

**Part 1:** Skibbrogade 5 – room C2/12, Aalborg. Mornings from 8:30 to 12 - afternoon 12:30 to 16.

<b>Monday April 7<sup>th</sup></b> Present: HL, DC	<b>Tuesday April 8<sup>th</sup></b> Present: HL, PAØ (pm)	<b>Wednesday April 9<sup>th</sup></b> Present: PAØ, BVM (am)
<p><b>The EnergyPLAN energy systems analysis model</b></p> <ul style="list-style-type: none"> <li>Welcome and programme (10m HL)</li> <li><i>Introduction to Energy System Analysis</i> (45m - HL)</li> <li><i>Comparing energy systems models</i> (45m – DC)</li> <li>Participants present their PhD projects and suggestions for integrating energy system analysis in the projects</li> </ul>	<p><b>Large scale integration of renewable energy</b></p> <ul style="list-style-type: none"> <li><i>Excess electricity diagrams and wind power integration</i> (HL)</li> </ul> <p><b>Remainder of the day allocated for working on your own model</b>                      Lecturers will be available though not necessarily present in the seminar room</p>	<p><b>100% RE systems</b></p> <ul style="list-style-type: none"> <li><i>Smart Energy Systems (Integrating electricity and heat and/or integrating electricity and transport)</i> (45 BVM)</li> <li><i>Technical energy system analyses and electricity market exchange analyses</i> (70m BVM)</li> <li>Workshop/Exercises. Participants work on either exercises or own projects</li> </ul>
<ul style="list-style-type: none"> <li><i>The FIDE Guide to EnergyPLAN (45m DC)</i></li> <li>Workshop/Exercises. Participants work on either exercises or own projects</li> <li>Discussions</li> </ul>	<p>(Lunch for those who are interested and here at 12.00 – please notify HL or DC Monday)</p> <p><b>18.00: Work shop dinner</b>                      Workshop dinner at will be organised</p>	<p><b>100% RE systems continued:</b></p> <ul style="list-style-type: none"> <li>Optimisation Criteria in high RE systems (70m PAØ)</li> <li>Aalborg Energy Vision (1h PAØ)</li> <li>Workshop: Participants work on own projects</li> </ul>

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<b>Tuesday April 22<sup>nd</sup></b> Present: HL, DC and/or BVM	<b>Wednesday April 23<sup>rd</sup></b> Present: PAØ, DC (am)	<b>Thursday April 24<sup>th</sup></b> Present: PAØ, HL
<p>(Lunch for those who are interested and here at 12.00 – please notify <a href="mailto:poul@plan.aau.dk">poul@plan.aau.dk</a> beforehand)</p>	<p><b>Participant presentations:</b></p> <p>Each participant makes a presentation of the analyses followed by discussions. 20 minutes per person</p>	<p><b>Participant presentations:</b></p> <p>- continued</p> <p><b>Feedback on the course</b></p>
<p><b>Empirical cases:</b></p> <ul style="list-style-type: none"> <li>Heat Roadmap Europe, HL</li> <li>Smart Energy Europe, DC/BVM</li> <li>CEESA, DC/BVM</li> </ul>	<p><b>Guest lectures:</b></p> <ul style="list-style-type: none"> <li>Energy systems modelling and scenario analyses by the Danish TSO (Rasmus Munch Sørensen, Energinet.dk)</li> <li>energyPRO - Modelling large heat pumps and solar collectors at Danish DH plants (Anders N Andersen, EMD Int)</li> </ul> <p><b>Participant presentations:</b>                      Continued if time permits</p>	