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GENeSYS-MOD.jl

A julia version of GENeSYS-MOD

Lightning Talk

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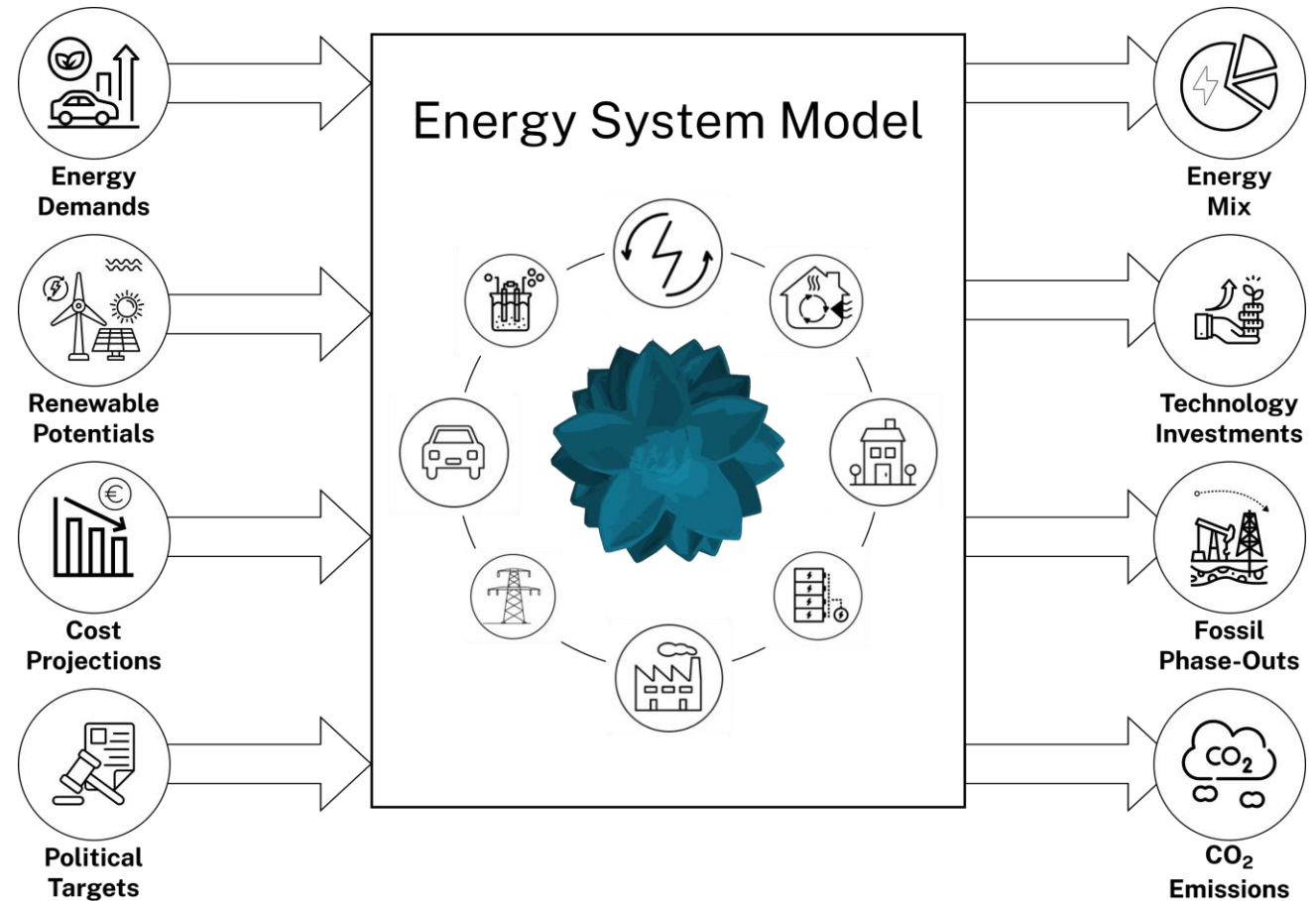
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GENeSYS-MOD in short

- Derived from OSEMOSYS in 2016
- Use of GAMS
- Developed further through several PhD work at TU Berlin
- Several case studies conducted at various spatial resolution/scope: Europe, Japan, India, South Africa, Guadeloupe, ...





