

SENSE Ethics Board - Terms of Reference

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Executive Summary

The SENSE Ethics Board (SEB) provides independent ethical oversight for data access requests to the SENSE national service for smart energy systems data. SEB reviews high-risk applications, provides guidance on medium-risk applications, and ensures ethical standards are maintained across all data access decisions.

Background to SENSE Project

SENSE is a national service for smart energy systems data enabling high-impact cutting-edge multidisciplinary research, innovation and joined-up policy solutions to sustainability, health and wellbeing, and Net Zero policy challenges. SENSE manages various datasets from parties across the UK, which researchers and innovators can access for approved purposes.

Role and Purpose of the Ethics Board

- Evaluate applications for data which are high-risk data for ethical integrity
- Provide guidance or escalation pathways for medium-risk applications
- Assess high risk data ingested into platform
- Ensure that data use for applications align with SENSE's mission and the wider public interest
- Promote fairness, transparency, and accountability in data decision-making

Responsibilities of SEB

- **Review and decide** on all high-risk applications for access to SENSE data
- **Assess and escalate** medium-risk applications that require elevated scrutiny
- **Ensure compliance** with all ethical principles and assessment criteria
- **Provide guidance** to applicants on risk mitigation and ethical best practices
- **Maintain transparency** through clear, documented decision-making processes
- **Deliver impartial** and credible assessments independent of political or commercial interests
- **Report annually** on-board activities, trends, and recommendations
- **Review and confirm** that applicants' data management plans include secure storage, access logging, and end-of-project data destruction

Core Principles of Board

- **Accountability:** Documented rationale for all decisions

- **Independence:** Free from commercial or political influence
- **Credibility:** Evidence-based assessments by qualified experts
- **Transparency & Openness:** Clear, accessible decision-making processes. The Board will publish anonymised summaries of its decisions and require researchers to disclose methods, assumptions, and any automated decision-making techniques

Risk Classification Framework

Risk levels are assessed based on privacy, impact, purpose, and safeguards. Classifications may evolve in response to emerging technologies, national security, public concern, or changes in data protection law. SENSE data stewards are tasked with making initial assessments before informing the Chair of the ethics board.

Ingesting data into SENSE

Only high-risk datasets will require board approval before ingesting.

High Risk:

- Contain sensitive or potentially identifiable personal data (e.g. household-level time-series data, smart meter readings, granular building data)
- Present re-identification risks when combined with other datasets or through AI/ML analysis
- Include detailed operational data that may pose national security or critical infrastructure risks (e.g. substation layouts, control logs)
- Conflict with regulatory obligations or raise legal concerns (e.g. Utilities Act, Competition Act, GDPR)
- Are subject to unclear, restrictive, or revocable licensing conditions
- Include overreaching IP or audit requirements (e.g. provider claims rights over derivative works, models, or downstream outputs)

Medium Risk*:

- Are anonymised or aggregated but still present moderate privacy or reputational risk
- Involve emerging methods (e.g. synthetic data generation, AI-based anonymisation)
- Originate from mixed data sources with uncertain or potentially incompatible licensing
- Require mitigations to ensure responsible reuse, but are not inherently sensitive

**Noted for reference - will not be addressed by the board*

Applications for outgoing data

High Risk Applications:

- Research involving vulnerable populations or sensitive demographic analysis
- Applications with re-identification potential or linkage to other datasets
- Applications with potential commercial exploitation
- International data sharing or cross-border research collaborations
- Applications lacking adequate technical or organisational safeguards

Medium Risk Applications:

- Academic research with moderate privacy implications
- Research involving aggregated household-level analysis
- Novel methodological approaches without established precedent
- Applications from new researchers or institutions without proven track record
- AI/machine Learning approaches due to potential for re-identification

Low Risk Applications*:

- Aggregated statistical analysis with minimal individual privacy impact
- Established researchers with demonstrated compliance history
- Research with clear public benefit and minimal commercial potential

**Noted for reference - will not be addressed by the board*

For high or medium-risk applications, SENSE data stewards will identify any notable risks and suggest appropriate mitigation plans. This should cover areas like data biases, privacy harms, and potential negative impacts on individuals or communities. The board will review these plans and provide feedback if any changes are required to uphold ethical integrity.

Assessment Principles and Criteria

Assessment Criteria

Applications must demonstrate:

1. **Legitimate purpose:** Clear research objectives with demonstrable public benefit
2. **Data minimisation:** Use of only necessary data for stated purposes
3. **Proportionality:** Research benefits significantly outweigh privacy and security risks
4. **Technical safeguards:** Appropriate data security and access controls
5. **Organisational safeguards:** Institutional policies and researcher training
6. **Legal compliance:** Adherence to legal regulations such as GDPR, Environment Information Regulations, NIS, Code obligations, and contractual agreements

7. **Data lifecycle management:** Clear policies for data retention, sharing, and destruction
8. **Historical reliability:** No known record of unethical practises or character raising immediate concerns

Membership and Governance

Composition

- **At least 4 members** with diverse expertise across data ethics, energy systems, privacy law, and social research
- **Chair:** Richard Dobson
- **Terms:** 2 years, renewable once to ensure continuity and fresh perspectives

Selection Criteria

- Demonstrated experience in data governance, research ethics, or privacy protection
- Relevant academic or professional background in energy systems, data science, or policy
- Absence of significant conflicts of interest with SENSE objectives

Where possible, at least one board member should bring experience in public or community engagement, to reflect wider societal perspectives on data use.

