

Questionnaire

USER NEEDS FOR ENERGY MODELS FOR THE EUROPEAN ENERGY TRANSITION

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Welcome and Introduction

The EU's commitment under the Paris Agreement, the Energy Union Strategy and the European Green Deal aim at transformation of current energy systems. To better understand different alternatives and pathways, a new set of energy modelling tools needs to be developed. In order to address this challenge, an interdisciplinary consortium of the EU H2020 [SENTINEL](#) and [openENTRANCE](#) projects are developing modelling platforms for the European energy transition. Specific needs of various energy model users will be the core of the platforms.

Therefore, we would like to learn from you about your needs and demands of future energy models. Your answers will enable us to improve the existing SENTINEL and openENTRANCE models and the platforms, according to your needs. The survey is especially directed towards modellers, energy industry, NGOs, and policymakers.

Completing the survey will take you about **20 min.** Your answers will be greatly appreciated. The collected information will only be used for the purpose of research and will be treated anonymously. By participating in this survey you agree to our data protection standards (see GDPR disclaimer below).

We hope you enjoy the survey and thank you for supporting our research.

Kind regards from the SENTINEL and openENTRANCE project
P.p. *Hannes Gaschnig*



GDPR Disclaimer

Compliance with the information requirements when personal data is collected from the data subject (Article 13 GDPR)

We would like to inform you here about how we use your data collected in the described survey above on 'user needs of energy models' in the SENTINEL project, in collaboration with openENTRANCE.

1. Name and contact details: a. Contact details of the controller: Institute for Advanced Sustainability Studies e.V. (IASS), Berliner Strasse 130, 14467 Potsdam, Phone: +49 331 28822-300, Fax: +49 331 28822-310, E-Mail: info@iass-potsdam.de; b. Contact details of the data protection officer: Frau Eva Grübel-Hoffmann, ITM Ges. für IT-Management mbH, Bürgerstraße 81, D-01127 Dresden, datenschutz@itm-dl.de

2. Processing of your personal data: a. Which personal data do we use and where does your data come from? Within the survey, we collect data on your working sector, geographical focus, gender, model experience, interest in our work, and primarily your attitudes and preferences regarding models and their improvements in the future. We used contact details, including names, working places, and email addresses in order to send this survey. These data have been either collected or have been stored within our institutional database on the basis of given consent to do so after personal contact with one of our employees. However, these personal data will not be further used within the analysis, will not be shared with any third parties, and kept confidential. b. For what purposes and on what legal basis do we process your data? As a part of the SENTINEL project, data will be collected within the survey among participants interested in the improvement of energy models with a special focus on Europe. These are primarily policy-makers, energy researchers and advisers, members of the energy industry, and non-governmental organisations, but also other stakeholders. The anonymized and aggregated results of the survey will be published in project deliverables, scientific journals, policy briefs, and presented at scientific conferences and workshops. All responses will be anonymized. This will ensure that responses cannot be subsequently associated with specific persons or institutions. The anonymized and aggregated results will be made accessible to parties within the projects SENTINEL and openENTRANCE, interested survey participants, and in scientific publications. We process your personal data in accordance with the European General Data Protection Regulation (GDPR) and the Federal Data Protection Act (BDSG), Germany. The purpose of the processing is the investigation and analysis of attitudes and preferences of existing and potential model and model result users. The examination will be the basis of discussions for user-need-driven improvements of energy models in the projects SENTINEL and openENTRANCE, but also to communicate the results to the scientific community of energy research as well as the interested public. The legal basis for the processing of this data is provided under Article 6 (1) (a) and (e) GDPR.

c. How long will your data be stored? The written data will be stored for 10 years after the date of collection to ensure good scientific practice. After this time, it will be erased. d. Is there an obligation to provide data? There is no obligation to provide data. e. Is there automated decision-making, including profiling? As a responsible institute, we do not use automatic decision-making or profiling.

3. Disclosure of your data: a. Who gets your personal data? Your contact data will only be used by our employees for the purposes indicated by the corresponding questions in the survey. Your personal data will not be disclosed to third parties other than project partners in SENTINEL and openENTRANCE that also agreed on these data protection rules. Only anonymized results will be published or transmitted to other research organizations. b. Will your data be transmitted to a third country or to an international organization? A transfer of personal data to countries outside the European Economic Area (third countries) does not take place.