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GENeSYS-MOD in short

Energy Supply



Renewable Energy Sources



Conventional Energy Carriers

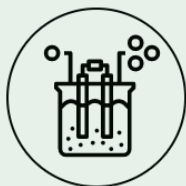
GENeSYS
MOD



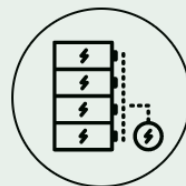
Energy Transformation & Sector-Coupling



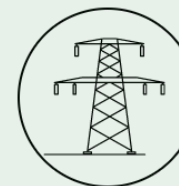
Power-to-Heat



Power-to-Gas



Energy Storage



Energy Trade

Final Energy Demands



Electricity



Heat [Buildings]



Heat [Industry]



Transport



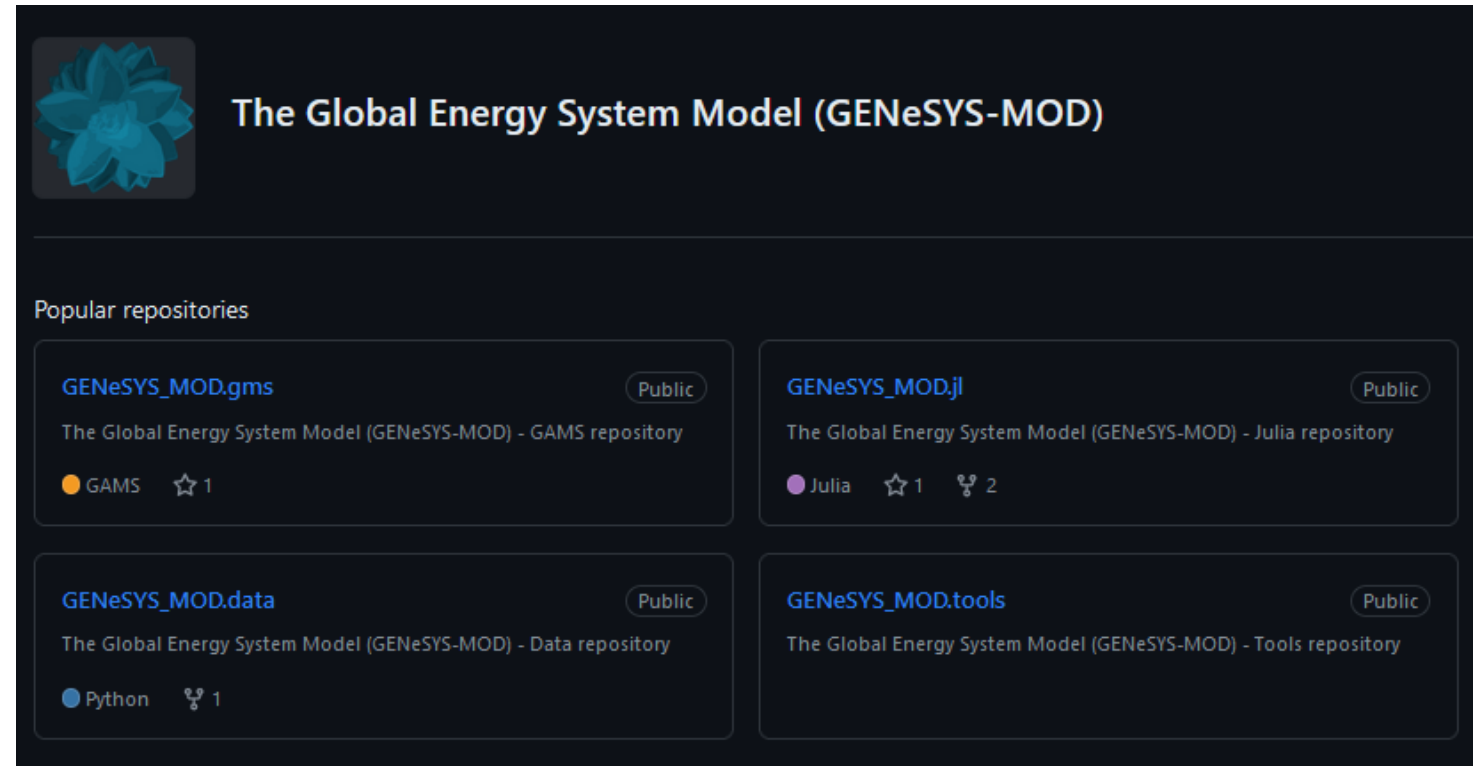
Julia Conversion

- Why convert the model and why choose Julia?
- Conversion process:
 - Start with a limited model, only model building, less constraints, less processing
 - Validate the reimplementation regularly
- The validation was conducted using a script to compare the mps files produced in Julia and GAMS



New Repository

- Repositories:
 - Julia and gams repository
 - Data repository
 - Tools repository
- Repository is public
- Contact:
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<https://github.com/GENeSYS-MOD>



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Technology for a better society



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