

## Metadata form of Silva Fennica

This form is designed for writing the elements of metadata, which are used in the description of research materials such as data and codes. The form is based on the work done in the Work Group “Description of research materials” under the Finnish Open Science Coordination

Item	Description	Responsible
Name of the data / code	Survey responses from 31 energy companies in Sweden.	Author
Author & ORCID	Kronholm, Thomas, ORCID: 0000-0002-7066-0667  Anerud, Erik, ORCID: 0000-0002-4751-2439  Bergström, Dan, ORCID: 0000-0002-5729-683X	Author
Authors' affiliation(s)	Swedish University of Agricultural Sciences (SLU), Department of Forest Biomaterials and Technology, 90183 Umeå, Sweden  ROR: <a href="https://ror.org/02yy8x990">https://ror.org/02yy8x990</a>	Author
Owner of the material	Swedish University of Agricultural Sciences (SLU)  ROR: <a href="https://ror.org/02yy8x990">https://ror.org/02yy8x990</a>	Author
Publisher	Silva Fennica	Author
Funder	Swedish Energy Agency  ROR: <a href="https://ror.org/0359z7n90">https://ror.org/0359z7n90</a>	Author
Description	The dataset includes survey responses from 31 energy producers in Sweden. The data include information such as the company's production capacity, the type of combustion technology they use, the type of fuel they use, fuel deliveries, storage practices and infrastructure at production sites and terminals, as well as technologies, methods	Author

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	and systems used for inventory control and monitoring.	
Methods	The study mapped Swedish energy plants’ practices and development needs for storage, handling, monitoring and inventory of biofuels. Data were obtained through a questionnaire sent out by mail to 157 companies. The sample was selected with the help of the member register of Energiföretagen Sverige (Swedenergy), and information retrieved from the Swedish Energy Agency. Collected data were compiled and analyzed using the statistical program SPSS (version 29). Descriptive results were compiled and where applicable, responses were compared in relation to the size of the companies or productions facilities (measured as the company’s total production or the facility’s total purchased amount of solid fuels) and in which part of the country they were located. For this, Pearson correlation, chi-square tests, t-tests and analysis of variance (ANOVA) were used.	Author
Variables	Respondent ID Number of production facilities Installed capacity for heat production (MW), for each plant Installed capacity for electricity production (MW), for each plant Total capacity for heat production (MW)	Author

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Item	Description	Responsible
	<p>Total capacity for electricity production (MW)</p> <p>Geographical location for each facility</p> <p>Heat produced (GWh), for each plant</p> <p>Electricity produced (GWh), for each plant</p> <p>Total heat production (GWh)</p> <p>Total electricity production (GWh)</p> <p>Combustion technology</p> <p>Total amount of fuel purchased (GWh)</p> <p>Percentage of primary forest fuels</p> <p>Percentage of secondary forest fuels</p> <p>Percentage of recycled wood</p> <p>Percentage of agrarian fuels</p> <p>Percentage of other fuels</p> <p>Share of primary forest fuels temporarily stored at terminal</p> <p>Share of secondary forest fuels temporarily stored at terminal</p> <p>Share of primary fuels stored in non-comminuted form at terminal</p> <p>Share of primary fuels stored in non-comminuted form at the production facility</p> <p>Storage area size at terminal (m<sup>2</sup>)</p> <p>Storage area size at production facility (m<sup>2</sup>)</p> <p>Maximum storage capacity for comminuted fuel at terminal (m<sup>3</sup>)</p> <p>Maximum storage capacity for comminuted fuel at production facility (m<sup>3</sup>)</p> <p>Proportion of fuel delivered during each quarter (%)</p> <p>Average storage time during each quarter</p> <p>Proportion of fuel (%) transported by truck, train, boat or other means from supplier to intermediate storage</p>	

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Item	Description	Responsible
	<p>Proportion of fuel (%) transported by truck, train, boat or other means from intermediate storage to production facility</p> <p>Proportion of fuel (%) transported by truck, train, boat or other means from supplier to production facility</p> <p>Proportion of fuel (%) purchased via each contract length (&lt;1 y, 1-2 y, 3-5 y, &gt;5 y)</p> <p>Procedure for determining fuel quantity and quality at the time of transaction</p> <p>Analyses performed to determine fuel quality (moisture content, ash content, particle size, energy value) at different times</p> <p>Methods and techniques for determining fuel quantity and assessing fire risk during storage</p> <p>Inventory control system</p> <p>Storage losses (primary forest fuels, secondary forest fuels, total), %</p> <p>Ranking of measures to reduce storage losses</p> <p>To what extent companies take various measures to reduce storage losses</p> <p>Percentage of stacks covered with different types of materials (fiber cloth, canvas, plastic sheet, other)</p> <p>Storage time with covered stack</p> <p>Stack height, width, length and shape of the top</p> <p>Whether various tasks are performed by your own hired personnel, using your own machines or not</p> <p>Proportion of fuel stacked against walls at the facility and terminal</p>	

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Item	Description	Responsible
	Perceived development needs in various areas	
Author keywords	Energy plants; CHP; biofuel; storage practices	Author
Vocabulary keywords (community standard)	Biofuel; forest fuel	Author
Discipline	Forest science; Business administration	Archive/Repository/Publisher
Type of material	Research data	Author
Language	Swedish (swe)	Author
Time range covered	2024-06-01 to 2024-08-31	Author
Geographic region	Sweden	Author
Version	NA	Author
File format(s)	.sav	Author
Availability of the materials (open, embargo, registration, limited, registration required)	Limited. Access to the data can be granted upon reasonable request. The data cannot be shared freely because it contains business information and individual companies can be identified based on the information in the dataset combined with the fact that it is a small population.	Author

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Item	Description	Responsible
Justification for access restrictions	See above.	Author
Licence	The data is not openly licensed due to ethical reasons (see above).	Author
Connections with other research materials	NA	Author
Access to the connected research materials	NA	Author
Codes only: hardware/software requirements for running the code	NA	Author
Connections to other products of research	NA	Author
Personal data	<p>The Swedish University of Agricultural Sciences (SLU) is responsible for the processing of personal data.</p> <p>In some cases, the respondent provided his/her name, job title and contact information.</p>	Author
Confidential or secret data	The data contains specific company information about, for example, storage capacities, fuel consumption, purchasing routines, storage routines, etc., which may be considered business information that should be kept confidential.	Author

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<b>Item</b>	<b>Description</b>	<b>Responsible</b>
Publication date	NA	Archive/Repository/Publisher
Preservation policy	NA	Author
Permanent identifier (PID)	NA	Archive/Repository/Publisher