User-Centred Energy Systems Academy

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- **Next Webinar:** 13 May 2026 @ 3pm CET
- Public support for a large set of energy SUFFICIENCY policies in Ireland – evidence from the Sustainable Energy Authority of Ireland
- Stay tuned for registration link in the webinar chat

Constructive Narratives for Home Heat Decarbonisation

UsersTCP

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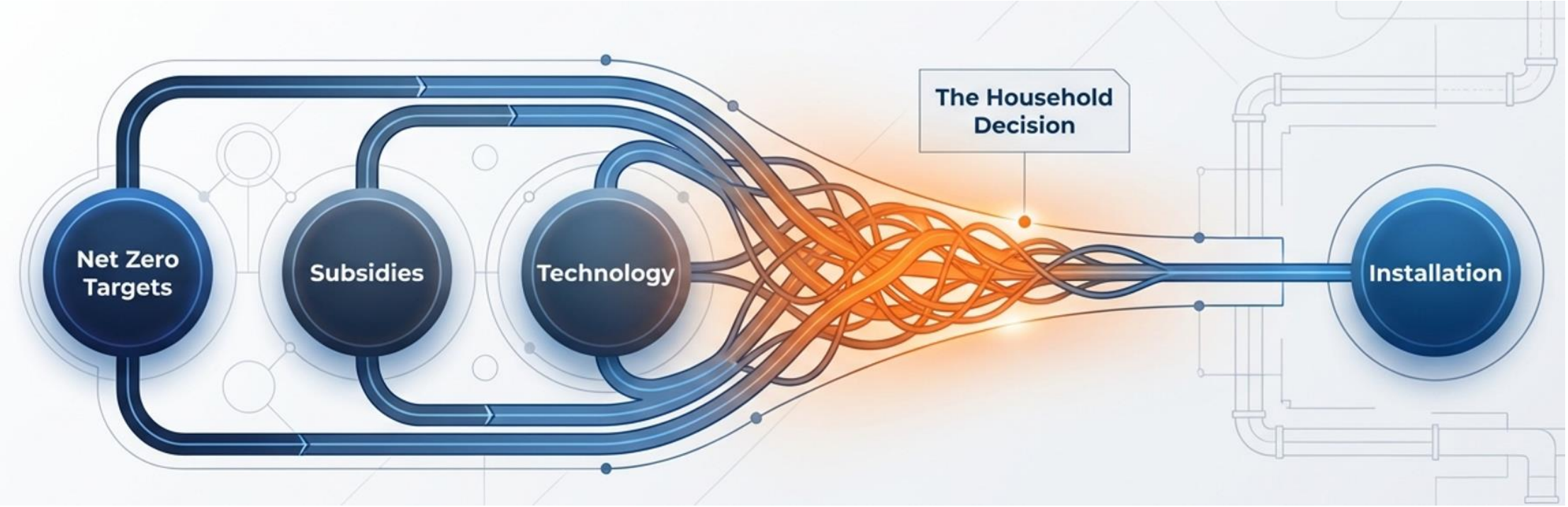
Context

- Heat pumps have been prioritised by many governments as a **critical technology for achieving net-zero targets**.
- Yet despite policy incentives, growing climate awareness and proven technical performance, **adoption remains slow in many markets**.
- A key barrier is not only technological or economic, but communicative: **citizens must believe that switching to heat pumps is feasible, beneficial and supported in practice**.
- In this context, public narratives—how heat pumps are framed, explained and made meaningful—have become increasingly central to accelerating market uptake.

The Decarbonisation Bottleneck



Heating in buildings is critical for achieving Net Zero, but adoption is stalling. Economic and technical barriers are real, but persistent negative narratives regarding costs, complexity, and reliability are the hidden bottleneck.

Communication can no longer be treated as standalone messaging. It must function as socio-technical ecosystem combining credible information, practical guidance, trusted intermediaries, and clear pathways.

Notebook LM based on author's content

Aims

A robust synthesis of evidence on constructive climate narratives for heat pumps;

An international database of case studies highlighting best practice;

A practical, tailored framework for evaluating policy-led communication campaigns;

Project Timeline September 2025 – March 2026

Research Project Approach

The project was structured around three interconnected subtasks:

1. Rapid Evidence Assessment (REA)
- Identification of effective framings, communication channels, intermediaries, contextual influences, and evaluation practices
- Capture of variation in senders and channels across countries

2. Case Study Database
- Structured set of international case studies documenting real-world campaigns by governments and NGOs
- Semi-structured interviews with campaign leaders, enabling comparative insights and highlighting best practices

3. Policy Evidence Quality Criteria
- Development of a tailored framework for assessing the quality of narrative campaigns
- Production of practical guidance for policymakers on designing, evaluating, and improving narrative interventions

Delivery of a comprehensive evidence base and practical recommendations for policymakers

1. Rapid Evidence Assessment (REA)

- The Rapid Evidence Assessment (REA) examined what is **known about the role of communication and narrative strategies** in shaping household acceptance of heat pumps
- The research reviews **academic, policy and professional literature** to assess how messaging, communication channels, intermediaries and policy framing influence public perceptions, consumer confidence and adoption behaviour.
- This REA provides a synthesis of the most relevant research findings, identifies gaps in current knowledge and highlights **how communication strategies can be designed, targeted and evaluated** to support equitable uptake.

Core questions addressed

- How do governments **frame** heat pump adoption in communication campaigns?
- Which narratives appear **most effective** in motivating household action?
- How do different actors such as installers, energy advisors and community organisations function as **trusted intermediaries** in the adoption journey?

