

Ontology Report IA301

I. Introduction

Our ontology was designed to model the share of different energy sources, both in the global energy mix and in the total energy consumption of a household.

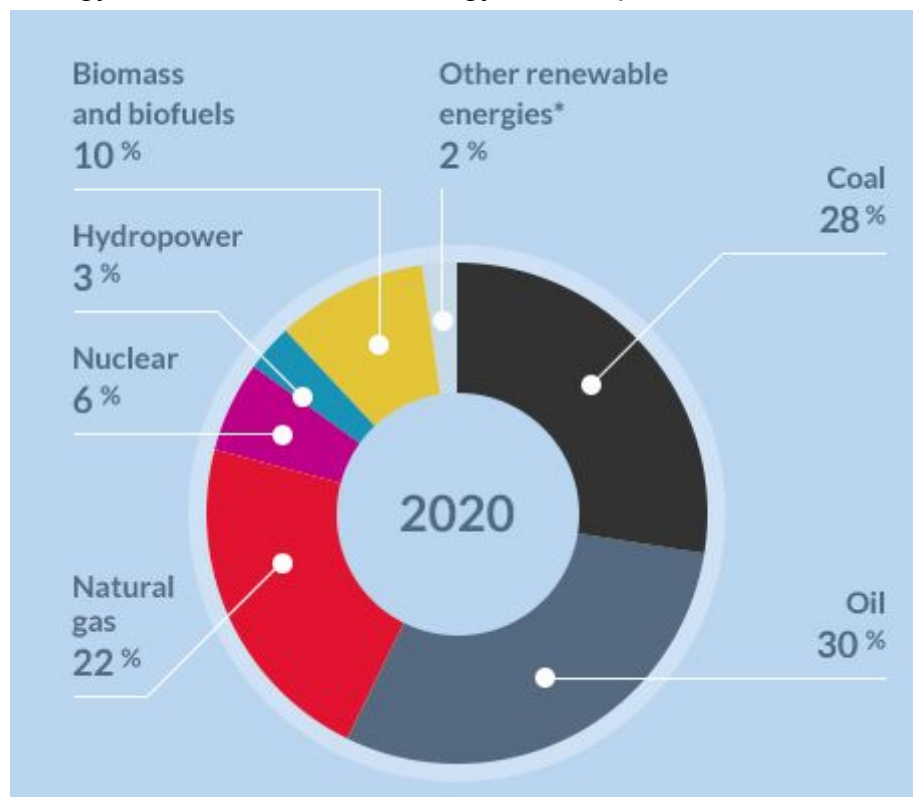


Figure 1: Global energy mix in 2020

The objective is twofold: estimate the amount of natural resources consumed and the amount of waste produced, and help decision-making at the individual and at the governmental levels.

This ties with the seventh Sustainable Development Goal, which aims to "Ensure access to affordable, reliable, sustainable and modern energy for all."

To be more precise, our ontologie is connected to the second target of SDG 7: "By 2030, increase substantially the share of renewable energy in the global energy mix". Indeed, while in recent years the usage of renewable energies increased, the majority of the energy consumed worldwide still comes from fossil fuels, with devastating effects on the environment.

