: 1-1-20</td>
<td>NOG NIET GESTART</td>
<td>NOG NIET GESTART</td>
</tr>
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<td>44%</td>
<td>100%</td>
<td>30%</td>
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<tr>
<td>Activiteiten</td>
<td>Activiteiten</td>
<td>Activiteiten</td>
</tr>
</tbody>
</table>
Sustainable building materials

Soil energy

Heatpumps

Sustainable lighting

Low temperature heating

Natural refrigerants
Warmtepomp in een totaalsysteem
Build up skills adviser app
SUSTAINABLE BUILDING

Building becomes assembling, demolition becomes disassembly.

Sustainable construction is construction that meets the needs of the client in such a way that it remains possible to build in this way in the future.

It has to do with materials, energy, waste, health, land use and ecology.

Take into account
- what you want with a building
- what flexibility the building must have
- what specific requirements the climate sets

On the right side are all kinds of topics in this area.

The 2019 climate agreement states that 1.5 million houses and other buildings will be free of natural gas by 2030. This means that almost one in five homes and other buildings will undergo major energy renovations in the next ten years.

Good luck

In construction you have the following professions and they should all be made more sustainable. Click on the image or the link below. On the right side all kinds of topics related to sustainable construction.
It has, among other things, to do with materials, energy, waste disposal, health, land use, and ecology.

- what you want with a building
- the flexibility, the building must have
- what specific demands the climate

On the right side are all sorts of issues in this area.

In the climate agreement of 2019 states that in 2050 1.5 million houses and other buildings are quite natural. It means that almost one in five homes and other buildings in the next ten years is undergoing a major energy renovation.

Good luck

In construction, you have the following professions and which should all be sustainable.

Click on the image or the link below it. On the right side all sorts of issues related to sustainable construction.

70 issues
Provide lessons and assessments in circular building
Circulair bouwen

<table>
<thead>
<tr>
<th>Overzicht</th>
<th>Hoe</th>
<th>Welke skills</th>
<th>De didactiek</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inleiding</td>
<td>Hoe</td>
<td>Welke skills</td>
<td>Clip cursus</td>
</tr>
<tr>
<td>Waarom</td>
<td>zit wat?</td>
<td>Hoe</td>
<td>Een Opdracht</td>
</tr>
<tr>
<td>Visie Missie</td>
<td>wat?</td>
<td>circulair is een gebouw</td>
<td>Het resultaat</td>
</tr>
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<td>Wat</td>
<td>De</td>
<td>is een gebouw</td>
<td>Keuzedelen</td>
</tr>
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<td>Wat</td>
<td>materialen</td>
<td>Waar</td>
<td>Voor wie?</td>
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<td>Waar gaan het over.</td>
<td>Materiaal</td>
<td>zit wat?</td>
<td>CS en de sloper</td>
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<td>Welke skills</td>
<td>Materiaal</td>
<td></td>
<td>CS en de timmerman</td>
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<tr>
<td>Hoe circulair is een gebouw</td>
<td>Materiaal</td>
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<td>CS en de metselaar</td>
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<tr>
<td>Waar zit wat?</td>
<td>Materiaal</td>
<td></td>
<td>CS en de bouwkundestudent</td>
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<td>De materialen</td>
<td>Materiaal</td>
<td></td>
<td>CS en de plafond- en wandmonteur</td>
</tr>
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<td>Materiaal</td>
<td>Materialen</td>
<td></td>
<td>CS en de glazetser</td>
</tr>
<tr>
<td>Materiaal</td>
<td>Materiaalpaspoorten</td>
<td></td>
<td>Voor wie?</td>
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<tr>
<td>Voorbeeld De sloop van een flat</td>
<td>Materiaal</td>
<td></td>
<td>CS en de sloper</td>
</tr>
<tr>
<td>Goede voorbeelden</td>
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<td></td>
<td>CS en de timmerman</td>
</tr>
<tr>
<td>Hoe</td>
<td>Het ontwerp</td>
<td></td>
<td>CS en de metselaar</td>
</tr>
<tr>
<td>Ontwerp</td>
<td>Losmaakbaar</td>
<td></td>
<td>CS en de bouwkundestudent</td>
</tr>
<tr>
<td>Demontabel en modulair</td>
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<td></td>
<td>CS en de plafond- en wandmonteur</td>
</tr>
<tr>
<td>Izameling verwerking</td>
<td>Izameling verwerking</td>
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<td>De levensduur verlengen</td>
<td>Upcycling in centra</td>
<td></td>
<td>Voor wie?</td>
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<tr>
<td>Upcycling in centra</td>
<td>Denk in tweede levens</td>
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<td>CS en de sloper</td>
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<td>Waarde duiden</td>
<td></td>
<td>CS en de timmerman</td>
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<td>Waarde duiden</td>
<td>Verhandelen</td>
<td></td>
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<tr>
<td>Verhandelen</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Building becomes assembling
Demolishing becomes disassembling
Design for disassembly
Design in the future
Design with the trias transition skills
Create new educational materials (together with construction bodies, companies, EU, Life, Horizon etc.)

Identify the gaps
Create learning materials
Implement them

Have you identified the gaps.
Are new training materials available?
Are they taught?
Attend contest and challenges to make it more attractive
Get tasks from society to make it more relevant.
Make sustainable and circular building attractive and meaningful

Do you succeed in this?
Students -> internships / companies

Is the input for new education

Students see reality

Have to come up with improvements how to work and build more sustainable and circular.
Dit karton is gebruikt om de zonnepanelen netjes te leggen, zodat het karton niet te verspillen wordt. Het wordt dan gereycled. De balen van het papierbrijpulp doorlopen een proces waarbij ze worden verpakt en niet in papier, niet in plastic, maar in papier. De papiervezels worden overbelast door de vezels worden gepakt zodat de inkt los komt en een eindproduct wordt. Dit is ingezet om nieuwe kartonnen of papieren producten te maken.

Kleine stukken hout zou je kunnen verkopen aan bijvoorbeeld meubelmakers of mensen die veel kleinere stukken hout kunnen gebruiken.

Voor de grotere stukken hout zou je kunnen laten bewerken zodat het er weer als nieuw uitziet en het dan vervolgens wel te kunnen gebruiken in de woningbouw.

Het hout op de afbeelding werd het hout dat eerst in het gebouw zat hergebruikt in de nieuwbouw.

Plastic kan je weer omsmelten tot een nieuw product. Dit geldt ook voor metalen of aluminium.

Er zijn veel mogelijkheden om puin en beton weer te hergebruiken.

Dit kost alleen wel veel tijd en soms ook veel geld dus kiezen de meeste bedrijven hier niet voor, maar ik ben er wel van overtuigd dat als ieder bouwbedrijf dit zou doen, je uiteindelijk heel veel dingen kunt hergebruiken en het hoeft ook niet moeilijk te zijn.
Start circular learning
Do you agree?
Is it already applied?
The five secrets

1. Set a good example yourself
2. Define a vision, targets, plan, do, check, act.
3. Create new materials together (identify)
4. Make it more attractive and meaningful (implement and integrate)
5. Apply circular learning student-company-lessons-student (improve)