

# HIGHER NATIONAL

UHI Learning & Teaching  
Conference 2023

Learning for Sustainability in  
NextGen: HN



# THE NEXT GENERATION

HIGHER  
NATIONAL





# PURPOSE

- To provide a brief update on the NextGen: HN project, specifically focussing on Learning for Sustainability.
- To share practitioner experiences of embedding Learning for Sustainability in their delivery of NextGen: HN prototype qualifications.

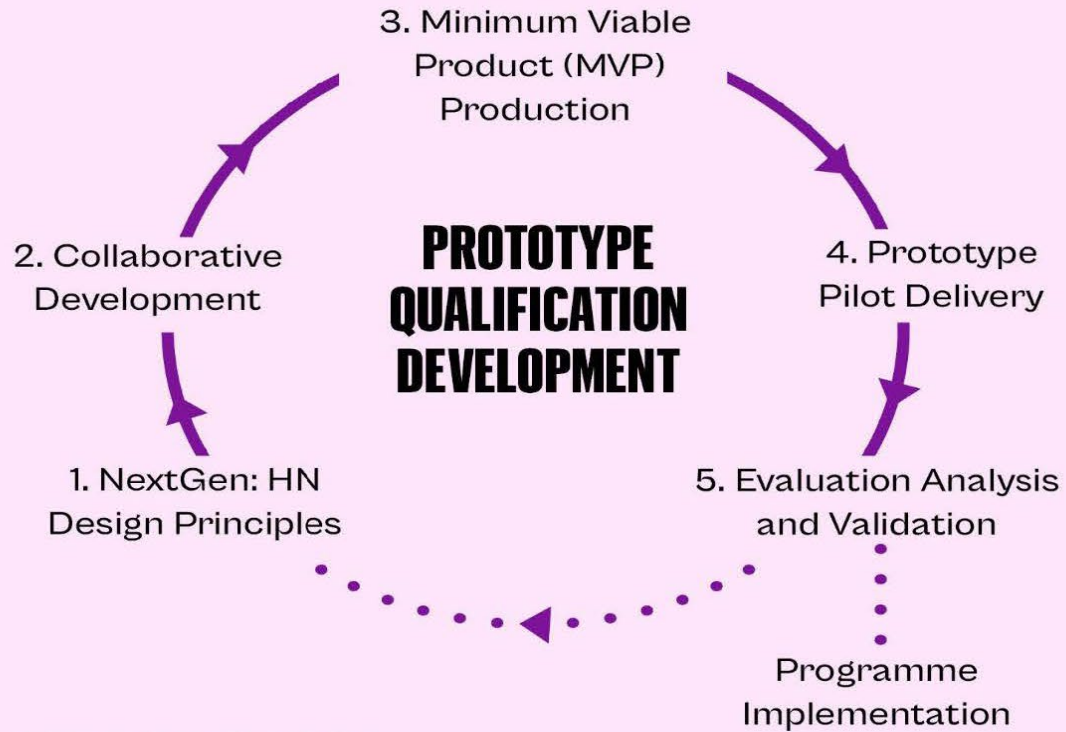
# NextGen: HN Development Cycle

**PRE-DEVELOPMENT ACTIVITIES:**

**CONSULTATION**

**SUBJECT SELECTION**

**QDT FORMATION**



## PROJECT STRAND SUPPORT

Meta-skills Quality Assurance Digital learning Digital Assessment Articulation & Progression, Grading Digital Publishing Learning for Sustainability

# NEXTGEN: HN LFS VISION

All NextGen: HN qualifications should include opportunities for learners to develop:

- a general understanding of sustainability principles and the United Nations Sustainable Development Goals (SDGs)
- an understanding of subject-specific sustainability issues, how these relate to the SDGs, and potential improvements
- the confidence to apply the skills, knowledge and understanding, and values developed through their learning in the next stage of their lives.





# LfS PROGRESS

**Engagement** with stakeholders, to ensure SQA's LfS approach is current and appropriate. Consideration of LfS practices in schools, colleges, and universities; and industry and employer requirements.

**Embedding** of LfS in NextGen HNC/D learning and teaching, and a mandatory LfS outcome.

**Support:** QDT workshops, case studies, blogs, SQA Academy module, subject-specific infographics, Pilot Centre Themed Conversation session, Pilot Centre Updates and newsletters.



# NEXTGEN: HNC/D LFS OUTCOME

One of the mandatory units must contain a LfS outcome linked to the UN SDGs and be relevant to the unit context. This must be done through inclusion of the common outcome OR an outcome developed by the QDT.