Themes identified by the REA

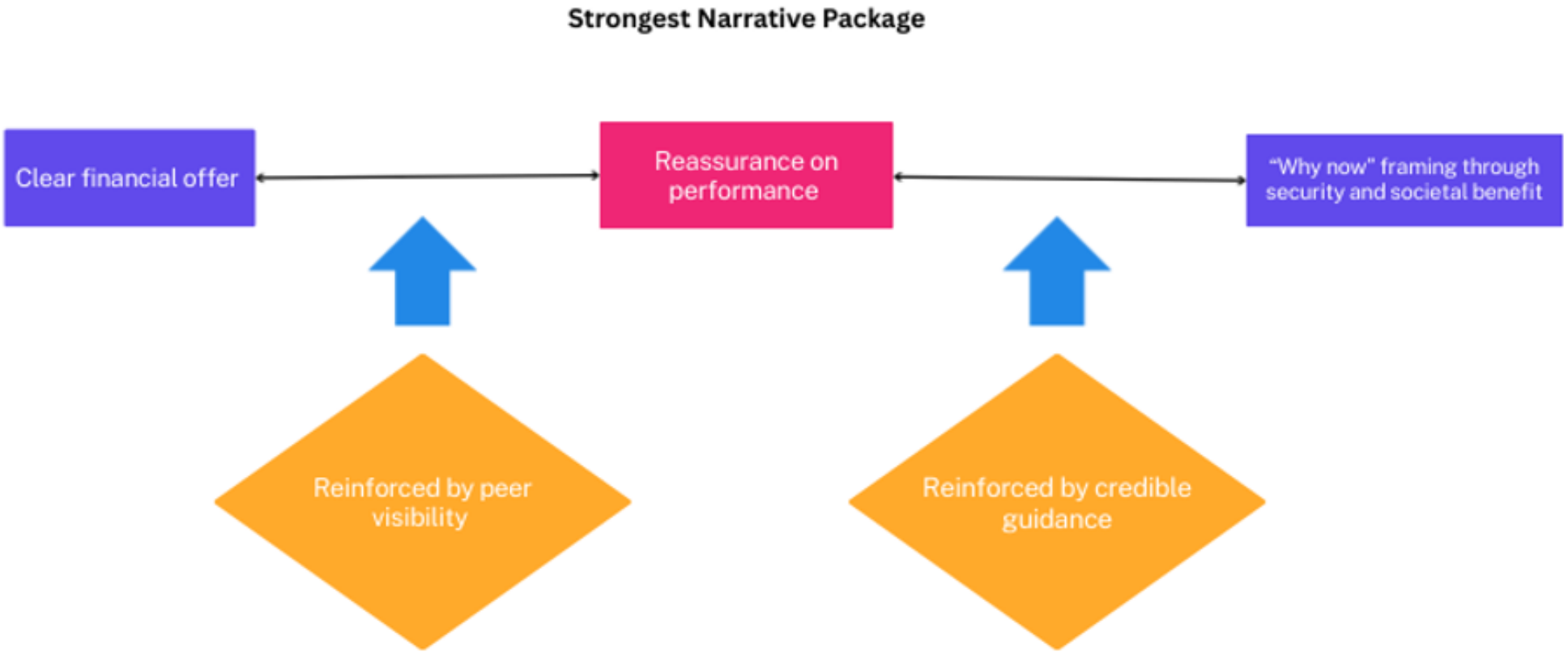
- Effective narrative framings
- The role of trusted messengers and intermediaries
- Contextual influences such as policy design and housing characteristics
- Emerging practices for evaluating communication interventions

Effective narrative framings

Across all the reviewed studies, a set of communication-relevant factors consistently emerges as shaping adoption:

- perceived financial attractiveness and risk
- clarity and transparency of information
- perceived hassle and process complexity
- suitability to the home and region
- social norms and peer examples
- and the quality of interactions with intermediaries, especially installers.

Effective narrative framings



The role of trusted messengers and intermediaries

- Intermediaries clearly shape **both trust and uptake** of heat pumps, but not always in the way conventional ‘best messenger’ thinking might suggest.
- Evidence suggests that intermediaries affect trust and uptake **through the quality, transparency and relevance of the information they convey**, and their ability to reduce perceived risk, hassle and complexity.
- In high-involvement, high-cost decisions, people attend closely to content, so credible answers to **“What will this mean for my house, my bills and my comfort?”** are important**.**
- Intermediaries whether installers, comparison tools, peers or policy schemes are trusted when they help households navigate that question clearly and consistently.

Contextual influences such as policy design and housing characteristics

National / contextual differences

UK & Scotland

Need for a **clear, long-term national narrative** plus stable policy and simpler customer journeys (Barnes et al., 2024; Snape et al., 2015).

Scottish adopters want to feel **"informed and prepared"**, with strong emphasis on **ongoing support and peer recommendations** (Wall & Laing, 2024).

Ireland

Four psychological segments: some highly willing to pay for environmental and financial benefits but strongly averse to **installation hassle** (Meles et al., 2022).

Narratives should be **segmented**: e.g. "green + savings + low disruption" for enthusiasts; **low-effort sustainability** for cautious groups.

Nordic countries

Comfort and performance in harsh climates, plus clear guidance, are central themes (Jager, 2025; Räihä & Ruokamo, 2021).

Canada & USA

Adoption willingness varies by **region, climate, housing stock** and **lifestyle** (Corbett et al., 2023; Poblete-Cazenave & Rao, 2023).

Policy awareness alone is a weak driver; narratives must show **reliability in local conditions** and explain how incentives **actually de-risk adoption**.

Greece

Awareness of ground-source heat pumps is relatively high, but **intention <10%**; high upfront cost in recession context is the main barrier (Karytsas, 2018).

Narratives must directly address **affordability and access to finance**, not just environmental benefit.

Narrative strategies must be **context-specific**:

- Same core themes (cost, comfort, climate, convenience),
- Different **emphases** depending on **economy, climate, housing stock, and policy regime**.

CROSS-CUTTING THEMES

Existing evaluation practices relevant to narrative campaigns around heat pumps are fragmented and mostly indirect.

The most credible evaluation stack combines:

- experimental message testing (what persuades)
- mixed-method audience research and segmentation
- operational conversion/friction metrics
- programme uptake and delivery indicators
- system-level tracking against targets and equity commitments

