

- OEO Developer Meeting #26

Pads:

- Pad to this meeting: <https://etherpad.wikimedia.org/p/oeo-dev-26>
- Pad for next meeting: <https://etherpad.wikimedia.org/p/oeo-dev-27>
- Notes from last meeting: <https://etherpad.wikimedia.org/p/oeo-dev-25>

new room: [https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_ZGVkNjkyZGQtZTAxZC00NmQ5LWIyNDItOGQyNDA4NjUzYjZm%40thread.v2/0?context=%7b%22Tid%22%3a%22bee0a556-f391-4521-8e30-0797145c996d%22%2c%22Oid%22%3a%22f9c82de6-058d-4a1c-9258-5cf4271d7895%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZGVkNjkyZGQtZTAxZC00NmQ5LWIyNDItOGQyNDA4NjUzYjZm%40thread.v2/0?context=%7b%22Tid%22%3a%22bee0a556-f391-4521-8e30-0797145c996d%22%2c%22Oid%22%3a%22f9c82de6-058d-4a1c-9258-5cf4271d7895%22%7d)

Date: 21.10.2021, 10:00 -- xx:xx

Participants:

- moderator: Carsten Hoyer-Klick
- protocol: Christian Hofmann
- next meeting organiser: Mirjam

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, DFN)

Agenda

- Hydrocarbons (10-11)
  - This comes from Issue 'oil and petroleum products should be restructured'
  - <https://github.com/OpenEnergyPlatform/ontology/issues/811>
    - This comes from #636 and developer meeting 22.
    - oil and petroleum products and its subclasses have long definitions and the structure of the subclasses needs to be reevaluated (e.g., are kerosene and paraffin really the same class?).
    - Relations to ENVO classes should also be taken into account.
    - from OEO Dev 25 and #811: We need also the concepts of liquid combustion fuels and liquid fossil combustion fuel. These could be implemented as equivalent classes combustion fuel and (has normal state of matter liquid) and fossil combustion fuel and (has normal state of matter liquid).
    - And if we do so we should do similar for solid and gaseous.

- Introduction to hydrocarbons and classifications by Sandra Richter, DLR Institute for combustion technologies
  - Notes:
    - origin: fossil / synthetic
    - liquids are always mixtures of different molecules
    - According to norms (DIN/ISO...)
    - Important: Benzin; Diesel(PKW/Schiff); Kerosin; Schweröl
    - Additional:
    - Different processes lead to different products: see Diesel
    - Chebi has chemical structures
      - we can take a subset from there
      - chebi doesnt have structures, takes atomic view
    - fuel focus in OEO
      - chemistry of importance -> use chebi
    - importance of generating process?
      - on scenario level we need end products
      - but in detailed energy systems modelling we need to have covered the generating processes as well
    - so we need processes and products
    - we need to differentiate diesel and biodiesel (from different processes). other time the same products can come from different processes
    - Home heating oil similar to shipping diesel
  - Discussion on how to restructure hydrocarbons
    - @Kai creates a meta issue and develop a structure along which we can discuss this in the following meetings

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- From last meeting @Hedda
- Meta Issue: Collection of new OEO terms originating from LOD-GEOSS @Hedda
- <https://github.com/OpenEnergyPlatform/ontology/issues/822>
- meeting ends here at 12 pm, more terms in next session

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- Space requirement (one concept) - CHK implements
  - <https://github.com/OpenEnergyPlatform/ontology/issues/889>
  - area needed in order to construct e.g. a wind turbine (1000m<sup>2</sup>/MW)
    - An area of around 50 m x 50 m is needed for a modern wind turbine. Another way of defining the "area use" could be the noise zone, which ranges up to 600-800 m<sup>2</sup>.
    - Additional parameter is shadow (butterfly area)
  - we need two dimensional spatial region
  - distinguish two things:

- area
    - space requirement is a two-dimensional spatial region that covers the area needed by an artificial object.
      - operational space requirement is space requirement that covers the area needed by an artificial object in order to operate properly.
      - space requirement for construction is space requirement of an artificial object that covers the area needed in order to construct an artificial object.
      - relations:
        - functionally related to: A grouping relationship for any relationship directly involving a function, or that holds because of a function of one of the related entities.
          - artificial object is functionally related to some space requirement
        - has unit some area unit
  - area/power unit
    - specific space requirement (relative to size of power generating unit)
      - quantity value that indicates a certain space requirement per nameplate capacity
      - has unit some area per power unit
        - An area per power unit is a unit which is a measure for an area per nameplate capacity.
      - we should add square km in our area units: An area unit which is equal to one million square meters or  $10^6 \text{ m}^2$ .
      - we should extend "nameplate capacity" to artificial objects
- Capacity factor
  - entity/continuant/generically dependent continuant/information content entity/quantity value
  - entity/continuant/specifically dependent continuant/quality
  - entity/occurrent/process attribute/ (emission factor)
- Extensions to existing concepts:

- Variable operation & maintenance costs
  - entity/continuant/generically dependent continuant/  
information content entity/quantity value/economic  
value/cost
- Cost of Equipment
  - entity/continuant/generically dependent continuant/  
information content entity/quantity value/economic  
value/cost
- Cost of grid connection
  - entity/continuant/generically dependent continuant/  
information content entity/quantity value/economic  
value/cost
- Cost of rent of land
  - entity/continuant/generically dependent continuant/  
information content entity/quantity value/economic  
value/cost
- Cost of decommissioning
  - entity/continuant/generically dependent continuant/  
information content entity/quantity value/economic  
value/cost
- Other costs
  - entity/continuant/generically dependent continuant/  
information content entity/quantity value/economic  
value/cost
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- Rotor diameter - CHK implements
  - entity/continuant/independent continuant/material  
entity/object/EnergyConvertingDevice/Turbine
  - entity/continuant/specifically dependent continuant/  
quality
  - *Rotor diameter is a quality of a wind energy converting  
unit that measures the diameter of the wind rotor.*
  - rotor diameter has quantity value some length value
  - wind energy converting unit has quality some rotor  
diameter
  - Ready for implementation: [https://github.com/  
OpenEnergyPlatform/ontology/issues/892](https://github.com/OpenEnergyPlatform/ontology/issues/892)
- Specific power
  - entity/occurrent/process attribute/power
  - specific separate?
- Lifetime
  - entity/continuant/specifically dependent continuant/  
quality
- Construction time
  - entity/continuant/specifically dependent continuant/  
quality