Residential Heat Pumps Europe Study Questionnaire Launch Event

Presentation to

Heat Pumps Stakeholders

10 December 2025

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Agenda

- **Workshop admin**
- **Introduction to RPA**
- **Introduction to the Heat Pumps study**
  - Purpose
  - Aims
  - Scope
  - Approach
- **Introduction to the questionnaire**
  - Data requested
  - Data handling and security
  - Collation, aggregation and anonymisation
- **Guided questionnaire walkthrough**
- **Next steps**
- **Questions**

Workshop admin

- **Please note this meeting is being recorded**
  - A recording is being made for stakeholders who are unable to attend or who join the process later
  - A copy of the recording (along with the slide deck) will be provided to all participants
- **Competition law rules and restrictions are also in effect**
- **Please use the chat function to ask any questions or raise points of interest throughout the session**
  - That chat will be monitored by my colleagues who will answer your questions on a rolling basis, and I will periodically pause to allow for repeated or pressing questions to be addressed live

Introduction to RPA

- An independent consultancy firm established in 1990 specialising in the fields of chemical policy (UK & EU), sustainability, economics, environmental economics and assessment, and social policy research
- Extensive experience with PFAS substances (including F-gases) via previous public and private client work engaging with the UPFAS restriction proposal
- Previously conducted other residential heat pump reviews and assessments

Purpose

- To produce a thorough overview report, for use by EFCTC and industry on the use of F-gases and alternatives as refrigerants in heat pumps in Europe
- Therefore, in addition to conducting a thorough overview assessment a wider purpose of this project is to begin to draw together available literary and industry data on the technical performance of F-gas and alternative-based heat pumps across Europe
- RPA are acting as an independent third party on behalf of heat pump stakeholders to pull together the necessary data on both F-gases and alternatives as refrigerants in heat pumps in Europe