4. Your rights: You have a right to information (Art.15 GDPR), correction (Art.16 GDPR), cancellation (Art.17 GDPR), limitation of processing (Art.18 GDPR), data transferability (Art.20 DSGVO) and objection to the data processing (Art. 21 GDPR). You have the right to withdraw your consent at any time. You have the right to object at any time to processing of personal data which is based on point (e) of Article 6(1) with effect for the future. Please direct your objection to the Institute of Advanced Sustainability Studies (IASS) or its data protection officer (see 1a and 1b). This does not affect the legality of the data processing carried out prior to your objection. Furthermore, you have the right to lodge a complaint with a supervisory authority (Art. 77 GDPR). Please contact us if you would like to exercise these rights.

Potsdam, 29th of June 2020, Institute for Advanced Sustainability Studies e.V. (IASS), Berliner Straße 130, 14467 Potsdam

A Personal background, model use, and general demand

A1 Which stakeholder group would you count yourself among? [single choice, mandatory] If our groups do not match your profile, please let us know your area of activity in the “other” field.

- Policymakers
- Energy industry
- Non-governmental organization (NGO)
- Research, Innovation & Consultancy
- Other: _____

A2 What levels are you working at? [multiple choices, optional]

- Global
- EU
- National
- Regional
- Local (e.g., municipality)

A3 In what context do you work with models? [multiple choices, at least one answer, mandatory]

- A301 I develop models technically.
- A303 I apply and run models.
- A304 I analyze the results of model runs, write model-based studies, or give model-based advice.
- A302 I provide model developers with ideas for model improvement, or commission model-based studies.
- A305 I read model analysis and model studies.
- A 306 I have never used models or model results before.

A4 How long have you been working with models (as you indicated in the previous question)? [single choice, optional]

- Never
- 1-3 years
- 4-6 years
- More than 6 years

A5 *All A3-groups except A306*: You stated above that you work with energy models in one way or another. With which kind of models in terms of model topics and model type have you worked (as indicated above) so far?¹ [multiple choices, optional]

- A501 Strategic energy system planning models
- A502 Integrated assessment models
- A503 Life cycle assessment models

¹ Italic conditions at the beginning of a questions like “*All A3-groups except A306*.” were not displayed to the participants.

- A504 Emission inventory/air pollution models
- A505 Social metabolism assessment models
- A506 Electricity market models
- A507 Transportation models
- A508 Building models
- A509 Macroeconomic equilibrium models
- A510 Simulation models
- A511 Optimization models
- A512 Agent-based models
- A513 System Dynamic models
- A514 Multicriteria analysis
- A515 Geographical information systems (GIS)
- A516 Others: _____
- A517 I don't know.

A6 If chosen at least one answer of A501 to A516 You stated above that you use specific models or model results in your work. Which models or of which models exactly? Please type in the model abbreviation(s).
Help text: You can leave the field blank. [multiple choices, optional]

- Model name(s): _____

A7 All A3-groups except A306: Related to that, how often do you use models or modeling results? [single choice, optional]

- A701 Daily
- A702 Weekly
- A703 Monthly
- A704 Occasionally

A8 If chosen A306 OR A703 OR A704: What are the reasons that you do not or not often use model results? [multiple choices; optional]

- I don't have the time needed to search for model studies.
- I don't have the knowledge to use models.
- I have difficulties in interpreting model results.
- I don't have access to appropriate models.
- I am very critical of models and their assumptions.
- Other methods and tools are more appropriate to answer my questions.
- Others: _____

A9 In your opinion, how important are models for...? [matrix; Likert scale: not important - very important, don't know; mandatory]

... the energy transition as a whole
... policymaking in the energy transition

A10 All A3-groups except A306: For what purpose are you using models in your work? [multiple choices; optional]

- Agenda/Target setting of certain policy
- Policy/measure formulation
- Ex-ante-assessment of policy impacts
- Strategy development
- Policy implementation
- Ex-post-evaluation/monitoring of implemented policy
- Local energy planning
- Energy system operation
- Informing/Lobbying in politics
- Others: _____
- None of the purposes above

A11 All A3-groups except A306: Where do you see the demand for additional or improved models helping you in your work? [multiple choices; optional]

- Agenda/Target setting of certain policy
- Policy/measure formulation
- Ex-ante-(impact-)assessment of policy
- Strategy development
- Policy implementation
- Ex-post-evaluation/monitoring of implemented policy
- Local energy planning
- Energy system operation
- Informing/Lobbying in politics
- Others: _____
- I don't know.