Meeting Arrangements

Board will assemble for **quarterly meetings** to discuss high-risk applications and **annual meetings** to reflect on the year and discuss any notable trends/gaps in applications. Meetings require:

- **Quorum:** Minimum 60% of members (including Chair or Deputy)
- **Decision-making:** Simple majority vote with Chair holding casting vote
- **Documentation:** All decisions recorded with rationale and dissenting views

Operational Procedures

SEB may provide ethical guidance notes or application templates to support researchers in meeting review requirements.

Application Review Process

- SENSE management team will assess all data and application requests according to a risk management criterion. High-risk and medium-risk applications will be escalated to SEB for review.
- Process for reviewing high-risk and medium-risk applications to be agreed and signed off by the board, before being published on the SENSE platform:

Appeals Process

- **Right of appeal** for all rejected applicants
- **Timeline:** Appeals must be submitted within 28 working days of decision
- **Process:** Chair conducts initial review; if deemed suitable, full SEB reconsideration at next meeting
- **Finality:** Chair's decision on appeal suitability is final

Annual Reporting

- **Public summary** of application trends, key decisions, and **gap analysis** identifying underrepresented research areas or populations.

Support and Administration

Secretariat Support

Energy Systems Catapult provides:

- Meeting coordination and logistics
- Application processing and liaison with researchers
- Document management and secure communications
- Administrative support for appeals and reporting

Tools and Infrastructure

- **Secure video conferencing** for remote meetings
- **Shared repository** (SharePoint) for confidential documents and application materials
- **Encrypted communications** for sensitive discussions
- **Accessibility accommodations** provided upon request

Member Obligations

Confidentiality and Conflicts

- **Non-disclosure agreement** required for all members
- **Conflict of interest declarations:** Members must notify the Chair of any change in employment or affiliations that may create a new or emerging conflict of interest.
 - Members must declare any actual, potential, or perceived conflicts prior to discussion of a relevant case, including, but not limited to, requests to access safeguarded datasets.
 - Where a conflict exists, the member will recuse themselves from discussion and decision-making for that item.

- Recusals will be recorded in the meeting minutes.
- **Confidentiality maintenance** regarding all application details and board deliberations

Performance Expectations

- **Regular attendance** at meetings (minimum 3/4 annually)
- **Timely review** of application materials prior to meetings
- **Professional conduct** maintaining SENSE project reputation
- **Continuous development** staying current with relevant ethical and legal developments

Governance and Review

Performance Review

- **Annual self-assessment** of board effectiveness and individual member contributions
- **Stakeholder feedback** collection from SENSE project leadership
- **Terms of Reference review** every 2 years with updates as necessary

Conflict Resolution and Removal

- **Investigation authority:** The chair can escalate issues to SENSE co-director, to investigate non-performance or ethical breaches. The co-director has the authority to remove members violating obligations following due process. In the event that the chair is the subject of a breach, a board member can escalate the matter to the co-director.
- **Principles of Deliberation:** The Board recognises that ethical decision-making often involves uncertainty, competing values, and complex judgement. The Board therefore commits to:
 - Treating all ethical concerns raised by any member as substantive issues requiring consideration, unless demonstrably based on incorrect factual assumptions.
 - Encouraging respectful challenge and constructive disagreement as a normal part of ethical review.
 - Maintaining psychological safety to ensure all members can contribute openly without fear of dismissal or retaliation.
 - Upholding a zero-tolerance stance toward bullying, intimidation, harassment, or dismissive conduct.
- **Managing Disagreement:** The Board aims to reach decisions by consensus wherever possible. Where disagreement arises:

- **Step 1: Clarification and Active Listening**
Members will seek to understand the reasoning behind differing positions, including reflecting back key points to ensure mutual understanding.
- **Step 2: Facilitated Discussion**
The Chair will facilitate structured discussion to identify:
 - Points of agreement;
 - Points of disagreement;
 - Whether additional information or mitigation could resolve concerns.
- **Step 3: Escalation Pathway** if consensus cannot be reached:
 - The Board may proceed to a formal vote (simple majority, with Chair holding a casting vote where necessary); or
 - The matter may be escalated to the SENSE Project Co-Director for further consideration, particularly where risks relate to legal, regulatory, or reputational matters.
 - Voting is expected to be a last resort and used sparingly.
- **Step 4: Documentation** - all decisions will clearly document:
 - The reasoning adopted;
 - Any dissenting views;
 - The basis on which consensus or majority decision was reached.
- **Sensitive topics:** Given the societal and ethical implications of energy data use, discussions may occasionally involve sensitive or value-laden topics. The Board will:
 - Select appropriate communication formats (e.g., live discussion rather than asynchronous email) for complex matters.
 - Allow discussions to pause where emotions are elevated.
 - Respect confidentiality and personal wellbeing boundaries.

Remuneration and Expenses

- **Honorary membership** with no fees or retainers
- **Expense reimbursement** for travel, accessibility accommodations, and reasonable meeting-related costs