II. Details of our ontology

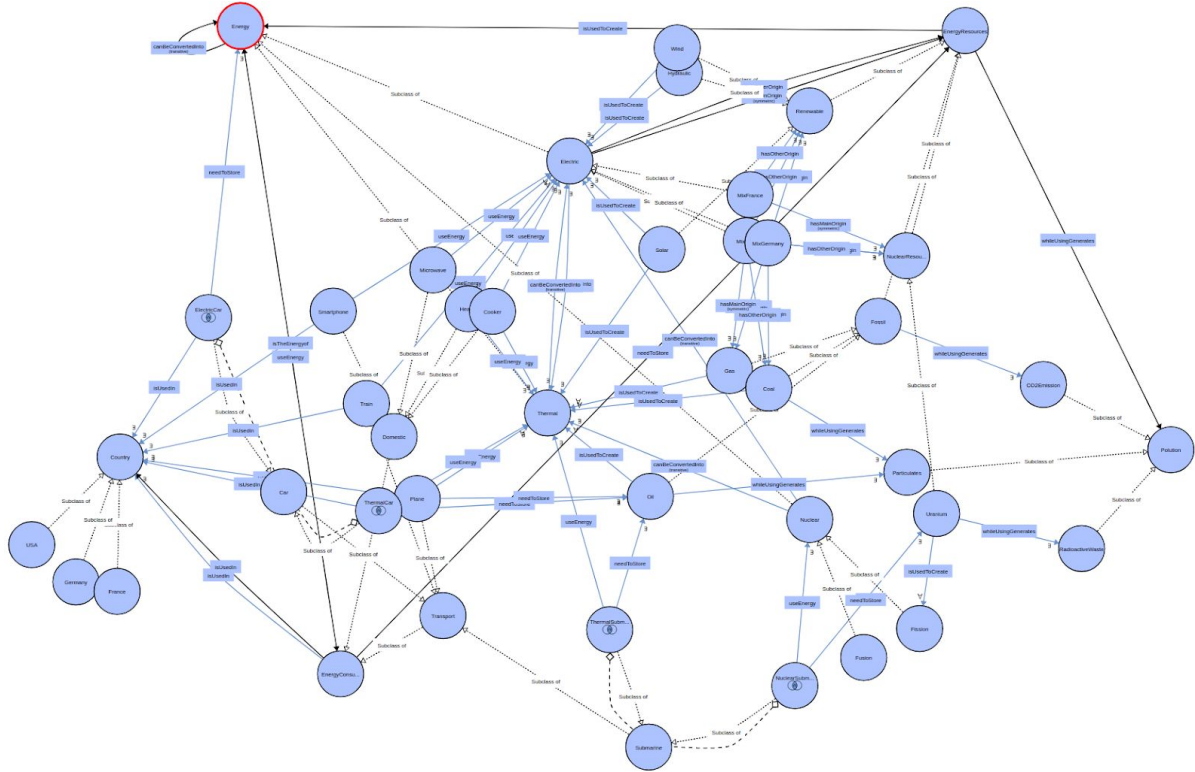
We made five main classes:

- Countries (France, USA, etc.)
- Energy (Electric, Thermal, etc.)
- Energy consuming thing (Domestic, Transport, etc.)
- EnergyResources (Fossil, Renewable, etc.)
- Pollution (CO2 Emission, Particulates, etc.)

With 43 classes in total and 11 object properties.

III. Screenshots

Full ontology graph:

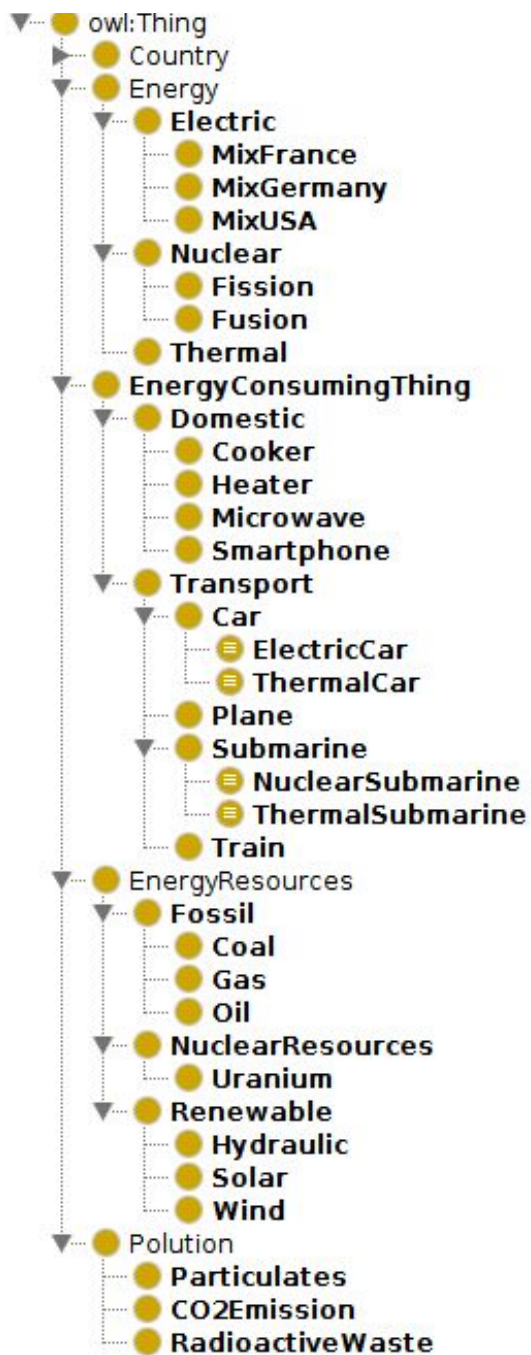


Clément Exbrayat

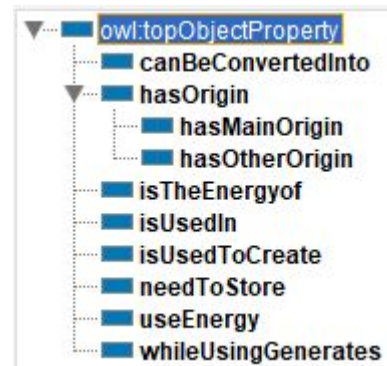
Luc Jiang

Michoux Marc

Classes, data properties and object properties:



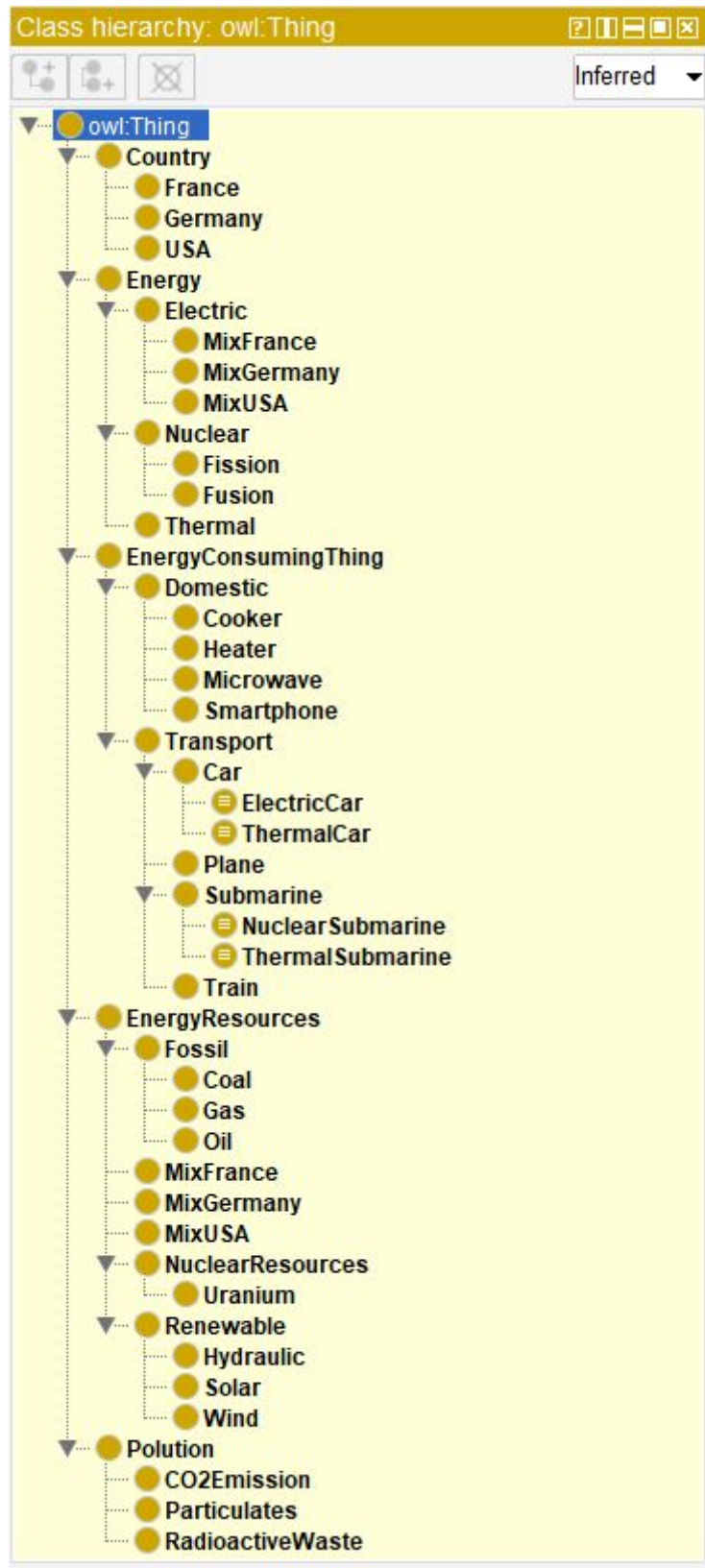
Classes



Object properties

Clément Exbrayat
Luc Jiang
Michoux Marc

Screenshot showing what has correctly changed (inferred) after running the reasoner:



Link to ontology: https://github.com/marcnichoux/Ontology_IA301