Circular Economy Ontology Network (CEON) - Energy Module

Metadata

IRI

`http://w3id.org/CEON/ontology/energy/`

Title

Circular Economy Ontology Network (CEON) - Energy Module

Publisher

Onto-DESIDE

Creator

Huanyu Li

Contributor

Eva Blomqvist

Date Created

2025-03-20

Date Issued

2025-06-30

License

https://creativecommons.org/licenses/by/4.0/

Version Iri

http://w3id.org/CEON/ontology/energy/0.2/

Version Info

0.2

Prior Version

0.1

Preferred Namespace Prefix

ceon-energy

Preferred Namespace Uri

http://w3id.org/CEON/ontology/energy/

Description

A module of the CEON ontology network defining aspects of the energy concept.

Covers Requirements

Covers the following requirements from Onto-DESIDE D3.2: CE1-2, CE4-3, CE6-3, CE7-4, CE8-2, CE10-7, CE10-9, CE11-6, CE12-5.

Classes

Biofuel ^C	
IRI	`http://w3id.org/CEON/ontology/energy/Biofuel`
Sub Class Of	Biomass ^C

Biogas ^C	
IRI	`http://w3id.org/CEON/ontology/energy/Biogas`
Sub Class Of	Biomass ^C

Biomass ^C

IRI	`http://w3id.org/CEON/ontology/energy/Biomass`
Sub Class Of	EnergySource ^C
Super Class Of	Biofuel ^C Biogas ^C

Coal ^C

IRI	`http://w3id.org/CEON/ontology/energy/Coal`
Sub Class Of	FossilFuel ^C

Energy ^C

IRI	`http://w3id.org/CEON/ontology/energy/Energy`
Sub Class Of	http://w3id.org/CEON/ontology/resourceODP/Resource
In Domain Of	hasEnergySource ^{op}
Super Class Of	NonRenewableEnergy ^C RenewableEnergy ^C

Energy Composition ^C

IRI	`http://w3id.org/CEON/ontology/energy/EnergyComposition`
Sub Class Of	http://w3id.org/CEON/ontology/actorODP/ResourceParticipation
In Domain Of	hasEnergyComponentPercentage ^{dp}

Energy Conversion ^C

IRI	`http://w3id.org/CEON/ontology/energy/EnergyConversion`
Sub Class Of	http://w3id.org/CEON/ontology/actorODP/ResourceRelation

Energy Infrastructure ^C

IRI	`http://w3id.org/CEON/ontology/energy/EnergyInfrastructure`
Sub Class Of	http://w3id.org/CEON/ontology/actorODP/Infrastructure

Energy Source ^C

IRI	http://w3id.org/CEON/ontology/energy/EnergySource
In Domain Of	hasCarbonIntensity ^{dp} hasSustainability ^{dp}
In Range Of	hasEnergySource ^{op}
Super Class Of	Biomass ^C FossilFuel ^C GeothermalEnergySource ^C Hydropower ^C SolarEnergySource ^C WindEnergySource ^C

Fossil Fuel ^C

IRI	http://w3id.org/CEON/ontology/energy/FossilFuel
Sub Class Of	EnergySource ^C
Super Class Of	Coal ^C NaturalGas ^C Petroleum ^C

Geothermal Energy Source ^C

IRI	http://w3id.org/CEON/ontology/energy/GeothermalEnergySource
Sub Class Of	EnergySource ^C

Hydropower ^C

IRI	http://w3id.org/CEON/ontology/energy/Hydropower
Sub Class Of	EnergySource ^C

Natural Gas ^C

IRI	http://w3id.org/CEON/ontology/energy/NaturalGas
Sub Class Of	FossilFuel ^C

Non Renewable Energy ^C

IRI	http://w3id.org/CEON/ontology/energy/NonRenewableEnergy
Sub Class Of	Energy ^C

Petroleum ^C

IRI	`http://w3id.org/CEON/ontology/energy/Petroleum`
Sub Class Of	FossilFuel^C

Renewable Energy ^C

IRI	`http://w3id.org/CEON/ontology/energy/RenewableEnergy`
Sub Class Of	Energy ^C

Solar Energy Source ^C

IRI	`http://w3id.org/CEON/ontology/energy/SolarEnergySource`
Sub Class Of	EnergySource^C

Wind Energy Source ^C

IRI	`http://w3id.org/CEON/ontology/energy/WindEnergySource`
Sub Class Of	EnergySource ^C

Object Properties

has anergy ^{op}

IRI	`http://w3id.org/CEON/ontology/energy/hasAnergy`
Sub Property Of	http://w3id.org/CEON/ontology/actorODP/participatingObject

has converted energy ^{op}

IRI	`http://w3id.org/CEON/ontology/energy/hasConvertedEnergy`
Sub Property Of	http://w3id.org/CEON/ontology/actorODP/participatingResource
Range	NonRenewableEnergy^C or RenewableEnergy ^C

has energy source ^{op}

IRI	`http://w3id.org/CEON/ontology/energy/hasEnergySource`
Domain	Energy^C
Range	EnergySource^C

has exergy ^{op}

IRI	`http://w3id.org/CEON/ontology/energy/hasExergy`
Sub Property Of	http://w3id.org/CEON/ontology/actorODP/participatingObject

has original energy ^{op}

IRI	`http://w3id.org/CEON/ontology/energy/hasOriginalEnergy`
Sub Property Of	http://w3id.org/CEON/ontology/actorODP/participatingResource
Range	RenewableEnergy^c *or* NonRenewableEnergy^c

participating energy ^{op}

IRI	`http://w3id.org/CEON/ontology/energy/participatingEnergy`
Sub Property Of	http://w3id.org/CEON/ontology/actorODP/participatingSubject

Datatype Properties

has carbon intensity ^{dp}

IRI	`http://w3id.org/CEON/ontology/energy/hasCarbonIntensity`
Domain	EnergySource^c
Range	xsd:double

has energy component percentage ^{dp}

IRI	`http://w3id.org/CEON/ontology/energy/hasEnergyComponentPercentage`
Domain	EnergyComposition^c
Range	xsd:double

has sustainability ^{dp}

IRI	`http://w3id.org/CEON/ontology/energy/hasSustainability`
Domain	EnergySource^c
Range	xsd:double

Namespaces

:

`http://w3id.org/CEON/ontology/energy/`

dcterms

http://purl.org/dc/terms/

geo

http://www.opengis.net/ont/geosparql#

odp

http://www.ontologydesignpatterns.org/schemas/cpannotationschema.owl#

owl

http://www.w3.org/2002/07/owl#

prov

http://www.w3.org/ns/prov#

rdf

http://www.w3.org/1999/02/22-rdf-syntax-ns#

rdfs

http://www.w3.org/2000/01/rdf-schema#

vann

http://purl.org/vocab/vann/

xsd

http://www.w3.org/2001/XMLSchema#

Legend

c	Classes
op	Object Properties
dp	Datatype Properties