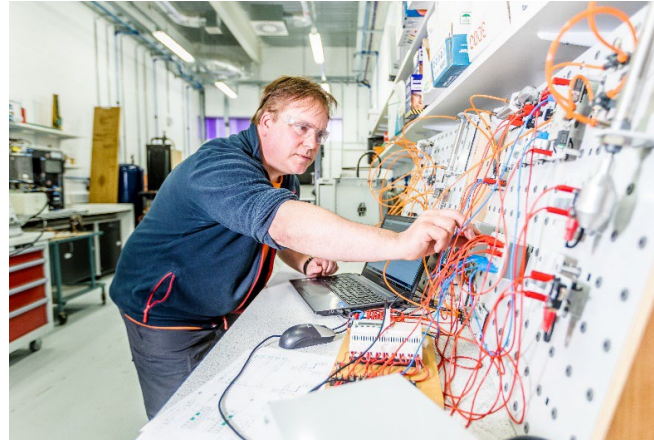
Candidates must gather evidence that demonstrates they can:

- identify and describe sustainability in the context of the SDGs
- explain how one product or process relevant to their qualification could be made more sustainable and help meet the aims of at least two selected SDGs.





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**Learning for Sustainability**

**Next Gen HNC Engineering  
(Systems Pathway)**



Andy M<sup>c</sup>Intosh MIET, UHI Inverness

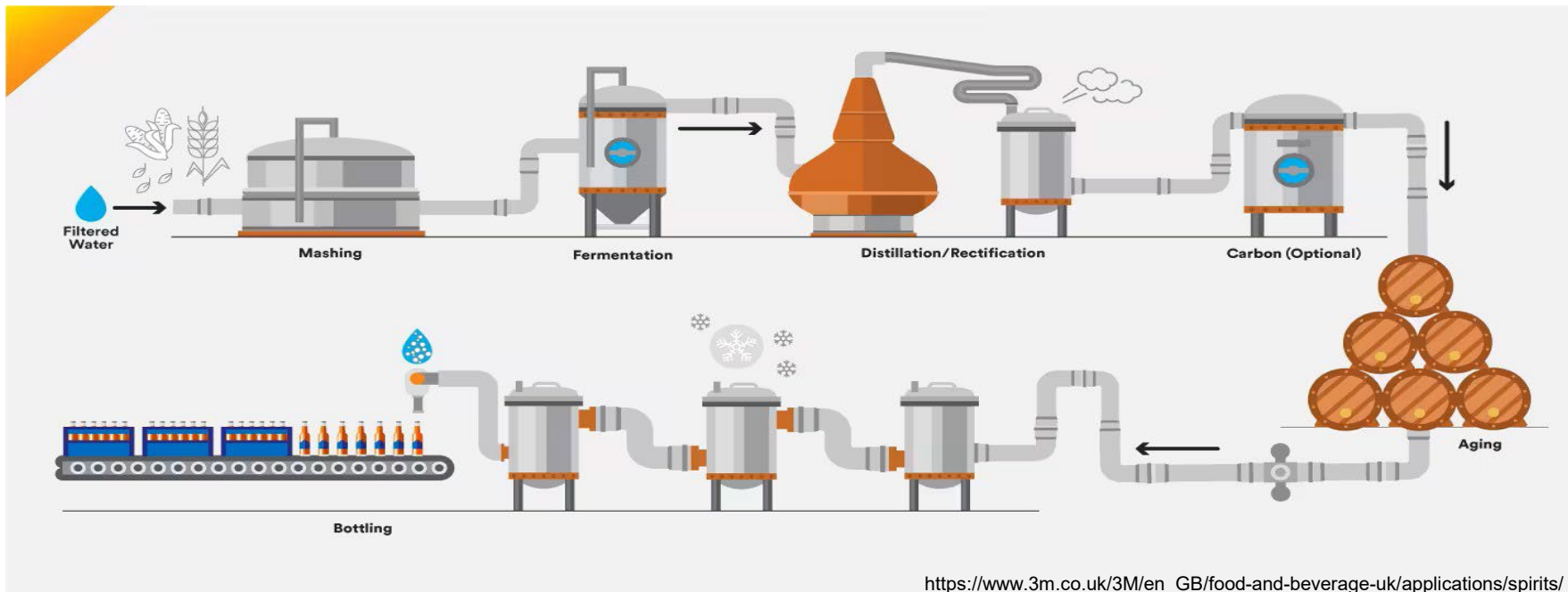
## Approach

### Semester 1

- Meta Skills Profiling
- Apply holistic approach to deliver and explore principles/concept and application to a process
- Case Studies and how they work
- Develop skills required for Professional Practice