A12 What time horizon(s) are you dealing with in your energy-related work? [multiple choices; optional]

- Hours
- Days
- Weeks
- Months
- Years
- Short-term (up to 2025)
- Medium-term (2030, 2040)
- Long-term (2050 and beyond)

A13 In our projects, we want to improve models in all possible directions. In which field(s) do you want to contribute to the model improvement? Your choice here will determine how many questions you will be asked in total. *Help text:* Please select all answers that apply to your interests. Please select all fields that apply to your interests. Each selected field will take about 10 minutes of your time. [multiple choices, mandatory]

- *A1301* **Model content** (aspects to be incorporated, questions to be answered by models, etc.)
- *A1302* **Model design** (level of detail in models, trade-offs in modeling, etc.)
- *A1303* **Modeling process** (procedure of model development, whom to involve in the process, etc.)
- *A1304* **Model outreach** (best options to communicate with target audience, elements of the model platforms, etc.)

B Model content [if chosen A1301]

B1 How important are the following aspects for the energy transition? [Likert scale: not important - highly important, don't know; random order in LimeSurvey; optional]

- Resilience & security of supply
- Low-hazard technologies
- Nature protection
- Human health
- Energy efficiency
- Climate-neutrality
- Social acceptability
- Affordability
- Cost-efficiency
- Free energy trade between countries

B2 Regarding the previous question, did we miss to include aspects that are important to you? If any, please describe the aspects briefly. [open field; optional]

B3 Which of the following factors do you think should receive more attention in energy models? [multiple choices, minimum 1, maximum 5; mandatory]

- *B301* Development of new technologies and services
- *B302* Impact on the environment and natural resource use
- *B303* Potential supply restriction of raw materials and components for energy technologies
- *B304* Behavior, lifestyles, and heterogeneity of consumers
- *B305* Behavior and heterogeneity of investors
- *B306* Social acceptance and public opposition
- *B307* Social impact of the transition (e. g., gain and losses of energy jobs, changes in energy poverty)
- *B308* Cultural contexts (e.g., behavioral differences between countries)
- *B309* Policy impact/implications of different policy options
- *B310* Political dynamics (e.g. impact of climate change and renewable energy deployment on elections)
- *B311* Economic preparedness (e.g., scaling up of energy industry)
- *B312* Total costs and investment costs (including external costs)
- *B313* Shock events (e.g., natural hazards, societal catastrophes)
- *B314* Others: _____ [3000 signs]
- *B315* I don't know.

B4a If chosen *B304* OR *B305* OR *B306* OR *B307* OR *B308* OR *B310*: You stated that social aspects should receive more attention in models. What **social aspects** would you like to see integrated into energy

models? [multiple choices; maximum 3; optional] *Help text:* Your answers here will especially help in developing QTDIAN in SENTINEL, a model toolbox focusing on social aspects of the energy transition.

- B401 Social storylines and scenarios
- B402 Technical potential based on social acceptance of energy technologies and infrastructures
- B403 Social drivers and barriers of innovation diffusion
- B404 Impact of social issues on politics and policies (e.g., social movements)
- B405 Dynamics of social acceptance and individual attitudes towards energy technologies (e.g. habituation)
- B406 Rebound effects in energy demand
- B407 Optimization of acceptance instead of costs
- B408 Co-benefits of prosumerism and community energy
- B409 I don't know.
- B410 Others: _____

B4a2 *If chosen (A301 OR A302) AND (B304 OR 305 OR 306 OR 307 OR 308 OR 310):* To what extent are these **social aspects** already integrated into **your energy model**? [Dual matrix / Likert scale: not relevant - relevant; hard to say; not integrated - highly integrated; hard to say; optional]

- Social storylines and scenarios
- Technical potential based on social acceptance of energy technologies and infrastructures
- Social drivers and barriers of innovation diffusion
- Impact of social issues on politics and policies (e.g., social movements)
- Dynamics of social acceptance and individual attitudes towards energy
- Rebound effects in energy demand
- Optimization of acceptance instead of costs
- Co-benefits of prosumerism and community energy

B4b *If chosen B302 OR B303:* You stated that environmental or resource issues should receive more attention in energy models. What **environmental factors** would you like to see integrated into energy models more in the future? [multiple choices, maximum 3; optional] *Help text:* Your answers here will especially help in developing ENVIRO in SENTINEL, a model focusing on environmental aspects of the energy transition.

