OEO Developer Meeting #49

Pads:

- Notes from last meeting: https://etherpad.wikimedia.org/p/oeo-dev-48
- Pad to this meeting: https://etherpad.wikimedia.org/p/oeo-dev-49
- Pad for next meeting: https://etherpad.wikimedia.org/p/oeo-dev-50

Date: 01.12.2022
Participants:

- Moderator: Ulf
- Main reporter: Christoph (bis 11:00), Ludwig
- Next meeting organiser: Ulf
- Developers with affiliation:
    - Christoph (RLI)
    - Mirjam (OvGU)
    - Ulf (IEE)
    - Ludwig (RLI)
    - Eugenio (DLR)
    - Ludwig M (TUM)

Preparation:

- Read last protocol:
  https://github.com/OpenEnergyPlatform/ontology/wiki/OEO-developer-meetings
- Check issues for next release:
  https://github.com/OpenEnergyPlatform/ontology/milestones
- Load software (GitHub, git, Protégé)

Agenda:
Organisational

- 7 pull requests open for more than a month [LE]
    - combined cycle power plant
      https://github.com/OpenEnergyPlatform/ontology/pull/1362 -> CM
    - heat terms https://github.com/OpenEnergyPlatform/ontology/pull/1360
      -> CM
    - export of terms and definitions
      https://github.com/OpenEnergyPlatform/ontology/pull/1319 ->
      Eugenio?
    - import module process
      https://github.com/OpenEnergyPlatform/ontology/pull/1268 ->
      Eugenio?
    - boolean variables
      https://github.com/OpenEnergyPlatform/ontology/pull/1255 -> Fabian
    - definition individuals
      https://github.com/OpenEnergyPlatform/ontology/pull/1143 -> LH
    - automated annotation
      https://github.com/OpenEnergyPlatform/ontology/pull/1111 -> Janna

- TODO: Everybody goes through, solves, if possible
- Check all old (> 1 month) PR in beginning of each meeting

- Revisit modular structure of OEO [LE, MS]
    - https://github.com/OpenEnergyPlatform/ontology/wiki/Modules-of-the-OEO
    - reason for 3 modules
        - people can import what they need
    - introducing more relations between classes of different modules leads to more and more classes need to be shifted to oeo-shared
        - oeo dev meeting 40: mindset of "it's no problem of moving more and more thing to oeo-shared" https://raw.githubusercontent.com/wiki/OpenEnergyPlatform/ontology/oeo-dev-docs/2022-06-30_OEO-dev-40.pdf
        - imports between modules are handles over upper class oeo-shared (not possible between modules on same hierarchical level)
        - connected class need to be moved to oeo-shared with their axioms
    - oeo-shared is becoming more and more a core module instead of a shared module.
        - core concepts like energy, energy carrier, combustion fuel, portion of matter, energy transformation, model are already in oeo-shared
        - relating classes between different modules requires moving classes to oeo-shared
            - Example:
                - `'generation time series' 'is about' some ('electricity generation process' and 'has participant' some 'power plant'` => eight classes needed to be moved to oeo-shared
            - Alternative: leave classes in the modules and include in oeo-shared only the axioms that relate classes of different modules.
                - Pros:
                    - oeo-shared remains short
                - Contras:
                    - Not all axioms of a class are stored at one place
                    - "Runaway classes" in the oeo-modules. However, some-one who wants to use only one module is probably not interested in the relations to classes of other modules.
        - If we decide, that we merge everything, then there can still be the option to create new module
    - new module for sectors? https://github.com/OpenEnergyPlatform/ontology/issues/1399
        - Maybe only for individuals? This would fit to the general principle that we have only few individuals in other parts of the OEO
    - composed module?

https://github.com/OpenEnergyPlatform/ontology/issues/1328
- content of oeo.omn versus oeo-shared: What belongs where?
  https://github.com/OpenEnergyPlatform/ontology/issues/1408
- dissolve modular stucture (partly)?
- restructuring of modules as 4th option: i.e. dissolve ald structure and create new structe with composed module and maybe sector module
- ToDo @MS:
  - Magedeburg needed for decision-making --> internal discussion
  - Ask OEO-SC for support

- OEO access machine readable [CM]
  - Via URI: How to access rdfs:label machine readable?
  - Requirement: We need possibility to access the information fields of OEO-concept via API; sparql also fine
  - e.g.:http://openenergy-platform.org/ontology/oeo/OEO_00000031
    - ontobee
    - implementation on OEP
      - content negotiation -> https://github.com/OpenEnergyPlatform/ontology/issues/238#issuecomment-638757457
      - download file from OEO
      - owl-API http://owlcs.github.io/owlapi/