### Semester 2

- Students lead Projects centred around sustainability, applying and developing skills learnt in Semester 1
- Apply Industry Approach on projects
  - Design
  - Built/Simulate
  - Test
- Evaluate Meta Skills



### Case Studies

1. Venturi-Orifice
2. Energy Storage Comparison
3. Francis Turbine
4. RLC
5. Statics
6. Dynamics
7. Power Factor Correction Simulation
8. Reliability
9. Instrumentation Mini Project



# Reception

## Students

- Both years cohort have enjoyed the integrated approach to principles with Learning outcomes not driving the course.
- Learning for sustainability is a something mentioned in school, while not currently embedded in Semester 1, it will in semester 2 when the project work starts in January

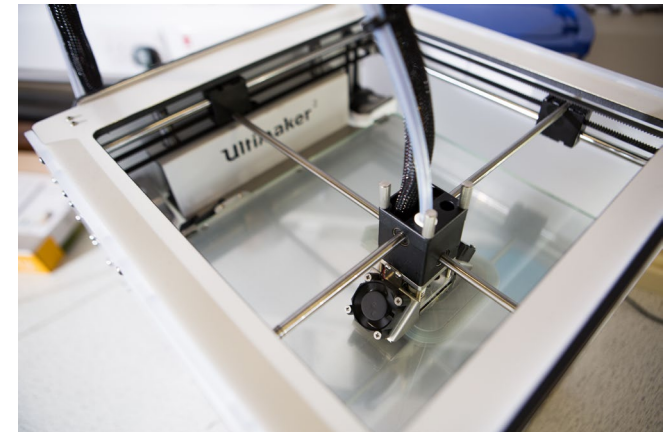
## Industry

- Like the case study approach
- Industry is keen to provide support and excited for students to look at their existing sustainability challenges and explore potential solutions. For example, one challenge provided by industry is looking at energy cost and CO2 emissions used in the control of temperature for their labs, while last year industry challenge looked at potential uses for their waste product.



# Looking Ahead

- Standardization across Scotland – More centers Piloting the Next Gen Approach.
- Providing clarity around learning for sustainability.
- Exploration of other Pathways including Electrical stream and Mechanical stream.
- Strengthening Links with Industry.



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**Thank you**

**Any questions please get in touch**

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# Learning for Sustainability

Horticulture NextGen HNC & HND

Amber Crowley SFHEA, UHI Argyll





## How is it delivered?

Integrated into all units with a different focus for each, a few examples:

**Ecology and Environment for Horticulture** - A new subject area for the programmes to prepare learners for the rapidly developing green industries. UN SDG's are studied in depth alongside climate change issues and biodiversity loss. Students use case studies from their projects in other units to analyse sustainability issues and carry out planning for improved sustainability.

**Garden Design** – Designing gardens and greenspace with minimum environmental damage and maximum environmental benefit, to improve greenspace for the wellbeing of users, encompassing sustainable development.

**Horticultural Maintenance** – Improving green spaces for carbon capture, habitat improvement and wellbeing of people using green spaces.

**Community and Social Horticulture** – Developing greenspaces for wellbeing, making horticultural enterprises sustainable for employment, social justice issues, human rights and equality are studied in this unit.





