**Master’s in Energy Storage**  
*Year 2, Aalto University*

<table>
<thead>
<tr>
<th>Mandatory courses (40 ECTS)</th>
<th>ECTS</th>
<th>COURSE CODE</th>
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<tr>
<td>Energy Carriers</td>
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<td>AAE-E3100</td>
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<tr>
<td>Circular Economy for Energy Storage (Online)</td>
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<td>AAE- E3120</td>
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**Select one of the following two courses**

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<th>Course</th>
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<tbody>
<tr>
<td>Entrepreneurial Journey</td>
<td>10</td>
<td>AAE-E5020</td>
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<td>Advanced Energy Project</td>
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<td>AAE-E3000</td>
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**Master Thesis**  
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<th>Elective harmonizing courses (10 ECTS)</th>
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<td>Courses to complement BSc background</td>
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**Energy Carriers**

**Learning Outcomes:**

After this course, the student must:

- Know and identify different energy carriers including their physical and chemical properties as well as benefits and limitations for transport and energy storage use;
- Select relevant energy carriers for different transport and energy storage application;
- Understand pathways in energy carrier production.

**Syllabus / Content:**

[www.innoenergy.com](http://www.innoenergy.com)
There is a need for chemical energy carriers such as electro-fuels, biofuels and other renewable raw material based gaseous and liquid solutions. This course presents an overview of different new chemical energy carriers for transport applications with current regulations at European market and for energy storage. Course will present energy carrier scenarios from academia and industry. After the course, the students have wide understanding of the benefits and limitation of the different current and potential future energy carriers.

**Evaluation Methods:** learning exercises.

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**Circular Economy for Energy Storage (Online)**

**Learning Outcomes:**

After this course, the student must:

- Identify circular economy concepts and the role of energy in recycling;
- Recognize the material choice effect to degradation mechanisms of the system;
- Develop new design for recycling approach for energy storage applications and justify with scientific argumentation;
- Share ones professional expertise in an online team.

**Syllabus / Content:**

At this course, the students learn the theoretical context of circular economy and how activity, durability and recyclability of an energy storage application will be effected by material selection. The students get to evaluate the whole life cycle of different solutions and their effect on recyclability. The students prepare different scenarios for future energy storage applications that will take into account circular economy aspects and designs for recycling.

**Evaluation Methods:** online modules, personal assignments, project work

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The list of courses on this page are examples of possible courses you may be taking in this programme. The universities providing the courses reserve the right to cancel, postpone or reschedule any of their courses.