- Competency question report [EA]
  - https://github.com/OpenEnergyPlatform/ontology/pull/1420
    - CQ files with clear names, for easy navigation.
    - There is the possibility of having a coverage Badge, sitting currently at 6%, but having it makes it go up is always a nice goal :)
      - Take a look at this fork branch README to get a glimps of the badge: https://github.com/areleu/ontology/tree/feature-1419-competency-question-coverage-report
      - For this I need support from someone with higher rights
    - The report has explicit information on what went wrong.
    - If we improve our coverage we can speed up the review process.
    - If we reach a significant coverage we can shift towards TDD (Test-Driven-Development):
      - This means adding the requirement of every new addition to the ontology to need a competency question first.
  - Currently 6% of the classes in the OEO are covered by the CQ
  - The questions should not be too trivial in order to increase the score
  - The
  - Mark deprecated questions
  - Todo: Eugenio
    - --> create wiki article/tutorial to cq, better: add to ontology-test-guide
      (https://github.com/OpenEnergyPlatform/ontology/wiki/ontology-

test-guide)
- --> make suggestion for process to create cq --> next OEO-Dev meeting
- --> Link papers (OEO first paper, ENSUSTO paper https://github.com/OpenEnergyPlatform/literature/issues/6)
- biofuel is renewable fuel: Make Q1 deprecated and create new competency questions.
  - Work-around for https://github.com/OpenEnergyPlatform/ontology/issues/872: Manually remove Q1 from the checks

Release

- Release 1.13. scheduled for 2023-02-01

OEO Classes

- Template - Ontology Workspace (use for joint development) [NAME]
  - Add issue link
  - Collect related terms
  - Create an aristotelian definition
  - Find axioms
- Units with prefixes and composed units
  - https://github.com/OpenEnergyPlatform/ontology/issues/1402
    - Units with prefix: kilowatt, megawatt, gigawatt
    - Composed units: €/MW
  - https://github.com/OpenEnergyPlatform/ontology/issues/1370
    - currency per pkm: *Currency per pkm is a specific currency unit that relates currency to passenger-kilometre.*
    - currency per tkm: *Currency per tkm is a specific currency unit that relates currency to ton-kilometre.*
    - currency per 100 km: *Currency per 100 km is a specific currency unit that relates currency to 100 kilometer.*
    - currency per passenger: *Currency per passenger is a specific currency unit that relates currency to the number of passengers.*
    - energy per pkm: *Energy per pkm is a specific energy unit that relates energy to passenger-kilometre.*
    - energy per tkm: *Energy per tkm is a specific energy unit that relates energy to ton-kilometre.*
    - energy per 100 km: *Energy per 100 km is a specific energy unit that relates energy to 100 kilometer.*
    - energy per passenger: *Energy per passenger is a specific energy unit that relates energy to the number of passengers.*
    - --> Todo: Create Composed module asap, --> if possiblee as physical meeting?
      - LE, CM, FN, MS, EA, UM (info, opt), LH (opt), HF (opt)

- Quantifiers in instance types?
  - https://github.com/OpenEnergyPlatform/ontology/issues/1424
    - Example: 'CRF sector (IPCC 2006): CO2 emissions from biomass' [OEO_00010228]
      - It has type 'has memo item' <u>some </u>'memo item'
      - The problem is that, since it is already instantiated. The quantifier does not longer make sense.
      - This also causes problems when parsing the ontology in .owl (aparently not in Protégé)
      - There is a total of 18 Individuals with this problem. Suggested solution in the issue
      - Todo --> MS asks FN

OEKG

Other Topics

- Issues, that are unsolved and are pending implementation, maybe someone wants to contribute to the discussion in the issues:
  - oil and petroleum products should be restructured [LE, LH]
    - `https://github.com/OpenEnergyPlatform/ontology/issues/811
    - issue to be solved: put all liquid fuels as organic compounds or introduce something like 'liquid mixture', similar to the already existing 'gas mixture'
    - going for 'liquid mixture' probably means to add something in the definition of 'organic compound'.
  - Which entities actually can have a copyright license? [LE, LH]
    - https://github.com/OpenEnergyPlatform/ontology/issues/1275
    - first comprehensive list: data set
    - database
    - document
    - copyright license
    - data license
    - scenario
    - model

- [TODO] from OEO-Dev #48: @LE and MS: Prepare something for:
  - update and specify processes
  - wiki / contributing.md unspecific number / qualification of reviewer
  - https://github.com/OpenEnergyPlatform/ontology/issues/1106
  - https://github.com/OpenEnergyPlatform/ontology/wiki/Pull-request-workflow
  - https://github.com/OpenEnergyPlatform/ontology/blob/dev/CONTRIBUTING.md
  - --> create shared workflow with OEP/OEF --> Jonas

Collection of Tasks:

- Check open PR @ALL
- Ask OVGU Ontology Experts for options of modules @MS
- Compile discussion and proposed decision for OEO-SC @MS
- Test existing options for machine readable OEO file @CM
- Extend documentation for Competency Questions (CQ) in Wiki @EA
- Prepare a tutorial to formulate and apply good CQ @EA
- Create a Nuudle for a special meeting on the Composed Module @UM
- Create a draft for the Composed Module, start with the units @
- Collect examples for accessible definitions @LH
- Quantifiers in instance types? --> MS asks FN