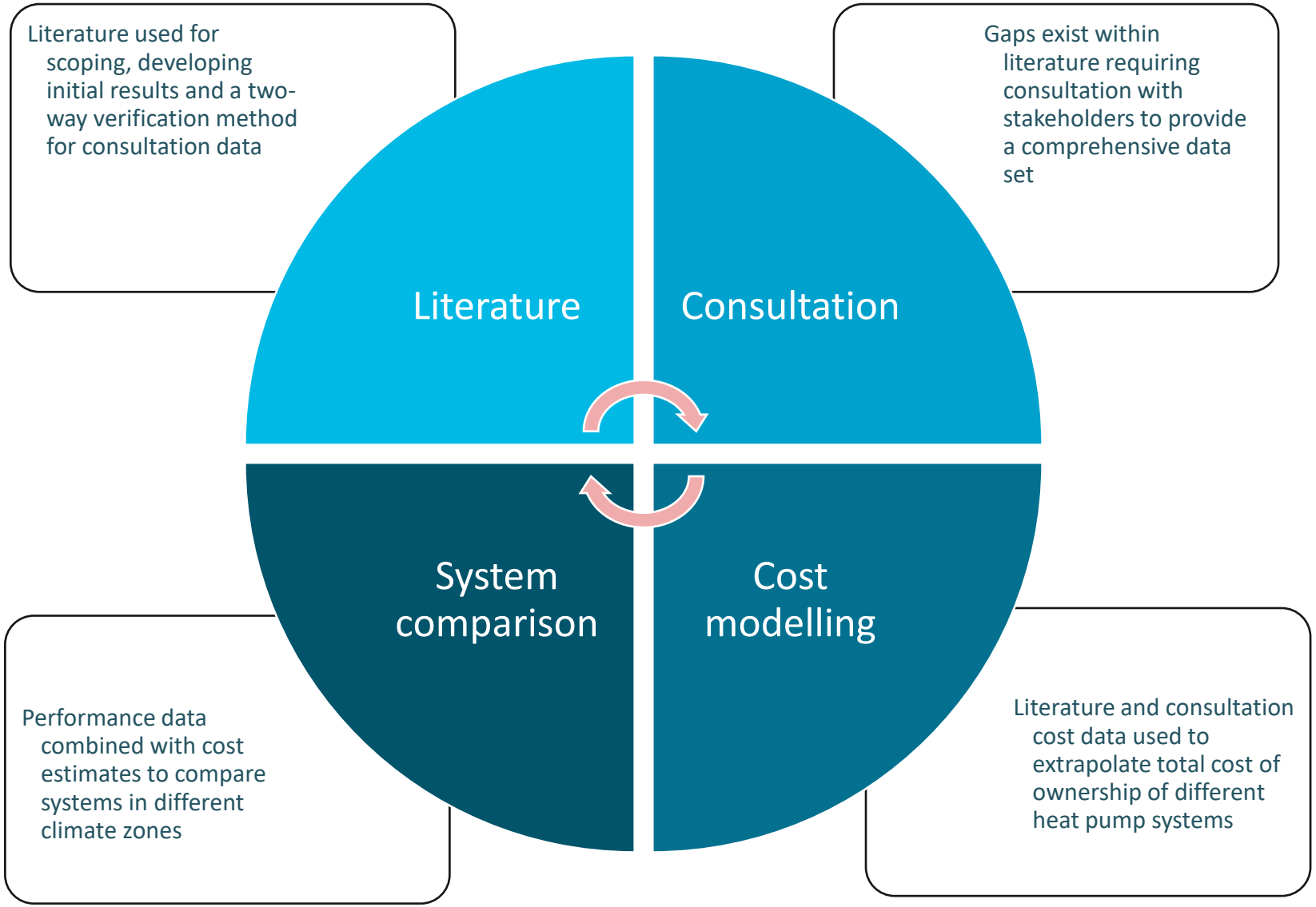
Aims

- **There are 5 key aims of this study:**
  - To conduct a comprehensive literature review of to identify key performance criteria of heat pumps, followed by identify values for these criteria
  - To analyse alternatives looking at performance and technical differences between heat pump systems, while additionally considering environmental and health considerations from alternatives
  - To quantify the cost of ownership of heat pump systems to determine economic viability
  - To assess the total cost of ownership of different system configurations to supplement performance reviews
  - To summarise and define which key data points remain unavailable after consultation and literature review
- **We are engaging with stakeholders to complete aim 2 which is vital to the overall project success**

Scope

- **Stakeholders: 4 groups of interest from the cold chain**
  - F-gas manufacturers and suppliers
  - Heat pump system manufacturers
  - Building contractors, installers, and architects
  - Trade/industry associations
- **Refrigerants: A2L F-gas refrigerants of GWP <150 and R290 (Propane)**
- **Heat pump systems: Air-to-air, Air-to-water/brine, Ground source (water and brine), Monoblock and Split system**
- **Climate zones: A list of countries in each designated zone is available in the survey**
  - Cool: Nordic climates (cold winters mild summers)
  - Warm and temperate: Eastern, Middle, and Western Europe (cold/mild winters with hot dry/humid summers)
  - Hot: Southern Europe (Mediterranean climate)

Approach


Literature used for scoping, developing initial results and a two-way verification method for consultation data
Gaps exist within literature requiring consultation with stakeholders to provide a comprehensive data set
Literature
Consultation
System comparison
Cost modelling
Performance data combined with cost estimates to compare systems in different climate zones
Literature and consultation cost data used to extrapolate total cost of ownership of different heat pump systems

Stakeholder Survey

What is being asked for and how will your data be used

Key data we are requesting

- **Technical and performance data**
  - Compatibility of different refrigerants with heat pump types
  - Efficiency of refrigerant alternatives
  - Properties (for example, flammability) of refrigerants
- **Costing data**
  - Cost of heat pump refrigerants
  - Cost of heat pump materials
  - Cost of manufacturing
- **We are requesting this data across climate zones (cold, mild, and hot) to be more nuanced in our system comparison decisions**

Data handling and security

- Survey is hosted on EU Survey, an online platform operated by the European Commission with all data stored on European servers, meaning all data supplied via the platform is protected under GDPR
- Only RPA has access to your responses in EU Survey and these will never be shared with EFCTC, their members or any third party (typical RPA practice)
- RPA will collate, aggregate, and anonymise survey responses and then further collate and aggregate survey data with literature findings in accordance with Cefic statistical rules preventing individual respondent identification
- RPA has 30+ years experience handling, protecting, and anonymising confidential data for industry reports

Collation, aggregation and anonymisation

- **All data collected via the questionnaire will effectively go through two phases of collation and aggregation**
  - Survey data once extracted will be collated with respective values from the literature review and then all values will be aggregated together (either by averages or ranges) before being presented in the final report
  - Therefore, any data supplied in the questionnaire will be aggregated with all other survey responses and then further aggregated with literature data
- **This collation and aggregation process will ensure that any values presented in the final report are not traceable or associated with any one single questionnaire respondent thus granting anonymisation**
- **For qualitative information RPA will again aggregate together repeated themes and consensus between questionnaire responses and literature before presenting qualitative points and if direct quotes are required the permission of the submitter will be sought but they will not be named**

