

Higher Education Profiling Form

The Ellen MacArthur Foundation profiles information on its website about universities and Higher Education institutions (hereafter referred to as ‘HE institutions’) offering circular economy related teaching and research programmes and other activities in the circular economy. To enable the Ellen MacArthur Foundation Learning Team to consider your inclusion as part of the higher education community, please provide the following information which will be used internally for the purpose of assessing eligibility.

Section 1 – University/HE institution and Contact details

Date	15 th of December 2021
University/HE institution Name	Lapland University of Applied Sciences (Lapland UAS)
University/HE Location	Rovaniemi (The Main Campus), Kemi, Tornio
Name of person(s) completing the form <i>(key contact(s))</i>	PhD Sanna Tyni
Key Contact email address(es)	sanna.tyni@lapinamk.fi
Key Contact Position(s) held	Principal Lecturer, Senior Specialist (Circular Economy)
Department / faculty / programme with circular economy related teaching and/or research <i>Please list and include a link to all that apply</i>	The School of Natural Resources and Economy, https://www.lapinamk.fi/en/Who-we-are/Organisation/Expertise-Groups

Please briefly detail why you would like to engage with the Ellen MacArthur Foundation:

The Lapland UAS as a part of Lapland University Consortium (LUC) and community operates in an ecologically, socially and economically sustainable manner in constant dialogue with our stakeholders and partners. We offer our students an inspiring learning environment characterized by digital solutions, connections to working life and the economy, and participation in research and education networks.

Our strategic choices have been focused on the global arctic responsibility and therefore ecological sustainability and circular economy has been integrated into our research and development as well as in education activities. (<https://www.lapinamk.fi/loader.aspx?id=02eebb9c-7aba-4e04-b068-4a327d27c1d3>)

Since 2017, Lapland UAS has been one of the key actors in our region as well as in Finnish circular economy developers. We have been taking part of the development of circular economy R&D and education together with our regional partners and in national level networks. In May 2021, Lapland UAS launched the international circular economy thematic network of Arctic Universities, know as UArctic Thematic Network on Circular Economy, which have 19 partners all around the world (<https://www.uarctic.org/organization/thematic-networks/circular-economy/>).

The engagement to Ellen MacArthur Foundation and its HEI network of circular economy is a natural continuum to this development work done in the field of circular economy. Lapland UAS is continuing its work to integrate circular economy into every field of our operating areas. We see that our aim is to strengthen the circular economy collaboration in our region as well as in national and international level. Therefore, we would like to join to the Ellen MacArthur Foundations circular economy HEI network.

Section 2 - Circular economy - Related Teaching & Learning

List the circular economy related <i>teaching</i> programmes (including online courses such as MOOCs)	Introduction date	No. students / year (approx.)
<p>Bachelor programmes and the courses containing circular economy:</p> <p><u>Agrology:</u></p> <ul style="list-style-type: none"> - Agronomist in the Northern Environment (5 ECTS) - Planning of Animal Husbandry (5 ECTS) - Circular Economy and Bioenergy (5 ECTS) - Management and Administration of Reindeer Husbandry (5 ECTS) <p><u>Forestry:</u></p> <ul style="list-style-type: none"> - Timber Raw Material and Wood Processing (5 ECTS) - Stand Estimation and Forest Data Management (5 ECTS) - Game, Reindeer Husbandry and Non-wood Forest Products (5 ECTS) - Sustainable Timber Procurement and Logistics (5 ECTS) - Bio- and Circular Economy (10 ECTS) 	<p>Bachelor level programmes has been ongoing since 2018.</p>	<p>The number of students varies in each bachelor programme from app. 15 – 40/year.</p>