# How is it being received?

## Embedding and contextualising are key

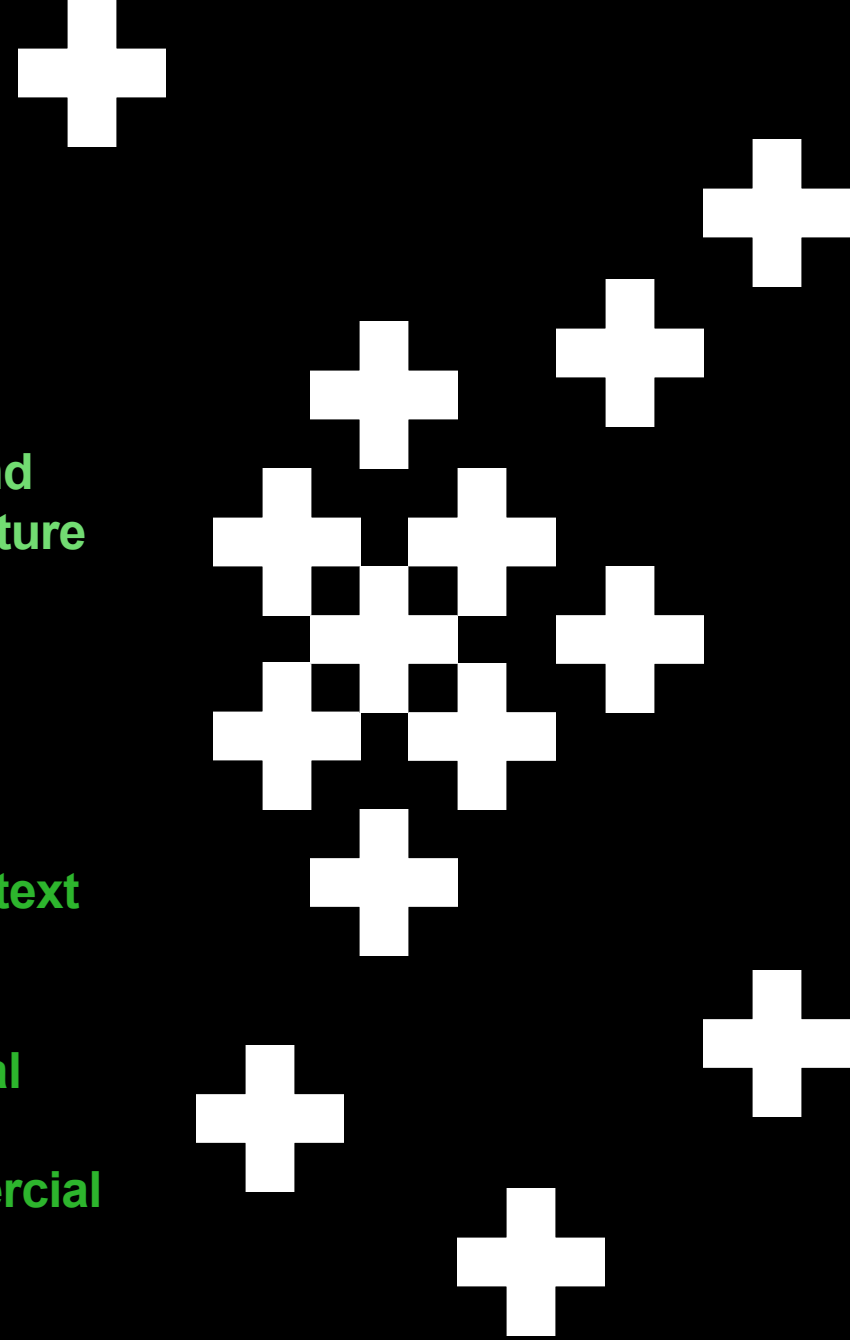
The sustainability concepts are so embedded in the fabric of the units and the assessments that the learners accept it as an integral part of horticulture and all the horticultural industries.

It is essential that it doesn't feel like a 'bolt-on' or after-thought.



The UN SDGs are taught in context  
e.g.

**Class activity:** Discuss how goal number 15 relates to the horticultural industry of commercial fruit production.







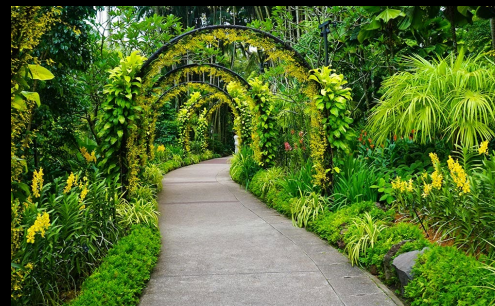
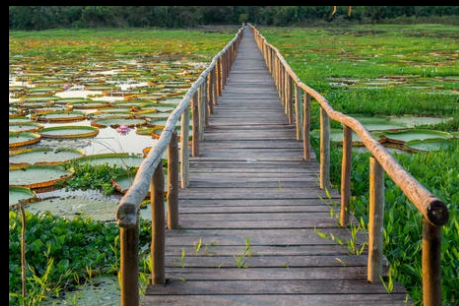
# What do we need to do now?

## Progression through the levels

We need to carry out further work to ensure that when learners progress from HNC to HND they aren't repeating the same information.

At HNC level they learn the UN SDGs and how they apply to horticulture. How do we develop that knowledge at HND without repeating it?

At HNC level they learn how to design and maintain gardens for sustainability. At HND they learn how to manage these greenspaces for users, staff and the environment without repeating the operational tasks they learned at HNC level.

