

As highlighted by the UN's Sustainable Development Goals 2020-2030, anthropogenic changes in Earth's climate, related to greenhouse gas (particularly CO<sub>2</sub>) emissions, threaten the lives and livelihoods of billions of people. Planet Earth and her population are equally challenged to balance their need for critical natural resources with the impacts of obtaining them. The FORTHEM Alliance members are committed to practicing environmentally friendly and sustainability driven behaviours that preserve global climate and resources, to supporting sustainability studies and research, and to educating others through demonstrating sustainable behaviours.

Our sustainability policy is:

Theme	Policy	Justification
1) Travel and transport	<p>When travelling between Alliance partners</p> <ul style="list-style-type: none"> <li>- Choosing land-based, shared transport such as trains<sup>1</sup> or buses over private vehicles or flights</li> <li>- Purchasing carbon offsets for all travel when offered<sup>2</sup></li> <li>- Choosing to meet virtually rather than personally when feasible</li> <li>- Negotiating group discounts on the lowest impact transport<sup>1</sup> local travel</li> <li>- Provide clear advice to all meeting and summer school participants about how to use local public transport, and bicycle/electric vehicle hire and community car rental schemes</li> <li>- Negotiate special offers on public transport for meeting and summer school participants</li> </ul>	<p>Global climate change is accelerating as a result of greenhouse gas (particularly CO<sub>2</sub>) emissions, and travel, particularly by plane, is one of the most substantial sources of CO<sub>2</sub> emissions from universities globally.</p>
2) Computing	<p>Wherever possible, convene meetings and carry out teaching virtually, except for initial relationship-building (further detailed in Theme 3)</p> <p>Use environment-friendly search engines that invest in climate projects.<sup>3</sup></p> <p>Use energy saving options as much as possible.</p>	<p>We aim to lower the carbon footprint of our digital space.</p> <p>However, the large servers that support our digital communications also require a lot of energy to run,<sup>6</sup> and the computers themselves contain a wide variety of metals and synthetic compounds that must</p>

<sup>1</sup> <https://www.bahn.de/p/view/angebot/international/interrail.shtml>

<sup>2</sup> <https://www.atmosfair.de/en/offset/flight/>

<sup>3</sup> <https://www.ecosia.org/?c=en>

<sup>6</sup> <https://www.goclimat.com/blog/the-carbon-footprint-of-servers/>

	<p>Focus on using servers that are run by renewable energies, such as Google's Hamina Data Centre in Finland<sup>4</sup>.</p> <p>Continue to use existing computers where feasible.</p> <p>Optimise purchase of new systems with respect to resources (minimize purchases and invest in climate neutral products or purchase carbon offsets).</p> <p>Dispose of old computer systems through reputable recycling schemes.<sup>5</sup></p>	<p>be extracted from Earth, or recycled or synthesized in energy-intensive processes. Disposal of computers can also be environmentally detrimental.</p>
3) Meetings and teaching	<p>FORTHEM chose to meet virtually rather than in person, but wherever possible, first meetings of collaborators and between students and teachers will be held 'in person'.</p> <p>Increase awareness of sustainability aspects in course and curriculum planning.</p>	<p>Our participant's experience has demonstrated it is most effective to establish relationships with collaborators, and between students and teachers, 'in person', then carry out further communications virtually.<sup>7</sup></p> <p>Increase agency in sustainability by dissipation of knowledge, actions and sharing of good practices.</p>
4) Catering / Alimentation	<p>Vegetarian and vegan options will be offered by default at all FORTHEM events.</p> <p>We will aim to provide food in small, combinable portions to reduce waste.</p> <p>We will employ caterers devoted to using regional and organic produce.</p> <p>Food will be served on/with reusable or biodegradable utensils.</p> <p>Water will be provided in glass over plastic bottles. Whenever possible, water dispensers will be used.</p> <p>When present, coffee/tea dispensers will be equipped with paper cups.</p> <p>At all FORTHEM events we will ensure there are adequate, clearly labelled bins for different</p>	<p>Many fertilizers and 'factory farming' practices (e.g. monocrops, extraction of water from aquifers) employed in most of Earth's food industry have adverse environmental impacts. These impacts are minimised through consumption of organic foods.</p> <p>Whole plant foods have a lower carbon footprint than animal products. However, processing methods, packaging, and transportation of foods can absorb substantial energy and resources. These effects are minimised when regional/local food is consumed. Evaluating the full carbon budget of various food sources requires substantial research. We also recognise that</p>

<sup>4</sup> <https://www.google.com/about/datacenters/locations/hamina/>

<sup>5</sup> E. Williams, R. Kahhat, B. Allenby, E. Kavazanjian, J. Kim, and M. Xu; *Environmental, Social, and Economic Implications of Global Reuse and Recycling of Personal Computers*, Environmental Science & Technology **2008**, 42 (17), 6446-6454; DOI: 10.1021/es702255z (<https://pubs.acs.org/doi/10.1021/es702255z>)