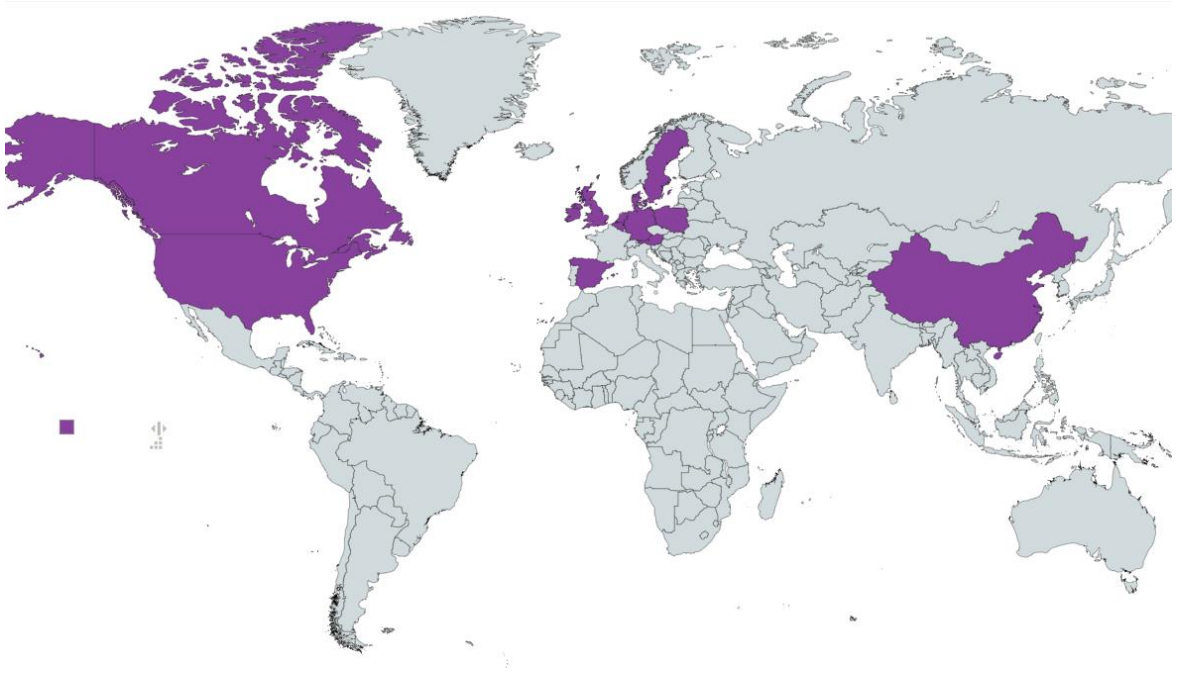
2. Case-Study Database Construction

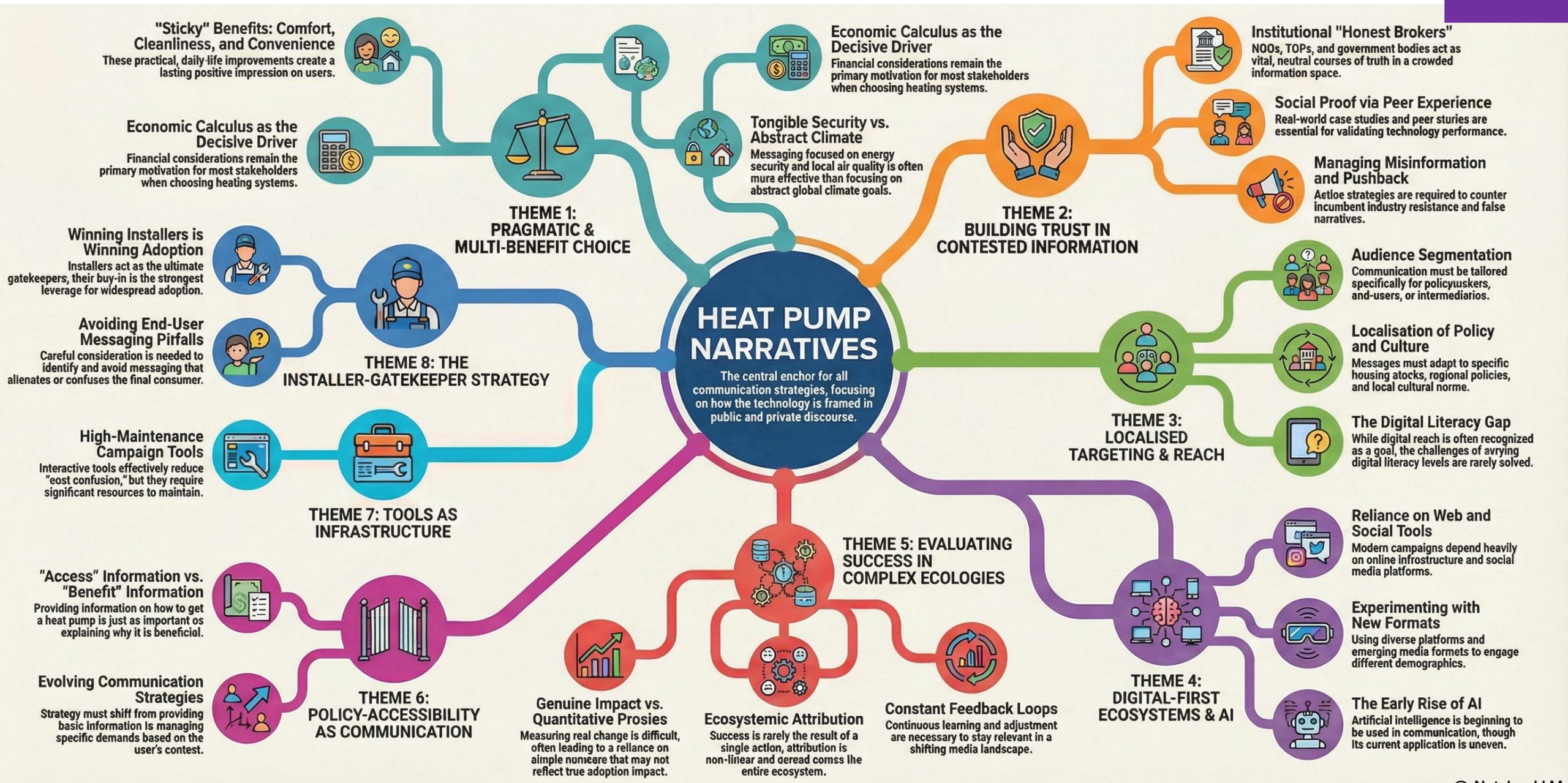
- The second subtask developed a **structured international database** of **narrative communication initiatives** related to residential heat decarbonisation.
- This work complements the Rapid Evidence Assessment (Subtask 1) by providing **empirical insight** into how communication strategies are **designed, implemented, and evaluated in practice**.
- The database enables cross-case comparison of campaigns across countries and policy contexts, with **particular attention to how different actors** (“senders”) and **communication pathways** (“channels”) influence credibility, trust, and citizen engagement.

Case identification and semi-structured interviews

Empirical basis:

- **18 international interviews** with campaign managers, policy advisors and NGOs
- **Secondary data** analysis
- Countries include but not limited to **UK, Canada, Poland, Spain, Sweden, Germany, US**.
- Organisations include European Heat pump Association (**EHPA**), Regulatory Assistance Project (**RAP**), Global Strategic Communication Council (**GSCC**), **Nesta**, **MSC** Foundation**, Consortium for Energy Efficiency**
- Focus:
  - Drivers/barriers
  - Channels & messenger effects
  - Narrative framing
  - Context differences
  - Evaluation practices
- **Aim:**
  Understand **what makes heat decarbonisation messages credible, adoptable, and transferable across contexts.**