- Raw material demand
- Other industrial inputs
- Water use and/or wastewater generation
- Air pollution
- Solid waste generation
- Dissipated heat
- Greenhouse gas emissions
- Loss of biodiversity
- Soil contamination
- Ozone depletion
- Others: _____

- I don't know.

B4b2 *If chosen (A301 OR A302) AND (B302 OR B303)*: To what extent are these **environmental aspects** already integrated into **your energy model**? [Dual matrix/Likert scale: not relevant - relevant; hard to say; not integrated - highly integrated; hard to say; optional]

- Raw material demand
- Other industrial inputs
- Water use and/or wastewater generation
- Air pollution
- Solid waste generation
- Dissipated heat
- Greenhouse gas emissions
- Loss of biodiversity
- Soil contamination
- Ozone depletion

B5 Which sector(s) is/are currently of main focus in your **working context**? [multiple choices, maximum 3; optional]

- B501 Electricity
- B502 Buildings (Heating/Cooling)
- B503 Industry (Process Heat)
- B504 Mobility
- B505 Agriculture
- B506 Sector-coupling, digitalization, and system flexibilization
- B507 Other sector(s)
- B508 I do not know.

B6 *If chosen B501*: You stated above that **electricity** is currently the main focus. Please list up to three questions (your 'Top 3') regarding this sector that should be answered by energy models. *Help text*: If any, please use the fields to write down the questions. [open fields; optional]

- _____
- _____
- _____

B7 *If chosen B502*: You stated above that **heating/cooling in buildings** is currently of main focus. Please list up to three questions (your 'Top 3') regarding this sector that should be answered by energy models. *Help text*: If any, please use the fields to write down the questions. [open fields; optional]

- _____
- _____
- _____

B8 If chosen B503: You stated above that **process heat in the industry** is currently of main focus. Please list up to three questions (your ‘Top 3’) regarding this sector that should be answered by energy models.

Help text: If any, please use the fields to write down the questions. [open fields; optional]

- _____
- _____
- _____

B9 If chosen B504: You stated above that **mobility** is currently of main focus. Please list up to three questions (your ‘Top 3’) regarding this sector that should be answered by energy models. *Help text:* If any, please use the fields to write down the questions. [open fields; optional]

- _____
- _____
- _____

B10 If chosen B505: You stated above that **agriculture** is currently of main focus. Please list up to three questions (your ‘Top 3’) regarding this sector that should be answered by energy models. *Help text:* If any, please use the fields to write down the questions. [open fields; optional]

- _____
- _____
- _____

B11 If chosen B506: You stated above that **sector-coupling, digitalization, and system flexibilization** are currently of main focus. Please list up to three questions (your ‘Top 3’) regarding these aspects that should be answered by energy models. *Help text:* If any, please use the fields to write down the questions. [open fields; optional]

- _____
- _____
- _____

B12 If chosen B507: You stated above that some **other sector(s)** are currently of main focus. Please list up to three questions (your ‘Top 3’) regarding this sector / these sectors that should be answered by energy models. *Help text:* If any, please use the fields to write down the questions. [open fields; optional]

- _____
- _____
- _____

B13 If chosen B301 AND B501: You stated that the development of new technologies and services is very important to you. Which innovations in the electricity production sector should be included in energy models? [multiple choices, maximum 3; optional]

- New solar applications (integrated into buildings, streets, agriculture, ...)
- New wind power technologies (Air Borne, Far-Off-Shore, Micro-Wind, ...)
- New hydropower technologies (Wave energy, ...)
- New biomass resources (organic waste, ...)

- New technologies of CO₂-neutral energy carriers (solar fuel, green hydrogen, Carbon Capture and Storage (CCS) and Carbon Capture and Utilization (CCU) of coal and gas, ...)
- New technologies of nuclear power (fusion, next generation of fission, fission of nuclear waste, ...)
- Others: _____
- I don't know.

