

Improved energy efficiency through proposing effective measure from a database - DEFRAM

SND-ID: snd0935-1. **Version:** 1.0. **DOI:** <https://doi.org/10.5878/001674>

Download data

SND 0935-001-v1_0.zip (12.7 MB)

Associated documentation

DEFRAM_slutrappport.pdf (2 MB)

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snd0935-1-1.0.zip (~14.7 MB)

Citation

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Alternative title

DEFRAM

Creator/Principal investigator(s)

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Research principal

[Linköping University](#)

Description

DEFRAM is a project that was funded by the Swedish Energy Agency. The project started on the 10th of December 2012 and ended on May 10, 2013. The project was run at Linköping University and involved researchers from the Department of Energy Systems at Linköping University (Patrik Thollander) and the Department of Computer and Information Science at Linköping University (Eva Blomqvist), and was implemented in close cooperation with the Swedish Energy Agency (Coordinator: Lara Kruse). Project Manager was Eva Blomqvist, Linköping University.

The project started from three datasets: (1) IAC's (Industrial Assessment Center) database of around 120 000 recommendations (until late 2012), which is by the way the world's largest energy audit program with more than 10,000 energy audits performed so far, (2) results from the Swedish PFE project, from the first program period, and (3) the results of the Swedish Energy Agency's energy audit support, the so-called "energy audit checks" (EKC), during 2011-2012. To demonstrate the user benefits and usefulness in linking these data sources have first created an OWL vocabulary, i.e., a new common data model for the datasets, built as a vocabulary for representing the data elements, and most of the actual data were then transferred to the RDF format, structured according to the new vocabulary.

For interlinking the different data sources a number of manual mappings have been implemented.

Among other things, measures were as far as possible reclassified according to a new taxonomy of task types developed by Energy Systems researchers at Linköping University. To integrate IAC data with Swedish data, a mapping was also made both between the IAC's ARC codes (action types) and the taxonomy, as well as between the industrial classification SIC (used by IAC) and the Swedish SNI-2007.

The result of this work is published through a so-called SPARQL endpoint, which provides direct access to the linked data stored in an underlying triple store. In the current release (as of 2013-09), there are about 2,200 Swedish recommended measures published, and 120,000 recommendations from IAC. Access to these data can be gained through an interface for writing your own SPARQL queries, as well as a demonstration interface for end users (in Swedish), where questions can be formulated through various menu options. The complete dataset can also be downloaded as an RDF-dump. Note that a continuous quality control going on, so data can be changed and the project or its participants cannot be held responsible for any errors in the data - the results are used at your own risk. Note also that the result is a demonstration of what is possible to implement, not a full-scale operational solution - we can not guarantee the uptime and response times for the demo service.

Purpose:

The long term vision of the project is to make data on energy audits more accessible, both for application developers and end users, such as auditors. The goal of this project is to make available a number of datasets containing technical energy efficiency improvement measures as Linked Data on the Web (for more information on what this means see the LOD project <<http://linkeddata.org/>>).

The material consists essentially of two different types of data; measurements of saved energy and action proposals (proposed workarounds for energy surveys and their estimated costs and estimated future savings).

Data for direct download consists 6 data files in rdf format and associated documentation.

Language

[Swedish](#)

Time period(s) investigated

2012-12-10 - 2013-05-10

Data format / data structure

[Numeric](#)

Data collection 1

- Mode of collection: Physical measurements and tests

Geographic spread

Geographic description: Sweden and the United States

Funding

- Funding agency: Swedish Energi Agency
- Funding agency's reference number: 2012-005142

Research area

[Energy and natural resources](#) (CESSDA Topic Classification)

[Environmental sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Computer science](#) (Standard för svensk indelning av forskningsämnen 2011)

[Environmental management](#) (Standard för svensk indelning av forskningsämnen 2011)

Keywords

[Energy](#), [Energy consumption](#), [Energy efficiency](#), [Natural energy resources](#), [Linked data](#)

Publications

Blomqvist, E. & Thollander, P. Databas för Effektivare FRAMtagning av åtgärdsförslag vid energikartläggningar - Slutrapport. Linköpings universitet

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If you have published anything based on these data, [please notify us](#) with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

Versions

Version 1.0. 2014-03-21

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