HEAT PUMP NARRATIVES
The central enchor for all communication strategies, focusing on how the technology is framed in public and private discourse.
THEME 1: PRAGMATIC & MULTI-BENEFIT CHOICE
"Sticky" Benefits: Comfort, Cleanliness, and Convenience
These practical, daily-life improvements create a lasting positive impression on users.
Economic Calculus as the Decisive Driver
Financial considerations remain the primary motivation for most stakeholders when choosing heating systems.
Tongible Security vs. Abstract Climate
Messaging focused on energy security and local air quality is often mure effective than focusing on abstract global climate goals.
Economic Calculus as the Decisive Driver
Financial considerations remain the primary motivation for most stakeholders when choosing heating systems.
THEME 2: BUILDING TRUST IN CONTESTED INFORMATION
Institutional "Honest Brokers"
NOOs, TOPs, and government bodies act as vital, neutral courses of truth in a crowded information space.
Social Proof via Peer Experience
Real-world case studies and peer sturies are essential for validating technology performance.
Managing Misinformation and Pushback
Aetloe strategies are required to counter incumbent industry resistance and false narratives.
THEME 3: LOCALISED TARGETING & REACH
Audience Segmentation
Communication must be tailored specifically for policyuskers, and-users, or intermediarios.
Localisation of Policy and Culture
Messages must adapt to specific housing atocks, rogional policies, and local cultural norme.
The Digital Literacy Gap
While digital reach is often recognized as a goal, the challenges of avrying digital literacy levels are rarely solved.
THEME 4: DIGITAL-FIRST ECOSYSTEMS & AI
Reliance on Web and Social Tools
Modern campaigns depend heavily on online infrostructure and social media platforms.
Experimenting with New Formats
Using diverse platforms and emerging media formets to engage different demographics.
The Early Rise of AI
Artificial intelligence is beginning to be used in communication, though Its current application is uneven.
THEME 5: EVALUATING SUCCESS IN COMPLEX ECOLOGIES
Genuine Impact vs. Quantitative Prosies
Measuring real change is difficult, often leading to a rellance on aimple nomeare that may not reflect true adoption impact.
Ecosystemic Attribution
Success is rarely the result of a single actlon, attribution is non-liltear and deread comss lhe entire ecosystem.
Constant Feedback Loops
Continuous learning and adjustment are necessary to stay relevant in a shifting media landscape.
THEME 6: POLICY-ACCESSIBILITY AS COMMUNICATION
"Access" Information vs. "Benefit" Information
Providing information on how to get a heat pump is just as important os explaining why it is beneficial.
Evolving Communication Strategies
Strategy must shiff from providing basic information Is managing specific demands based on the user's contest.
THEME 7: TOOLS AS INFRASTRUCTURE
High-Maintenance Campaign Tools
Interactive tools effectively reduce "eost confusion," but they require significant resources to maintain.
THEME 8: THE INSTALLER-GATEKEEPER STRATEGY
Winning Installers is Winning Adoption
Installers act as the ultimate gatekeepers, their buy-in is the strongest leverage for widespread adoption.
Avoiding End-User Messaging Pitfalls
Careful consideration is needed to identify and avoid messaging that allenates or confuses the final consumer.

NotebookLM

Pragmatic, Multi-Benefit Narratives

Heat pumps are not sold as “climate choices” but as *better everyday heating*.

Dominant drivers repeatedly cited:

- **Cost certainty & bill savings**
- **Comfort, convenience, quietness, cooling**
- **Cleanliness & no fuel handling**
- **Energy security & independence**

“…we discovered that the climate… is not a real factor that mobilise people. So we decided to put the focus on… comfort… health… quality of life…” (R2)

Climate is secondary, never absent:

- Works best when tied to **local air quality and fairness**, not abstract “net zero”.

Implication: Lead with **financial & comfort benefits**, then offer environmental value as a *bonus*, not a premise.

Trust is Built Through Messengers, Not Messages

Who says it matters more than what is said.

High-trust communicators:

- Authentic household case studies
- Independent experts & NGOs
- Government ONLY when backed with tangible support
- Installers as gatekeepers of acceptance

"...every time people could put themselves in the shoes of a user or get professional advice, but not necessarily from scientists, but real practitioners... those were the pieces that we noticed really had the best viewing rates and share rates..." (R1)

Strategic trust tactics:

- Use **peer stories**
- Provide **tools not slogans** (calculators, guidance, personalised advice).

Implication: Campaign success depends on **trusted senders + lived experience**, not government slogans.

Context + Digital Ecosystems Shape Uptake

No message travels unchanged. Campaigns must “live” in the local + digital context.

Local tailoring:

- Housing stock defines message
- Cultural pricing sensitivity varies
- Historic energy narratives matter

“…put in information about their existing heating system… and then it calculates… what will it cost to switch over…” (R9)

Digital-first delivery (with selective offline use):

- Social media, search, interactive tools dominate
- Personalisation beats mass messaging.
- **AI used for editing, targeting, audience insights**, but carefully adopted.

Implication: Don’t export campaigns. Export **principles**, localise **narratives + channels**.

Evaluation is Imperfect but Possible

Impact is ecosystemic: no single campaign “drives adoption”.

Current practice (mixed-methods across interviews):

- **Behavioural proxies**: clicks, dwell-time, search conversions, quote requests.
- **Scheme data**: voucher applications, grant uptake, state programme adoption
- **Social proof indicators**: stakeholder adoption, press coverage, invitations to policy fora.
- **Experimental/observational testing**: message A/B testing, demand heat maps

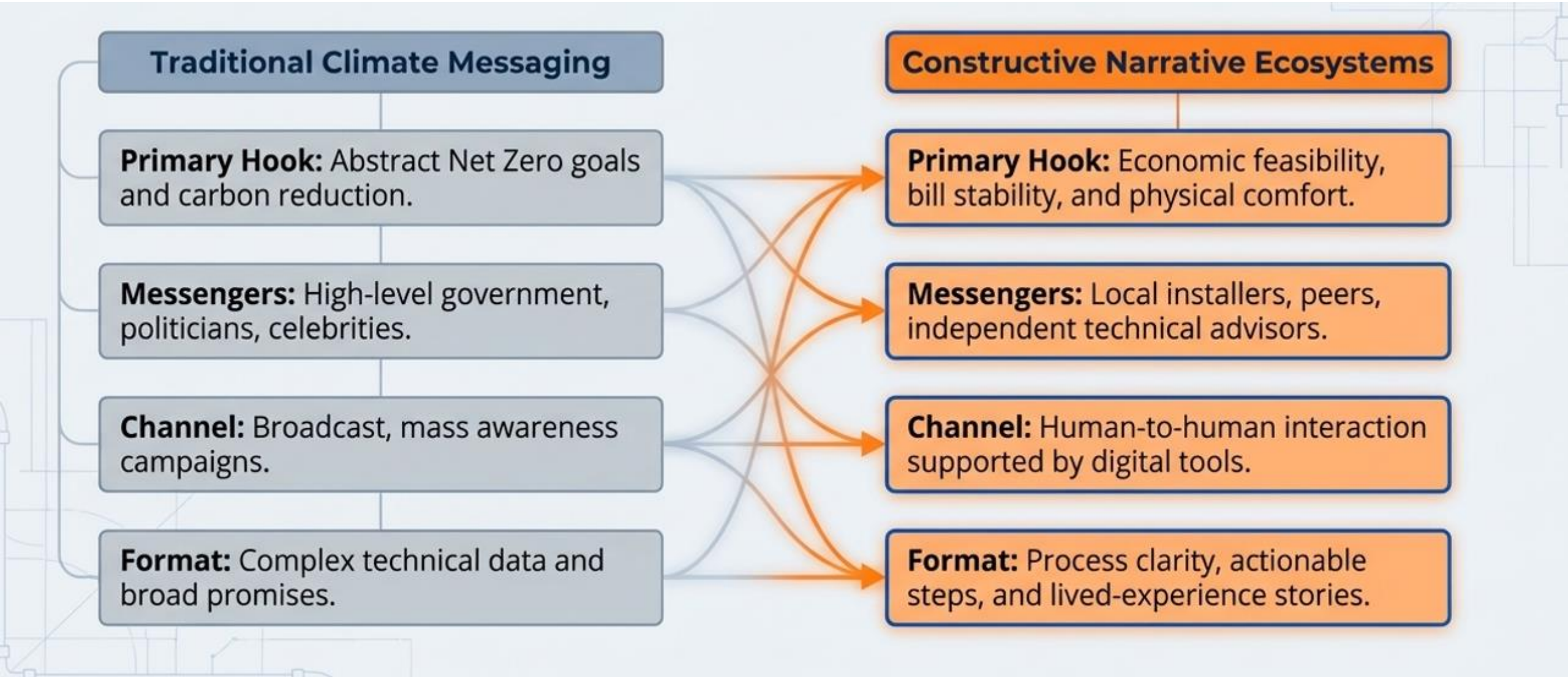
What works best:

- Measure **change along the adoption journey**, not “did they buy a heat pump?”
- Evaluate **tools, trust & engagement**, not only installations.

“We track comments and direct messages… feedback from member companies and installers…” (R15)

Recommendation: Evaluate on **access + trust + informed capability**, not just purchases.

The Persuasion Shift



3. Policy Evidence Quality Criteria

- Development of a **tailored framework** for assessing the **quality of narrative campaigns**
- The framework includes criteria to assess whether
  - sender/channel choices were appropriate, credible, and context-sensitive,
  - communication strategies are both robust and transferable across national contexts
- It will enable the user to judge whether communication is well designed, whether causal impacts can be demonstrated, and how evaluation methods can be improved.

3. Policy Evidence Quality Criteria

Criterion	Diagnostic Questions	Evidence Source(s)	Score (0–3)	RAG	Notes / Justification
SECTION A: Strategic Relevance & Theory of Change					
A1. Problem clarity & policy fit	Is the behavioural problem clearly defined & aligned with specific policy mechanisms (e.g., grant scheme)?	Problem statements, strategy docs			
A2. Communication theory of change	Is there a clear theory (explicit or implied) explaining how the narrative will lead to behaviour change? Are intermediate outcomes identified (e.g. trust → research → quotes → install)?	Logic models, planning docs			
SECTION B: Narrative Content & Framing Quality					
B1. Evidence-based framing	Were framings (cost, comfort, environment, hassle) chosen based on audience evidence?	Audience research, REA, surveys			
B2. Accuracy & balance	Are claims accurate, not exaggerated? Are limitations acknowledged? Is evidence cited?	Expert sign-off, data sources			
B3. Cultural & segment relevance	Does the narrative fit local norms (housing, climate, trust), and reflect real audience segments?	Creative briefs, focus groups			
SECTION C: Sender, Messenger & Channel Quality					
C1. Sender legitimacy	Is the sender trusted & appropriate? Is funding transparent?	Funding sources, branding policy			
C2. Trusted messengers & diversity	Are householders, installers, experts used appropriately? Are there "honest brokers"?	Campaign content			
C3. Channel selection & targeting	Are channels aligned with audience media habits? Is there optimisation (e.g. dropping ineffective channels)?	Media plans, performance reports			
C4. Accessibility & equity	Are materials accessible (language, subtitles)? Are non-digital options considered if relevant?	Accessibility plan			

Score each criterion **0–3** and then assign a **RAG colour:**

Score	Meaning	Colour
0	Absent/Very Weak	Red
1	Limited	Amber
2	Adequate	Yellow (or Amber Green)
3	Strong/Good Practice	Green

3. Policy Evidence Quality Criteria

Criterion	Diagnostic Questions	Evidence Source(s)	Score (0–3)	RAG	Notes / Justification
SECTION D: Evidence, Evaluation & Learning					
D1. Quality of evidence base	Was the campaign design informed by prior research, REA, or pilots?	Research reports			
D2. Evaluation design (proportional & credible)	Are evaluation methods specified? Are they proportionate? (e.g. survey + analytics + contribution analysis)	Evaluation plan			
D3. Behavioural journey metrics	Does the evaluation track awareness → trust → tool use → quotes → grant applications → installs?	KPIs, dashboards			
D4. Learning & adaptation loops	Were lessons used to adjust messaging/channels? Is there a feedback cycle?	Iteration logs, version history			
SECTION E: Context, Ethics & Transferability					
E1. Policy & market coherence	Is the campaign aligned with regulation, prices, housing stock, and installer capacity?	Policy docs, market analysis			
E2. Ethical handling of misinformation & lobbying	Is misinformation countered with balanced evidence? Is funding transparent? Are scare tactics avoided?	Messaging audit			
E3. Transferability & scalability	Are lessons on what is context-specific vs. transferable documented? Is the campaign modular?	Lessons learned			
OVERALL SUMMARY PAGE					
Dimension	**Avg. Score (0–3)**	**RAG**	**Strengths**	**Priorities for Improvement**	
A. Strategic Relevance					
B. Narrative & Framing					
C. Sender & Channels					
D. Evaluation & Learning					
E. Context & Ethics					
Overall Quality Rating					

Score each criterion **0–3** and then assign a **RAG colour:**

Score	Meaning	Colour
0	Absent/Very Weak	Red
1	Limited	Amber
2	Adequate	Yellow (or Amber Green)
3	Strong/Good Practice	Green

Overall score ≥ 2.4 → Strong, scalable, model for others

1.8–2.3 → Good, needs improvements before scaling

1.0–1.7 → Weak, limited transferability without redesign

< 1.0 → Not recommended / unsafe to scale

Case study overview and framework application

The developed framework was used to evaluate **six case studies** across **five dimensions**:

1. **Strategic relevance and theory of change** – the clarity of the behavioural problem and the causal logic linking communication to outcomes.
2. **Narrative framing and content quality** – the extent to which framing choices are evidence-based, credible and relevant to audiences.
3. **Sender, messenger and channel strategy** – the appropriateness and credibility of the organisations and individuals delivering the message, and the effectiveness of the channels used.
4. **Evidence, evaluation and learning systems** – the robustness of the evidence base informing the campaign and the methods used to assess its impact.
5. **Context, ethics and transferability** – how well the campaign aligns with the policy and market context, manages misinformation risks, and generates lessons applicable to other settings.