B14 If chosen B301: Given your sector-specific working context, which innovations should be included in energy models? If any, please describe the emerging technologies, services, and other innovations briefly.
[open field; optional]

_____ (3000 signs)

C Model design [if chosen A1302]

C1 How important are the following model conditions for the use of models or their results in your work?
[Likert scale: not important <-> very important, don't know; optional]

- Fit for purpose
- Trust in model
- Credibility of model developer
- Open-source
- Transparency
- Reproducibility
- Modularity
- High temporal resolution
- High spatial / geographical resolution
- Reliable data available
- Graphical representation

C2 Which model feature/quality is more important to you? Please choose in each pair the more meaningful to you. [four-point scale for each pair; random order in LimeSurvey; optional]

Complexity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Simplicity	<input type="radio"/> No opinion
Open-source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Intellectual property protection	<input type="radio"/> No opinion
Easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Realistic assumptions	<input type="radio"/> No opinion
Fast results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Comprehensive results	<input type="radio"/> No opinion
High model diversity, but small expertise per model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Only few models, but large expertise per model	<input type="radio"/> No opinion
Developing new models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Improving existing models	<input type="radio"/> No opinion
Optimization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Simulation	<input type="radio"/> No opinion
Specific fit for purpose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Model as all-rounder	<input type="radio"/> No opinion
Trust the black box	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Learn a modeling language	<input type="radio"/> No opinion
Conservative scenarios	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Progressive scenarios	<input type="radio"/> No opinion
1.5°C futures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2°C futures	<input type="radio"/> No opinion
Find the best policy options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Find the right targets	<input type="radio"/> No opinion
Forecasting (investigate possible futures)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Backcasting (define steps backwards from a desired future)	<input type="radio"/> No opinion

C3 All A3-groups except A306: How important are the following measures to reduce model uncertainty? Please order them by importance, with the most important on top. [ranking; random order in LimeSurvey; optional]

- Scenario analysis (different futures)
- Sensitivity analysis (systematic variation of input variables)
- Transparency (good description of model assumptions and limitations)
- More realistic model assumptions

C4 All A3-groups except A306 AND only if someone ordered C3: Regarding the previous question, did we miss to include aspects to deal with uncertainty in modeling that are important to you? If any, please describe the aspects briefly. [open field; optional]

D Modeling process [if chosen A1303]

D1 If chosen A302 OR A304 OR A305 OR A306: How important is **your involvement** in conceptually developing or improving models for you? [Likert scale: not important - very important; don't know; mandatory]

D2 If chosen A302 OR A304 OR A305 OR A306: Have you ever been involved in the development or improvement of models? [single choice; mandatory]

- *E201* Yes, once.
- *E202* Yes, frequently.
- *E203* No, never.
- *E204* I cannot remember anymore.

D3 If chosen (A302 OR A304 OR A305 OR A306) AND (D201 OR D202): When looking back, how useful was the involvement in this process for you? [single choice; mandatory]

- Very beneficial and I want to do it again.
- Mostly beneficial.
- Ambivalently.
- Mostly disappointing.
- Very disappointing and not worth the effort.
- I cannot remember anymore.

D4 If chosen A301 OR A303: How important for you is involvement of the following groups in your model development and improvement process? [Likert scale: not important - very important; don't know; mandatory]

- Policymakers
- Energy industry
- Non-governmental organizations (NGOs)
- Research, Innovation & Consultancy

D5 If chosen A301 OR A303: Have you involved external stakeholders in your model development so far? [single choice; mandatory]

- *E501* Yes, once.
- *E502* Yes, frequently.
- *E503* No, I have not involved them so far.
- *E504* I cannot remember anymore.

D6 If chosen (A301 OR A303) AND (D501 OR D502): When looking back, how beneficial was the involvement of external stakeholders for your work? [single choice; mandatory]

- Very beneficial and I want to do it again.

- Mostly beneficial.
- Ambivalently.
- Mostly disappointing.
- Very disappointing and not worth the effort.
- I cannot remember anymore.

D7 In the process of the model development or improvement, how important is the exchange about the following aspects between model developer and external stakeholders for you?

