TUTORIAL: OPTIMAL CARBON-BUDGET PLANNING WITH REMIX

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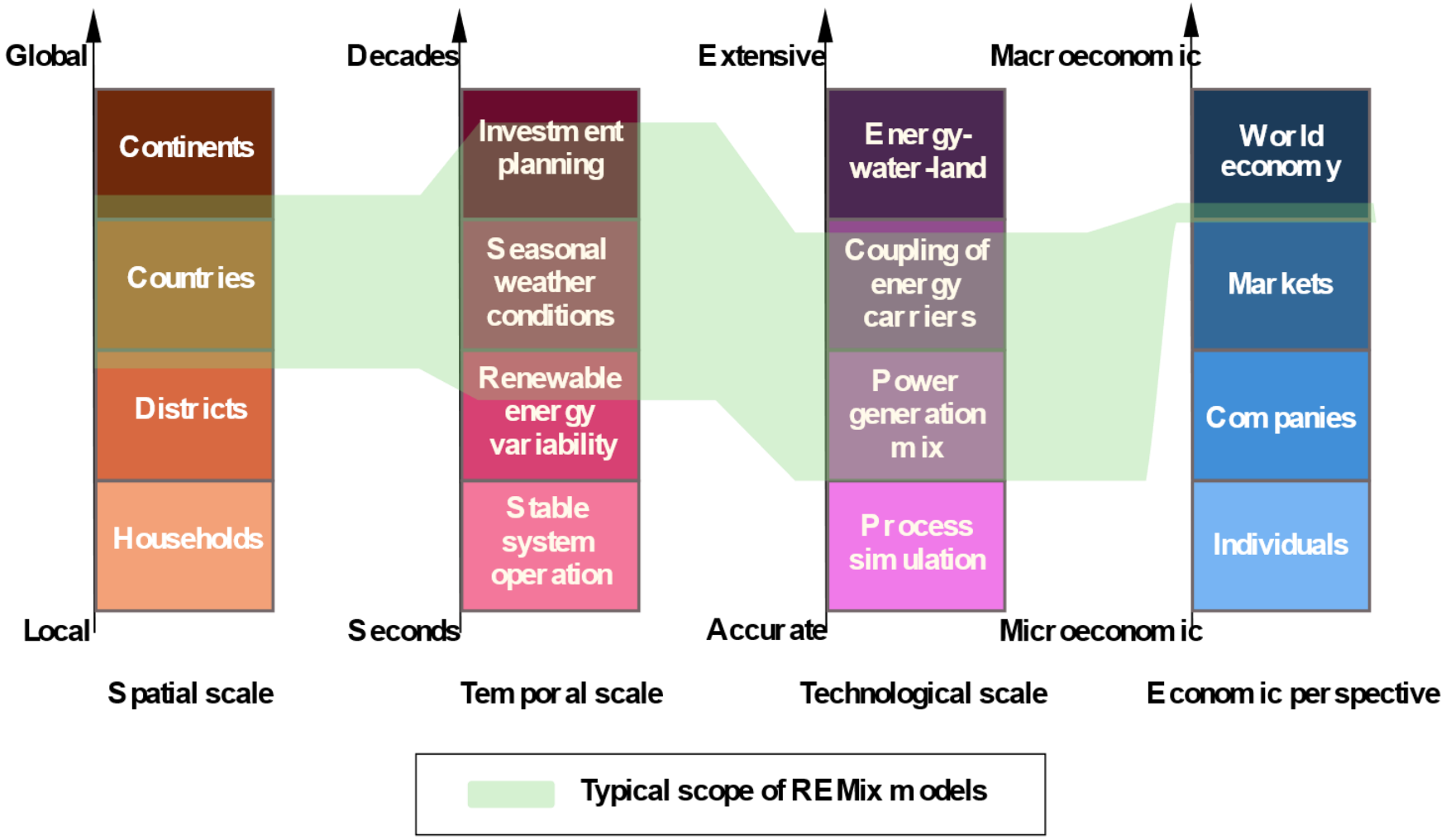
DLR

What is REMix?