European Heat Pump Association (EHPA) – *Heat Pump Day*

Nesta (UK) – *Visit a Heat Pump*

Canada – *Heat Pumps Pay Off Calculator Campaign*

Germany – *Woche der Wärmepumpe / Week of the Heat Pump*

UK (DESNZ) - *Warm and Fuzzy Campaign*

China – Heat Pump Professional Committee of the China Energy Conservation Association (CHPA)

Case study overview and framework application

Transferable findings

- Case studies illustrate how communication strategies for residential heat decarbonisation **operate within broader socio-technical systems** shaped by policy frameworks, market readiness, and public perceptions.
- A central finding across the cases is that communication appears most effective when it is **closely aligned with clear policy instruments and practical decision pathways**.
- In these contexts, communication functions less as persuasion and more as a mechanism for **reducing uncertainty** and clarifying the adoption process.
- By contrast, where policy frameworks are unstable or ambiguous, communication efforts face **greater challenges in establishing credibility** and sustaining public engagement.

Case study overview and framework application

Limitations in relation to evaluation of campaigns

- Most initiatives **rely primarily on metrics** such as media reach, digital engagement, or public awareness indicators.
- While these provide useful insights into campaign visibility, they offer **limited evidence** on how communication **influences the full behavioural journey** from awareness to installation.
- Tracking this pathway remains **challenging** due to **long decision cycles**, multiple decision-makers, and fragmented data across policy programmes, installers, and advisory services.

The Heat Pump Adoption Journey: A communication framework

The three narrative foundations

1) Economic feasibility over environmental messaging
2) Performance reassurance and comfort
3) Process clarity and reduced hassle

The communication eco system

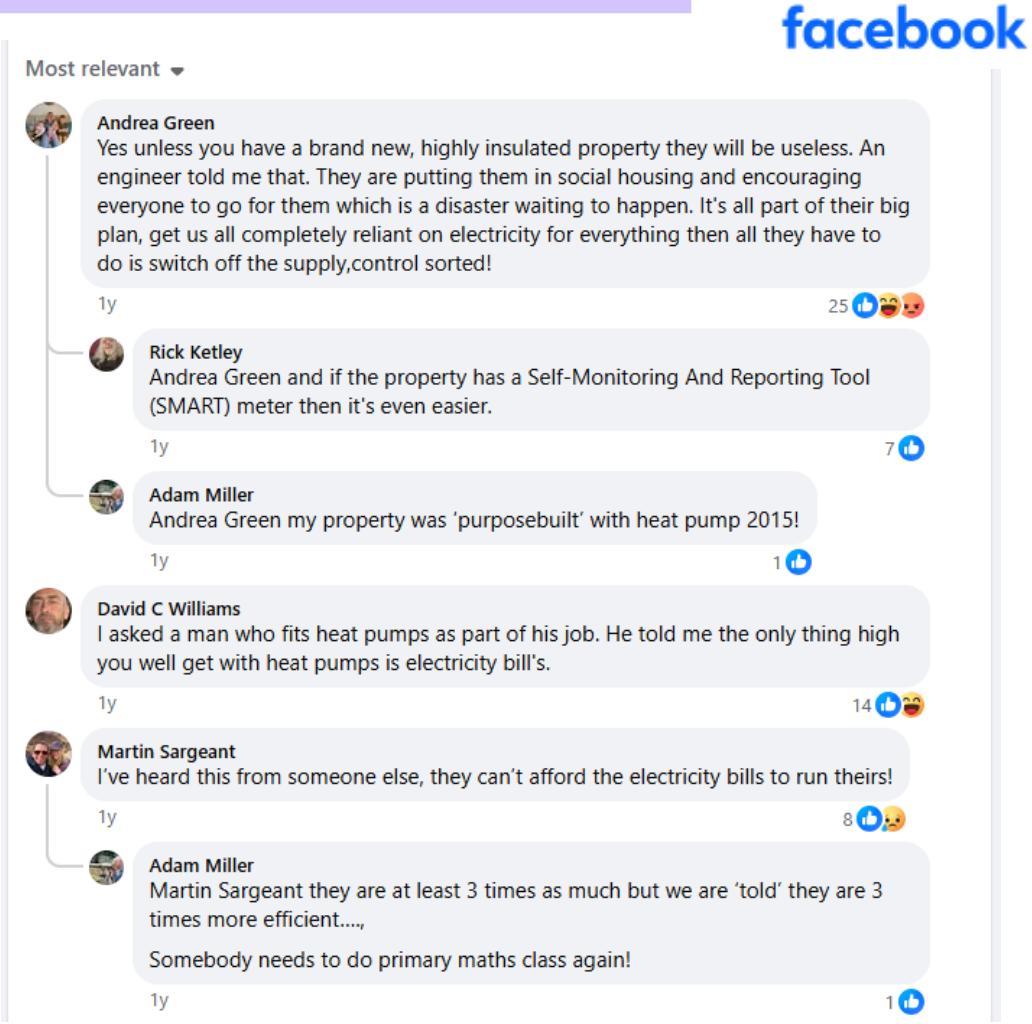
- The hybrid digital-human journey
- The power of human intermediaries
- Policy as a narrative signal

The Socio-Technical system

- Context-dependent narrative strategies
- Social proof and local normalization
- Integrated socio-technical approach

Reoccurring theme across all subtasks – Misinformation

- Heat pump communication often unfolds in a **non-neutral information environment**
- Communication **environments** are increasingly **contested with misinformation** and politicised narratives
- **Misinformation** is not only an incidental by-product of confusion; in several contexts it is **amplified sometimes strategically**
- Misinformation can shape public opinion, media agendas, and perceived policy legitimacy



Understanding misinformation vs. rational friction

'If you're going to do disinformation stuff, realistically, it's quite time intensive in order to prevent the comment section from from completely dissolving into just chaos.' R11

'I can't afford it so this this is not a matter of misinformation. It's a matter of how to manage the reaction of people who say, OK, I understand the messages you are sharing with me, but I cannot do what you ask me to do.' R2