<ul style="list-style-type: none"> - Use and Production of Non-Wood Forest Products (5 ECTS) - Utilization of Digital Natural Resource Data (5 ECTS) <p><u><i>Mechanical Engineering</i></u></p> <ul style="list-style-type: none"> - Project: Introduction to Arctic work environment (5 ECTS) - Creativity and development (5 ECTS) - Basics of production technology (5 ECTS) - Manufacturing methods and materials (5 ECTS) - Energy and environment (5 ECTS) - Efficient production environment (5 ECTS) - 3D design of a product (5 ECTS) - The Basics of Circular Economy (5 ECTS) - The Future of the Industrial Circular Economy (5 ECTS) - Circular Economy MOOC (5 ECTS, will be launched in 2022) <p><u><i>Surveying</i></u></p> <ul style="list-style-type: none"> - Special Issues of Land Use Planning (5 ECTS) <p><u><i>Civil Engineering</i></u></p> <ul style="list-style-type: none"> - Environmental Geotechnics (5 ECTS) - Renovation (5 ECTS) - Professional Industrial Engineering and Economy in Construction (5 ECTS) - Circular Economy in Civil Engineering (5 ECTS) - Circular Economy in Civil Engineering - Learning Project (5 ECTS) - Traffic Route Design and Rehabilitation (5 ECTS) - Water Supply and Sewerage (5 ECTS) - Sustainable Mining (5 ECTS) - Bioenergy (5 ECTS) - Renewable Energy Techniques (5 ECTS) - Digitalization and Entrepreneurship (5 ECTS) <p><u><i>Electrical and Automation Engineering</i></u></p> <ul style="list-style-type: none"> - Basics of Automation Technology (5 ECTS) - Automation Engineering (5 ECTS) - Energy Efficiency (5 ECTS) <p>Master Programmes and courses containing circular economy:</p> <p><u><i>Master Programme in Sustainable Production Development</i></u></p> <ul style="list-style-type: none"> - Principles of sustainable development and operating models in business (5 ECTS) - Sustainable Production Development Project (10 ECTS) 	<p>Master level programmes were launched 2021.</p>	<p>The number of students in master programmes varies from 20 – 25/year.</p>
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<ul style="list-style-type: none"> - Responsible and resource-wise business (5 ECTS) <p><u><i>Master Programme in Sustainable Business Activities and Entrepreneurship</i></u></p> <ul style="list-style-type: none"> - Financing sustainable growth (5 ECTS) 		
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Summary of circular economy related *teaching* programmes

(max. 150 words per programme)

Lapland UAS launched 2017 a development project “CircularSchool” in which we integrated circular economy into our bachelor level engineering and agrology education programmes as listed above (Kantanen & Tyni 2020, pp: 2 -10, https://research.chalmers.se/publication/519263/file/519263_Fulltext.pdf). The curricula in our university are mainly containing courses of 5 or 10 ECTS. The amount of circular economy education in the course varies from couple of hours lectures to the being one the main topics of the courses (5 to 10 ECTS). The lecturer of the course makes the decision, how much circular economy is brought up during the course.

Since 2021 our Masters programmes were renewed and circular economy is also integrated into couple of the programmes. There is also a possibility to invite a visiting lecturer to give a lecture about circular economy principles to the bachelor or master level courses.

Our educational programmes contain obligatory and optional courses and therefore also the amount of circular economy education depends on the choice’s students make when they plan their studies. In the end of the CircularSchool -project, we made an estimation about how many mechanical engineering students were participating into different courses containing circular economy during the project in the years of 2017-2020. Approximately 491 students were involved in these courses. (Tyni et al. 2021, p. 29, https://www.theseus.fi/bitstream/handle/10024/494152/B_3_2021_Kiertotalouskoulutusta_Lapin_a_mmattikorkeakoulussa_.pdf?sequence=1&isAllowed=y, In Finnish)

Please provide additional links appropriate to each teaching programme:

Most of the Lapland UAS’s courses are provided in Finnish, and are lacking content descriptions in English. Some of the course descriptions mentioned above can be searched via <https://koulutushaku-amk.peppi.lapit.csc.fi/search.php?term=&unsetFacet=educationalFieldsFacet&val=90>.

Section 3 - Circular economy - Related Research

List the circular economy related *research* your University/higher education institution is or has been involved in (*if applicable*)

Research projects (ongoing) involving circular economy listed by the research groups.

