

# ShapeVOWL in AOAME for energy systems constraints modelling - Post evaluation questionnaire

This questionnaire is filled out after modeling building energy system constraints using ShapeVOWL in AOAME.

The questionnaire comprises 9 questions with a total of 29 sub-questions.

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Not shared

\* Indicates required question

What is your experience with Linked Data? *(Multiple options possible)*

\*

*Linked Data Definition = A method of structuring and interconnecting data on the web using standardized formats and protocols. It involves exposing, sharing, and connecting datasets using URIs and linking data elements through RDF (Resource Description Framework) triples. The core idea is to create a decentralized and globally interconnected web of data that enables seamless exploration, discovery, and integration of information across diverse sources.*

- ☐ I generate Linked Data
- ☐ I check the quality of Linked Data
- ☐ I use Linked Data
- ☐ I publish Linked Data
- ☐ I perform reasoning on Linked Data
- ☐ I have a basic understanding of Linked Data
- ☐ I have no knowledge about Linked Data



Please indicate where you assess yourself in the topic of Linked Data? *(Single option)* \*

- ☐ Novice
- ☐ Emerging
- ☐ Developing
- ☐ Proficient
- ☐ Expert

Did or do you already create or use custom tool / software / scripts to validate Linked Data? \*

- ☐ Yes
- ☐ No

Please specify which custom tools / software / scripts you have created or used? *(Open question - if not applicable write "none")* \*

Your answer

Please indicate how you assess your experience with (ontology) constraint languages (e.g. SHACL)? \*

- ☐ Novice
- ☐ Emerging
- ☐ Developing
- ☐ Proficient
- ☐ Expert



If you have a research / professional position in the Semantic Web, what are your main topics? (Open question - if not applicable write "none") \*

Your answer



Please indicate how far you agree with the following statements regarding the just completed exercises (1=strongly disagree, 7 = strongly agree) \*

	1 = strongly disagree	2	3	4	5	6	7 = strongly agree
I'm confident that the modelled solutions I provided with ShapeVOWL are correct (semantically correct representation of energy system constraints, i.e. UMAR use case)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm confident that the solutions I provided with the text-based approach are correct (semantically correct representation of energy system constraints, i.e. UMAR use case)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer Shape VOWL over text-based constraint editing for energy systems (i.e. UMAR use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



case)

The concept of  
modelling with  
ShapeVOWL in  
AOAME is  
simple to  
understand

☐☐☐☐☐☐☐

The energy  
system  
constraint  
modelling with  
ShapeVOWL in  
AOAME was  
simple

☐☐☐☐☐☐☐

The  
ShapeVOWL  
modeling  
language in  
AOAME is a  
suitable  
approach to  
model energy  
system  
constraints

☐☐☐☐☐☐☐

I would like to  
use  
ShapeVOWL in  
AOAME to edit  
RDF  
constraints for  
NEST's energy  
systems

☐☐☐☐☐☐☐

Referring to the initial requirements - What do you generally like about modelling energy system constraints with ShapeVOWL in AOAME and what would you improve? (Open question) \*

Your answer



Please indicate how far you agree the following principles are met regarding modelling energy system constraints with ShapeVOWL in AOAME. (1=strongly disagree, 7 = strongly agree) \*

	1 = strongly disagree	2	3	4	5	6	7 = strongly agree
Semiotic Clarity - The visual notation allows me to clearly express and understand complex concepts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Semiotic Clarity & Graphic Economy - The notation supports the representation of a wide range of information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perceptual Discriminability - The visual elements and symbols used are consistent throughout the notation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perceptual Discriminability - Similar concepts are represented in a consistent manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Semantic Transparency & Cognitive Fit - The notation is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



simple and  
easy to  
understand

Semantic  
Transparency -  
Unnecessary  
complexity is  
minimized in  
the visual  
representation

☐☐☐☐☐☐☐

Complexity  
Management -  
The notation  
provides a  
comprehensive  
representation  
of the  
information it  
intends to  
convey

☐☐☐☐☐☐☐

Complexity  
Management -  
There are no  
major gaps or  
omissions in  
the visual  
representation

☐☐☐☐☐☐☐

Cognitive  
Integration -  
Redundancy in  
the visual  
representation  
is minimized

☐☐☐☐☐☐☐

Cognitive  
Integration -  
Modifications  
to the notation  
are made with  
consideration  
for existing  
users

☐☐☐☐☐☐☐

Visual



**Expressiveness**

- The notation  
is designed  
with human  
cognition in  
mind

☐☐☐☐☐☐☐

Visual  
Expressiveness  
& Cognitive Fit -  
It is easy for  
users to read  
and interpret  
without  
excessive  
mental effort

☐☐☐☐☐☐☐

Dual Coding -  
The notation  
supports the  
creation of new  
and expressive  
visual element

☐☐☐☐☐☐☐

Dual Coding -  
Users can  
easily extend or  
adapt the  
notation to  
represent novel  
concepts

☐☐☐☐☐☐☐

Graphic  
Economy -  
Different  
concepts are  
visually  
orthogonal,  
avoiding  
unnecessary  
overlap  
  
overlap

☐☐☐☐☐☐☐



Is there anything else you want to tell us about the shown ShapeVOWL visualization in AOAME, including the representation of the UMAR use cases with the visual approach? (*Open question*)

Your answer

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