Strategic Misinformation

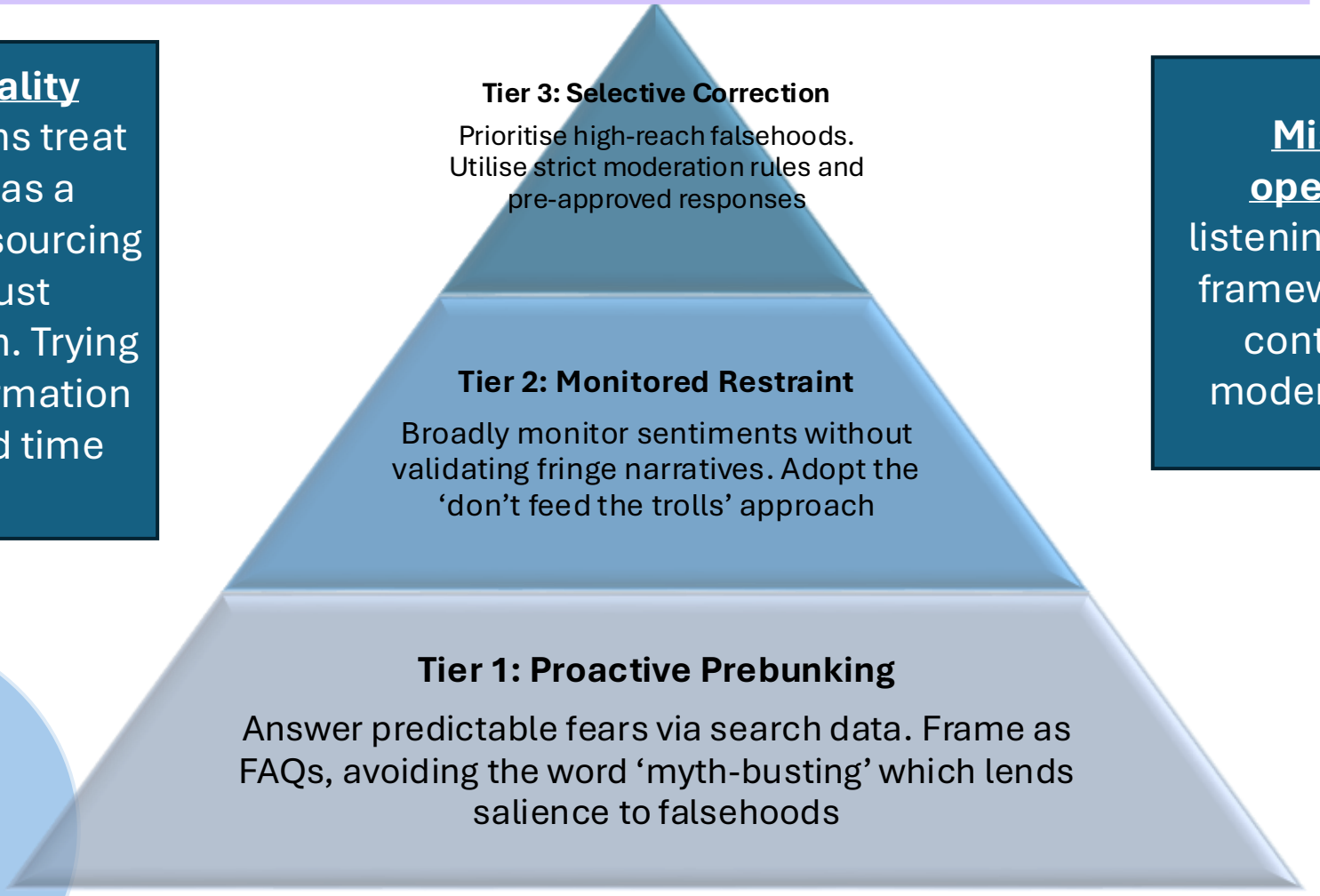
- **The source**: Organised incumbent interests
- **The tactics**: Deploying a mixture of facts and fake news, using legal threats and flooding comment sections on social media
- **Required intervention**: Governance & Resourcing – moderation rules, pre-approved rebuttals and staff capacity

Rational Friction

- **The source**: Everyday households experiencing feasibility anxiety
- **The tactics**: Legitimate concerns surrounding costs, access barriers and procedural confusion
- **Required intervention**: Service Design & Guidance – Where barriers are procedural, the corrective is clear guidance, not rebuttal campaigns

From Messaging to Institutional Architecture

Operational Reality
Effective campaigns treat misinformation as a governance and resourcing problem, not just messaging problem. Trying to prevent misinformation is highly cost- and time intensive



Misinformation operations: social listening, tiered response frameworks, prebunking content banks, and moderation playbooks.

NGOs, Government, TCPs

The Honest Broker Pillar
Institutions perceived as independent, competent, and adjacent to decision-making rather than sales. Driven by visible standards.

Overall take away and learnings

- Communication alone cannot drive heat pump adoption; it is most effective when **integrated** with supportive policy, finance, and delivery systems.
- Its key role is to *reduce uncertainty* and help households make **informed decisions** about costs, suitability, and installation.
- **Financial considerations** (upfront cost, running cost, risk) are the primary drivers of adoption, requiring clear and transparent messaging.
- **Trust and real-world reassurance** often delivered by installers, advisers, and peers are critical to shaping perceptions and decisions.
- Successful strategies **align communication** with policy, emphasize practical benefits, and adapt to misinformation and changing conditions.

What does this mean for communication leaders? Checklist

- ❑ Lead with practical value – emphasise affordability, running costs, and financial predictability.
- ❑ Reassure on performance and comfort – address concerns about reliability, warmth, and suitability for everyday living.
- ❑ Emphasise the most relevant co-benefits – such as cooling, air quality, or energy resilience, depending on what matters most to households.
- ❑ Connect the technology to wider resilience goals – frame heat pumps as part of energy security and independence, with climate benefits present but not necessarily the primary message.
- ❑ Adapting messages to context – reflecting local housing, climate, and market maturity.
- ❑ Respond to local energy realities – including prices, climate conditions, and system reliability.
- ❑ Aligning narratives with audience realities – including economic pressures and household motivations.
- ❑ Matching storylines to specific segments – recognising that different groups respond to different benefits and concerns.
- ❑ Intermediaries such as installers and information platforms can either build or erode trust depending on how they communicate.
- ❑ Channels that reduce complexity and “hassle” play a critical role in converting interest into adoption.
- ❑ Reflect the policy landscape – whether the transition is driven by incentives, regulation, or both.
- ❑ Using trusted intermediaries – such as installers, advisors, or community organisations.
- ❑ Reducing friction in the decision process – making information clear, accessible, and actionable.
- ❑ Designing communication as a pathway – helping households move from awareness to confidence and ultimately to installation.