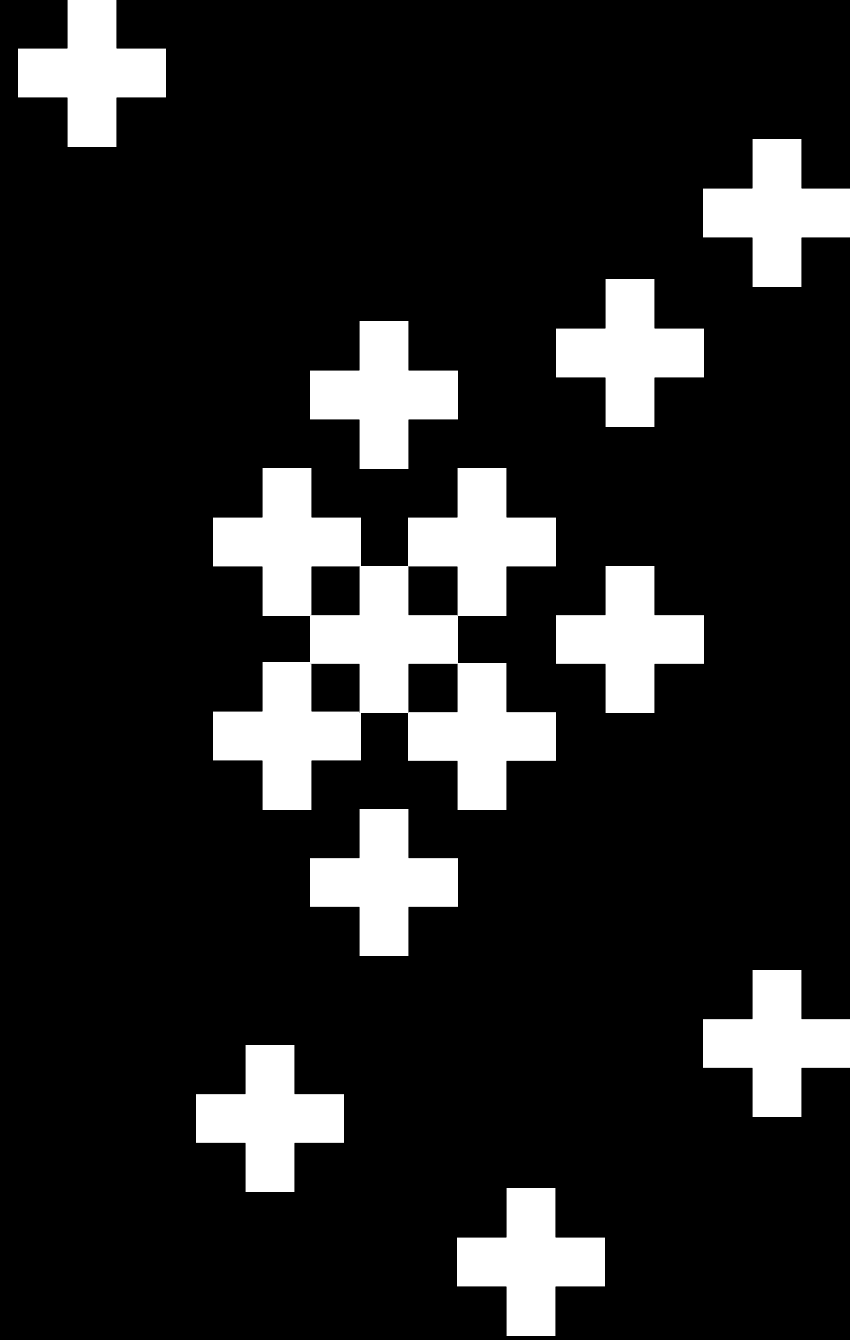


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## Thank you

Any questions please do get in touch:

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# ABOUT NEXTGEN: HN



## [NextGen: HN website](#)

Discover how we are reshaping Higher National qualifications for the future.



## [SQA Academy modules](#)

Explore our range of learning modules to support the development and delivery of NextGen: HN.



## [Case studies](#)

Discover how we have worked together with centres to develop and pilot the new HN qualifications.

# LEARNING FOR SUSTAINABILITY



## [Learning for Sustainability webpage](#)

Discover how Learning for Sustainability is embedded as a core component in all NextGen: HN qualifications.



## [SQA Academy LfS module](#)

This module aims to develop a basic understanding of some of the key social, economic, and environmental challenges we face alongside the role of the UN SDGs and Scotland's approach to LfS.



## [Incorporating Sustainability](#)

Read about how we are embedding sustainability into our NextGen: HN qualifications with reflections from pilot centre practitioners.



# CONTACT US

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