Survey demonstration

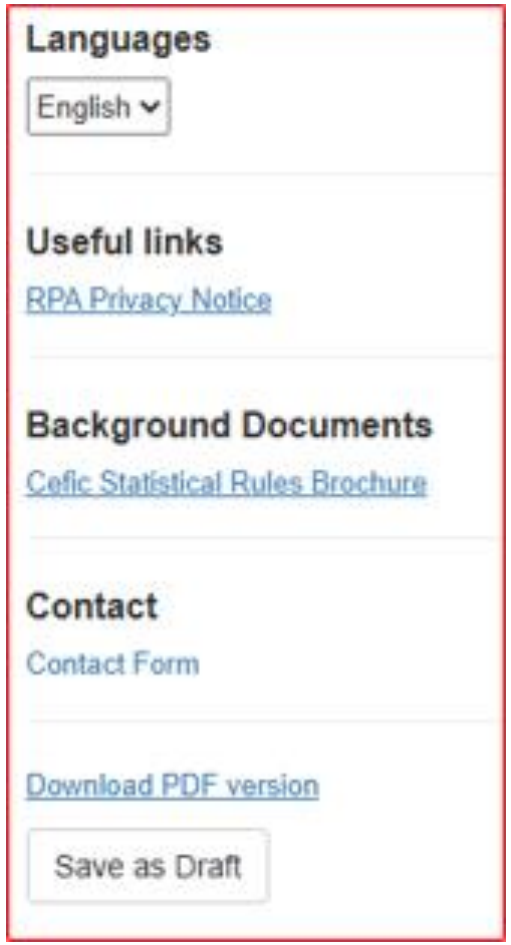
https://ec.europa.eu/eusurvey/runner/European_Heat_Pumps_Overview

Sharing your survey internally

- The survey does not need to be completed in one go, it can be completed iteratively with the “Save as Draft” function
- After clicking this option, a unique link will be generated which can be shared with others to access the survey and add more data
- Each time you enter new information into the survey you need to click the “Save as Draft” button again (the access link will not change)
- Once your survey answer is complete you must select “Submit” at the end of the survey not “Save as Draft” as the study team cannot access drafts
- Please note it is not advised to have multiple people accessing the link and inputting data simultaneously as this can cause syncing and lost data issues

Survey admin notes

- The survey is available until 11:59pm on the 30/01/2026
- The survey has been machine translated into DE, ES, FR, and IT
- Should you need to review the RPA privacy policy or Cefic statistical rules these are available to access in the survey
- If you have questions or any issues you can contact Robert White at RPA directly (Robert.white@rpaltd.co.uk) or use the contact form function in the survey
- Should you wish to view the full survey (some questions are hidden by conditions) you can download a PDF version of the survey
- NDAs can be arranged and signed upon request if required



Next steps

- Review the questionnaire early and complete what information you can initially
- Create and save a draft response and distribute this within your organisation to relevant parties
- Distribute the questionnaire link and this presentation to customers and clients to increase data catchment
- Reach out to RPA as soon as possible with any comments or questions

Questions from launch event

- Q: Will you also consider feedback provided by manufacturers/users of large-scale/industrial heat pumps?
  - A: The scope of the study is only concerning residential heat pumps. However, if you have data that you believe can be applicable to residential heat pumps, or help us construct a final argument, then we would welcome your contribution. It is important to remember that we are assessing both heat pumps and the refrigerants under scope.
- Q: Why does it seem like the survey does not focus on the environmental concerns of F-gases, when this topic is under the most scrutiny in the PFAS restriction proposal?
  - A: Questions on the environmental effects of refrigerants under scope are asked. RPA are also assessing the wider environmental concerns of heat pumps, rather than doing a substance-to-substance approach. For example, the survey asks if F-gas powered heat pumps use less electricity compared to non-fluorinated systems, the result of which being a reduction in greenhouse gas emissions at the electricity generation phase.
- Q: How will RPA validate respondent's data?
  - A: We will compare the results of the consultation to the data we gathered during our systematic review of literature. We will also engage with respondents, if necessary/appropriate, to clarify their responses so that the study uses the most robust data available.

Thank You

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