User-Centred Energy Systems

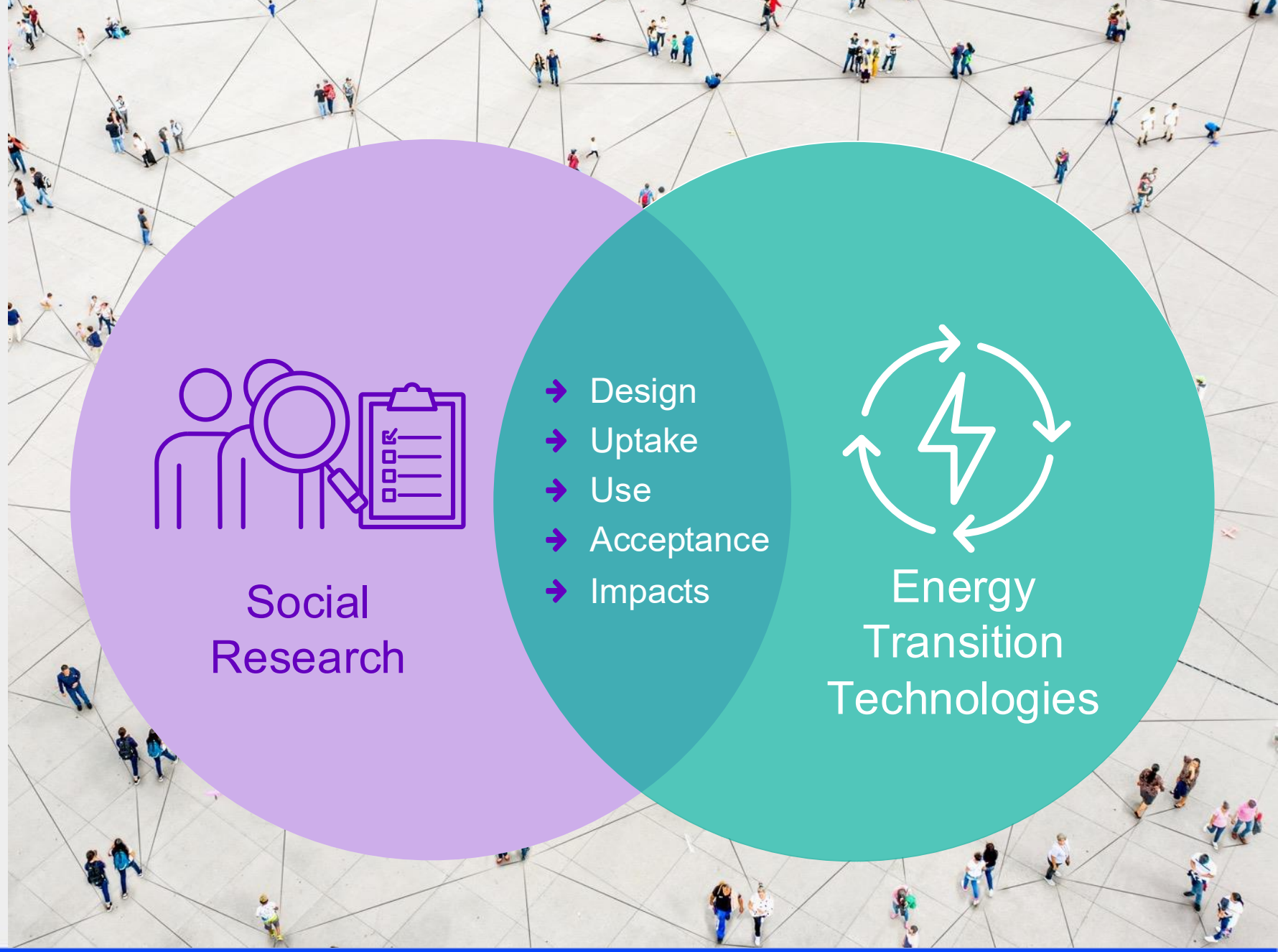
A Technology Collaboration Programme by IEA

Technology Collaboration Programme
by IEA

UsersTCP

What we do

Social research to support energy transition policy goals



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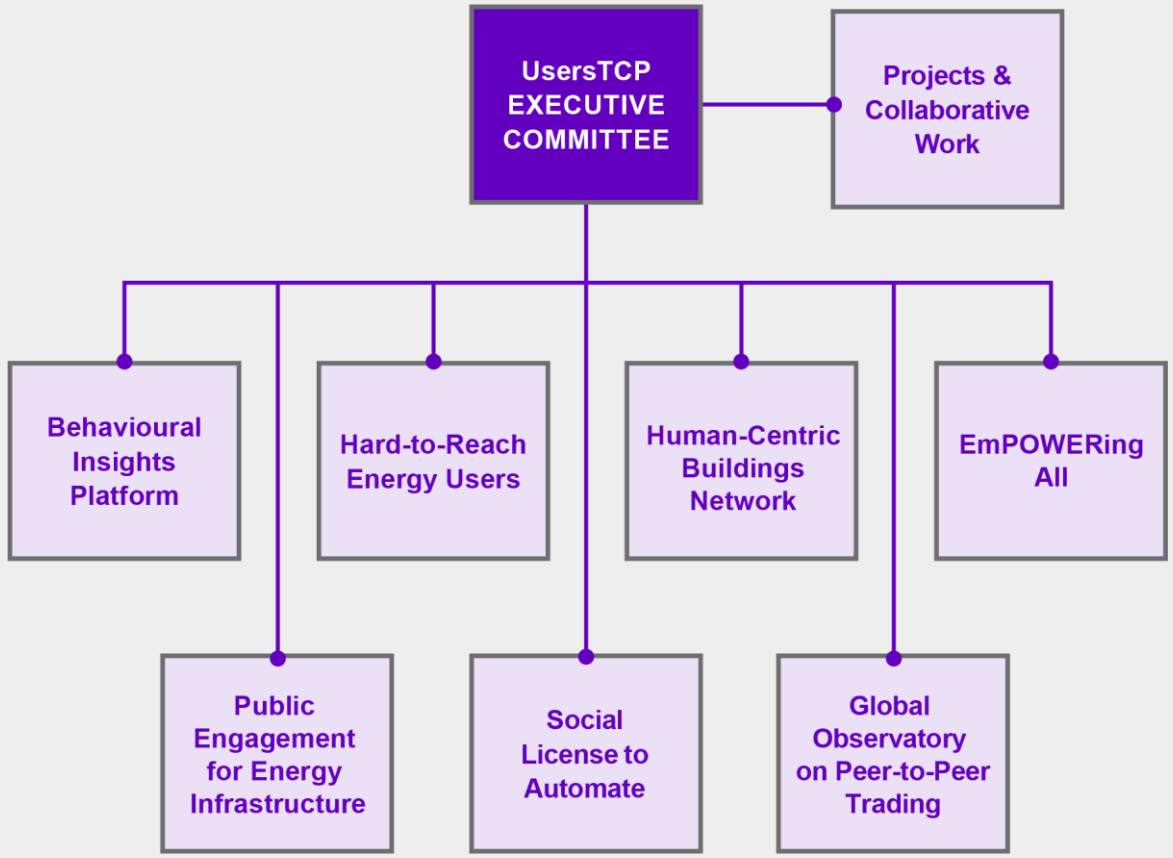
Structure

The Users TCP's Tasks are the main international collaborative mechanisms through which we deliver on our strategy.



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