Digital solutions:

- Lapland robotics
- World heritage Northern parts of the Struve chain
- Towards sustainable procurement

Future bioeconomy:

- Arctic nettle, from weed to money
- Development of specialization training in the bio-economy
- Future Bio-Arctic Design
- Utilization of by-products of the food industry in the Lapland region in the production of functional feeds
- Lapland reindeer and fish for Asian restaurants in the Lapland food industry
- CLT as a strengthener of land load capacity in timber harvesting
- GRUDE - Green Rural Economy
- Future Bio-Arctic Design II
- Reindeer slaughter by - products to be carbon neutral
- Reindeer slaughter equipments for side streams
- Side flows for food use - Lapland reindeer and fish for asian restaurants

New Industry:

- Industrial Circular Economy in Lapland 2.0 - Reinforcement of circular economy activities
- SERI - Sea-Lapland's resource intelligence
- Industrial circular economy competence platform

Smart built environment:

- Smart built environment
- 360 Low carbon investment
- Coolbox
- VähäC-Promoting low carbonity in Eastern Lapland
- Low carbon Lapland
- Dwell- The intelligent house community
- Ecoplan - Environmental competence for competitiveness

Responsibility in business and services:

- Energy efficient Arctic snow
- Erasmus goes green

Future healthcare services

	<ul style="list-style-type: none"> - Innovative nurse (IN) - Nurse to the needs of outside areas - Education quality and reliability for remote care - New Nordic based service models
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Summary of Circular economy related research (if applicable)

(max. 150 words per area of research)

Lapland UAS has two Schools (Arctic Natural Resources and Economy and Northern Well-being and Services). Our research groups are divided under these two schools. Since 2017, The School of Arctic Natural Resources and Economy and its research groups (Digital Solutions, New Industry, Smart Built Environment, and Future Bioeconomy) has been integrated circular economy into R&D activities (Organisation chart <https://www.lapinamk.fi/en/Who-we-are>). Under the School of Northern Well-being and Services, the research group of Multidimensional Tourism Institute (MTI) has also been developing circular economy research (<https://www.ulapland.fi/EN/Units/Faculty-of-Social-Sciences/Studies/Tourism-Research>). At the moment, we are surveying the rest of the Northern Well-being and Services research activities to seek out the circular economy integration possibilities into their operation.

The list above contains only ongoing projects with circular economy point of view. During the years of 2017-2021, approximately 30-40 % of our university's projects were involving the themes of circular economy, sustainable development, carbon neutrality, resource wisdom *etc.* One the largest projects was "Circular economy competence to universities of applied sciences" (2018-2020, <https://kiertotalousamk.turkuamk.fi/circular-economy-competence-uas/>). Lapland UAS coordinated the collaboration of 19 Finnish UAS's and their development work of R&D and education in the field of circular economy. The collaboration with Finnish universities continues via new projects and by developing new project ideas.

In recent years, Lapland UAS together with regional, national, and international partners has been leading the development of circular economy both in R&D and in educational sectors. Still there is lot to do to support the systematic change towards circular economy and therefore we would like to join to the Ellen MacArthur Foundations network.

Please provide any additional links appropriate to each area of research:

List of on-going projects in Lapland University of Applied Sciences:

<https://www.lapinamk.fi/en/Cooperation/RDI/Projects>.

"Circular economy competence to universities of applied sciences" project (2018-2020,

<https://kiertotalousamk.turkuamk.fi/circular-economy-competence-uas/>

Other universities/HE institutions/organisations involved in the research (if applicable)

This is for our internal knowledge only, however please let us know if it needs to remain confidential. You may also choose to leave this section blank.

UArctic Thematic Network on Circular Economy (University of Arctic, UArctic):
<https://www.uarctic.org/organization/thematic-networks/circular-economy/>.