[Likert scale: not important <-> very important; don't know; optional]

- Decide on data basis
- Define assumptions
- Develop scenarios
- Discuss and interpret model results
- Decide about communication strategy of results

E Model outreach [if chosen A1304]

E1 How valuable are the following forms of model communication for you?

[Likert scale: not valuable at all - very valuable; don't know; optional]

- Model documentation (handbook and guidelines)
- Model fact sheet
- Model database (model input & output)
- Model presentation
- Model explanation video
- Model application (case studies)
- Model graphs and figures
- Model interface (to modify and work with the model)
- Model workshops/seminars
- Model training
- Direct exchange with modeler

E2 SENTINEL and openENTRANCE will each build a model platform that documents different models. What is essential for you to use it? [multiple choices; at least one; optional]

- Model overview and catalog
- Download of models and model sources
- Newsletter with model and platform updates
- Information of specific models (functionality, use case)
- Information on relationship/linkage between different models
- Model-based recommendations for decision-makers
- Training materials for model use
- Online Forum for platform users
- Direct contact to platform developers
- None of these options
- Other: _____

E3 Would you be interested in using that platform directly as a modeler? *Help text:* If you choose 'Yes', you will further be asked about your technical needs regarding the platform. [single choice; mandatory]

- E301 Yes.
- E302 No.
- E303 Not sure yet.

E4 *If chosen E301:* What kind of software do you prefer to use for modeling? [single choice; optional]

- E401 Graphical user interface on your desktop (like MS Outlook or Apple Mail for email)
- E402 Web applications (like Gmail or Protonmail for email)
- E403 Programming language to have complete freedom over your analysis
- E404 Other: _____

E5 If chosen E401: Which graphical interface do you prefer? [single choice; optional]

- Excel/LibreOffice
- MS Access
- SPINE toolbox
- Other: _____

E6 If chosen E403: Which programming languages do you use in your analysis? [multiple choices; optional]

- Python
- R
- C/C++
- SQL
- Perl
- Java
- Shell script/batch script
- Other: _____

E7 If chosen E403: What integrated development environment (IDE) / editor do you use for your programming needs? [multiple choices; optional]

- Dedicated graphical environments like Spyder, RStudio, SQL consoles like Datagrip, etc.
- General purpose graphical editors like Notepad++, vscode, PyCharm, etc.
- Command line editors like Emacs, Vim, Nano, etc.
- Other: _____
- I do not know which IDE / editor I use.

E8 If chosen E403: Are you familiar with the command line terminal? [single choice; optional]

- Yes.
- No.

E9 If chosen E301: What Operating System do you prefer for modeling and analysis? [single choice; optional]

- Windows
- Mac OS
- Linux
- Other: _____

E10 All A3-groups except A306: Is there any other online modeling platform that you use? Help text: If any, please insert the platform name or link to the platform. [open field; optional]

F Others and demographic data

F1 What is your country of residence? Help text: The list includes all member states of the European Union. If you come from outside the EU, please use the 'other' field. [single choice; dropdown menu; optional]

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czechia
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom
- Other: _____

F2 What is your gender? [single choice; optional]

- Female
- Male
- Non-binary
- I do not want to say.

F3 How long have you worked or have been working in the energy field? [single choice; optional]

1. 1 - 5 years
2. 6 - 10 years

3. 11 - 15 years
4. Over 15 years
5. I have not worked in the energy field so far.

F4 Would you be interested in participating in a stakeholder workshop on user needs? [single choice; optional]

- *F401* Yes.
- *F402* Not sure yet.
- *F403* No.

F5 If chosen *F401* or *F402*: We are glad that you are potentially interested in our workshop. If you would like to be invited please leave us here your contact data. [open fields; optional]

First name: _____

Last name: _____

Email address: _____

(Help text: Your personal data will not be linked to the questionnaire.)

F6 Would you like to add further aspects to the survey, that we didn't mention? *Help text:* Please use the text box if you have general comments on the questionnaire. [open field; optional]

_____ (3000 signs possible)

F7 We would like to inform you about our results once we completed analyzing the survey data. If you agree to hearing from us again, please enter your contact email address below. [open field; optional]

Email address: _____

(Help text: Your personal data will not be linked to the questionnaire.)

E Outro

Thank you, for contributing to the survey! If you have general questions or comments concerning the survey or our projects, feel free to contact us.