<sup>7</sup> A. Johri; *From a distance: Impression formation and impression accuracy among geographically distributed coworkers*, Computers in Human Behavior **2012**, 28 (6), 1997-2006; DOI: 10.1016/j.chb.2012.06.038 (<http://www.sciencedirect.com/science/article/pii/S0747563212001999>)

	<p>types of waste, and will highlight the importance of using them during introductions to the events. We will also employ people to sort rubbish at the end of events.</p> <p>Leftover food will always be provided to food-rescue services<sup>8</sup> or offered via food-sharing apps such as OLIO<sup>9</sup></p>	<p>it is not possible for all people to comfortably meet their nutritional requirements with plant-based diets.</p> <p>Food waste is a huge problem, particularly in western society.</p>
5) Office materials	<p>We will operate as much as possible 'paperlessly' so,</p> <ul style="list-style-type: none"> <li>- All meeting agendas and conference abstracts will be digital</li> <li>- Electronic poster sessions may be offered, provided this does not require purchase of new computing equipment</li> <li>- Email will be used instead of letters or facsimiles</li> <li>- Electronic forms will be used, and electronic signatures accepted</li> <li>- For workshops and meetings where these items are needed, sustainable gadgets (e.g., textile bags, recycled paper notepads, reusable bottles) will be provided to participants.</li> </ul> <p>When paper is needed we will purchase recycled products.</p> <p>We will purchase carbon credits to offset purchase of office materials when possible.</p> <p>Print orders will be placed with environmental printshops<sup>10</sup>.</p>	<p>The environmental effects of paper production include deforestation, enormous water and energy demands as well as air pollution and waste problems.</p> <p>The production of each sheet of recycled paper saves water and energy. Through sustainable paper consumption the alliance will reduce CO2 emissions and protects the forests.</p>
6) Biodiversity	<p>Foster biodiversity and life quality at the university campus at each university by parks and green areas<sup>11</sup></p> <ul style="list-style-type: none"> <li>- Tree and flower plantings / 'adopt a tree' initiative</li> <li>- Building of insect hotels, bee stocks and bird nesting boxes</li> <li>- Change of maintenance regime (e.g., less mowing)</li> <li>- 'Green' architecture for future buildings?</li> </ul>	<p>Biodiversity is an essential component of ecosystems that ensures natural sustainability for all life. Human existence depends on biological resources. The worldwide decrease in biodiversity will have cascading consequences.</p> <p>We will create green campuses, that are attractive habitats especially for important pollinating insects and birds.</p>
7) Outreach	<p>We will support (through participating and distribution of announcements), sustainable and environmentally-friendly campaigns such as</p>	

<sup>8</sup> <https://kiwiharvest.org.nz/>

<sup>9</sup> <https://olioex.com/about/#about>

<sup>10</sup> <https://www.dieumweltdruckerei.de>

<sup>11</sup> <https://up2date.uni-bremen.de/campusleben/wie-engagierte-an-der-universitaet-lebensraum-fuer-pflanzen-und-insekten-schaffen>

	<ul style="list-style-type: none"> <li>- Clean-ups of beaches/parks/oceans</li> <li>- Proper waste disposal and recycling (zero waste initiative)</li> <li>- Bicycle recycling and sharing schemes</li> <li>- Courses and lecture series concerning climate change, renewable energies, circular economy, sustainable development goals, etc.<sup>12</sup></li> </ul> <p>We will disseminate the results of our assessment of sustainability development and outcomes within the Alliance for purposes of University/Faculty/Department policy revision, by providing a recommended framework for development of views of sustainability in educational curricula.</p>	<p>There should be some sort of quality control in matters of sustainability. Agency of sustainability will be considered throughout all activities in FORTHEM and partner organisations.</p>
8) Carbon budget	<p>Evaluate the carbon budget<sup>13</sup> of the Alliance annually, and report on this to all partners. Develop a plan for the Alliance to become carbon neutral by 2030<sup>14</sup> and work with each partner institution to implement it. JYU have already carried out such an exercise<sup>15</sup> and we will disseminate their model through the rest of the Alliance.</p>	

<sup>12</sup> <https://lecturesforfuture.org/>

<sup>13</sup> <https://www.unibas.ch/de/Universitaet/Portraet/Diversitaet-und-Nachhaltigkeit/Nachhaltigkeitsreport-2018/Ressourcen-und-Materialien/CO2-Fussabdruck.html>

<sup>14</sup> <https://www.klik.uni-kiel.de/de/klimaneutrale-universitaet-1>

<sup>15</sup> <https://www.jyu.fi/en/current/archive/2019/08/jyu-declares-climate-emergency-as-the-first-university-in-finland>, <https://www.sdgaccord.org/race-to-zero-for-universities-and-colleges>