Circular Economy Centre: Additionally, Lapland UAS has been part of the Circular Economy Centre (<https://www.digipolis.fi/en/circulareconomycentre>) since 2017. The Centre is focused to develop circular economy in the Lapland region and its work has been supported by the Finnish Innovation Fund Sitra. Circular Economy Centre is leading the network of Finnish Eco-Industrial Parks (<https://www.digipolis.fi/en/circulareconomycentre/the-network-of-eco-industrial-parks>), as well as the network of European Circular Economy Alliance (<https://www.digipolis.fi/en/circulareconomycentre/eu-alliance>).

The Rectors' Conference of Finnish Universities of Applied Sciences "Arene": Lapland UAS has been working together with other universities of applied sciences to establish the sustainable development programme for the UAS's.

Other research partners:

- Several Finnish Universities (University of Lapland, University of Oulu, University of Eastern Finland etc.)
- VTT Technical Research Centre of Finland Ltd.
- Natural Resources Institute Finland (Luke)
- Geological Survey of Finland (GTK)
- Finnish Environment Institute (SYKE)

Our research work have also been funded by Finnish Ministries and Finnish Innovation Fund Sitra.

Section 4 - Circular economy - Other related activities

This section is optional, you may leave blank or write 'N/A'

Please provide any campus management related activities of note where the principles of circular economy are put into practice / tested.

(E.g. zero-waste initiatives, logistics, energy etc.)

Campus Activities relating to circular economy (if applicable)	Introduction date	Approx. No. students / year (if applicable)
Responsibility and Sustainable Development Action Plan of Lapland University of Applied Sciences 2021-2024 Lapin AMKin vastuullisuuden ja kestävän kehityksen suunnitelma 2021.pdf	Since 2019 -. Action plan is updated yearly.	

Please provide any student-led initiatives in regard to circular economy which the university/HE institution supports or facilitates

Student initiatives relating to circular economy (<i>if applicable</i>)	Introduction date	Approx. No. students / year (if applicable)
Sustainable development cooperation with Student Union ROTKO. Lapland UAS's Sustainable development team has one member from the student union.	Since 2019 -	

Please provide any additional links to the information provided above, or use the section below to provide details of other involvement in circular economy activities that the university/HE institution has involvement in (for example, local government projects):

Other activities relating to circular economy (*if applicable*)

Please let us know if this needs to remain **confidential**. You may also choose to leave this section blank.

Lapland UAS has also been actively participating into planning of the Lapland's Green Deal programme. As a latest action, our universities representatives were joined to the Chamber of Lapland's Green Deal. The Chamber is planning and surveying the implementation of Green Deal programme in our region.

(<http://lapinliitto.oncloudos.com/cgi/DREQUEST.PHP?page=meetingitem&id=2021569-12>, In Finnish).

Section 5 – Consent

The Ellen MacArthur Foundation takes your privacy seriously and wishes to inform you that all information given on this form and any correspondence with the Ellen MacArthur Foundation by phone, e-mail or otherwise, which includes your name, professional situation, email address and phone number (“**Business Data**”) (subject to your consent below) will be used for administering the Network University programme and adding you to the HE Newsletter email distribution group.

Your Business Data may be transferred to, stored, and/or processed by people or organisations (including other members of the group or associated companies or charities) working in a destination outside the European Economic Area. Any such transferral, storage or processing will be undertaken in accordance with the General Data Protection Regulation (GDPR) (Regulation (EU) 2016/279).

The Ellen MacArthur Foundation will only hold your Business Data until such time as you inform us that you withdraw your consent for us to do so and you can unsubscribe at any time.

- Please tick this box if you consent to the Ellen MacArthur Foundation contacting you by email with details of [upcoming event, offers].]
- Please tick this box if you agree to the Ellen MacArthur Foundation passing your Business Data to fellow members of the Network University program.
- Please tick this box if you consent to the Ellen MacArthur Foundation adding your Business Data to the HE Newsletter email distribution group.



The Ellen MacArthur Foundation will take all steps reasonably necessary to ensure that your data is treated securely and will only hold your personal information for as long as is necessary.

You have the right to access information held about you upon request. Please contact the Ellen MacArthur Foundation Learning Team at its registered office for further information.

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