- “Renewable Energy Mix for a sustainable energy supply”
- linear energy system optimisation framework
- written in GAMS
- large-scale energy systems
- works with tabular input data (rather than objects)
- expansion planning and dispatch optimisation
- two outstanding features:
  - parallel solving (with PIPS-IPM++)
  - **path optimisation**

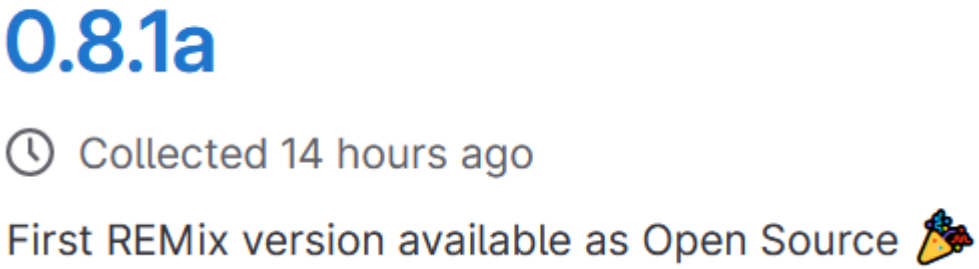
Typical scope of a REMix model



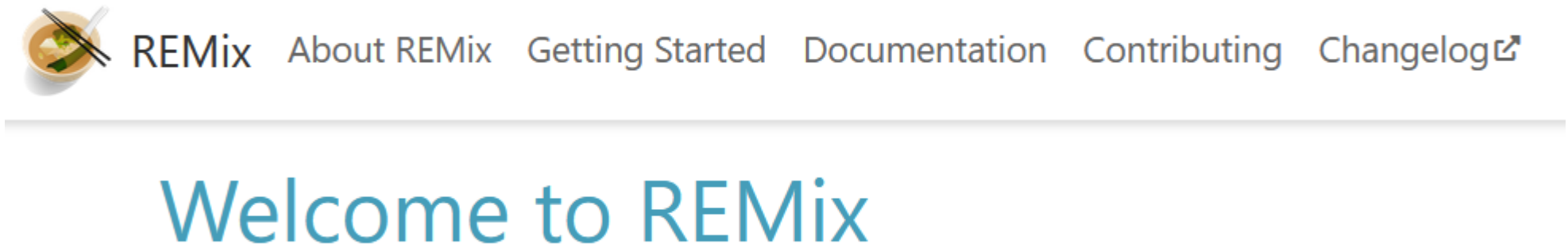
Cao et al.: Bridging granularity gaps to decarbonize large-scale energy systems—the case of power system planning. *Energy Science & Engineering*, 9(8):1052–1060, May 2021. doi:10.1002/ese3.891

What you need to run the tutorial yourself

- installation of GAMS:
  - download and install GAMS 41: https://www.gams.com/41/ (all versions >37 work)
  - put `gamslice.txt` in directory `C:/ProgramData/GAMS` (for default installation on Windows)
- working Git installation: https://git-scm.com/downloads
- Python package manager, e.g. Mambaforge: https://github.com/conda-forge/miniforge#mambaforge
- REMix installation:
  - git clone https://gitlab.com/dlr-ve/esy/remix/framework.git
  - cd framework
    - mamba create -n osmses-remix python=3.10 -y
    - mamba activate osmses-remix
    - pip install -e .[tutorial]



While solving...



REMix documentation:

https://dlr-ve.gitlab.io/esy/remix/framework/dev/index.html

REMix open source process

- official release only in a few weeks due to administrative requirements
- today's tutorial gives you a sneak peek
- if you would like to use REMix before the official release, please contact us: remix@dlr.de

Acknowledgements

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Impressum

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