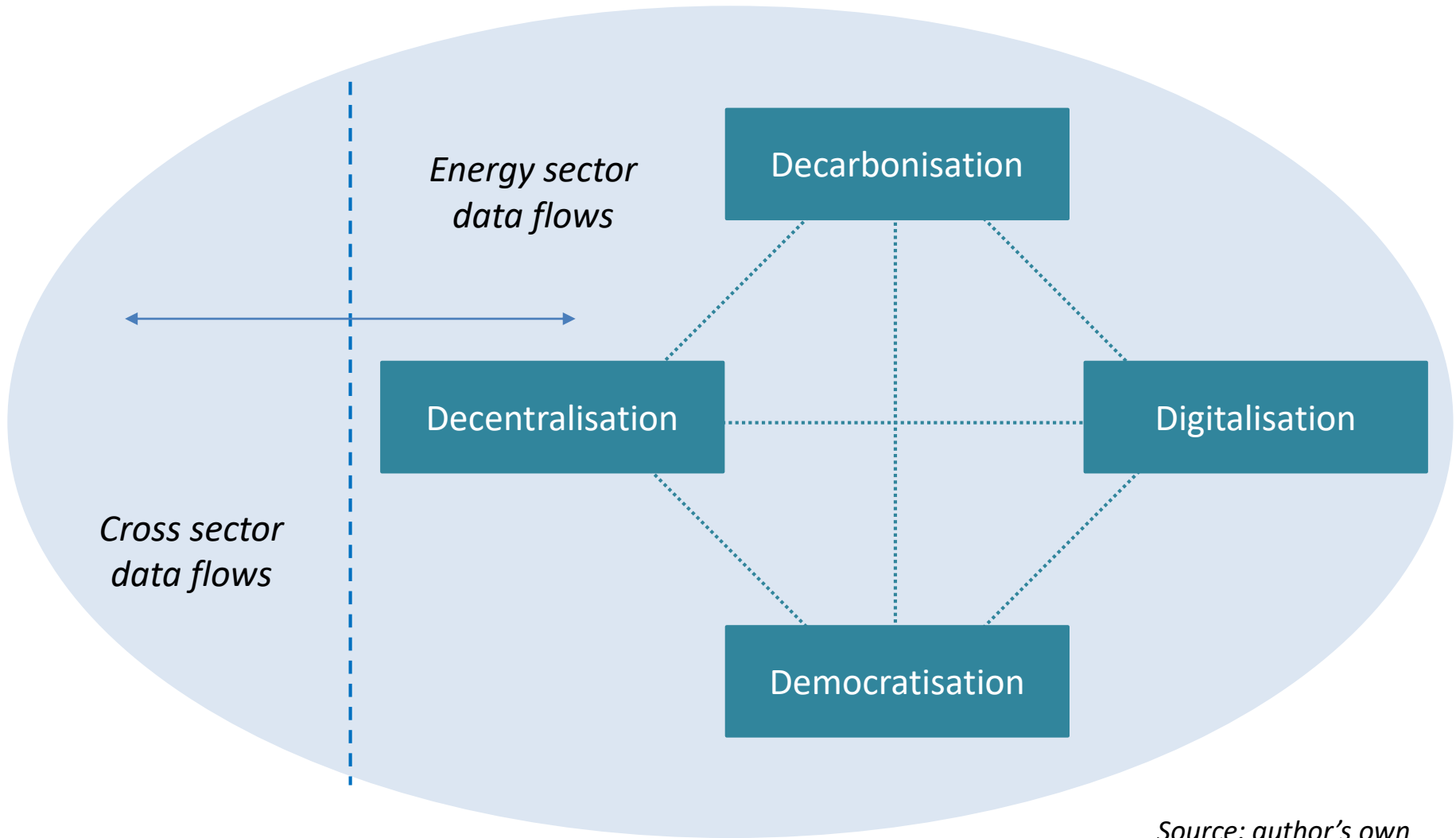


# UK energy data governance: considerations, challenges, responses

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# Energy system change



Source: author's own

# Research Data

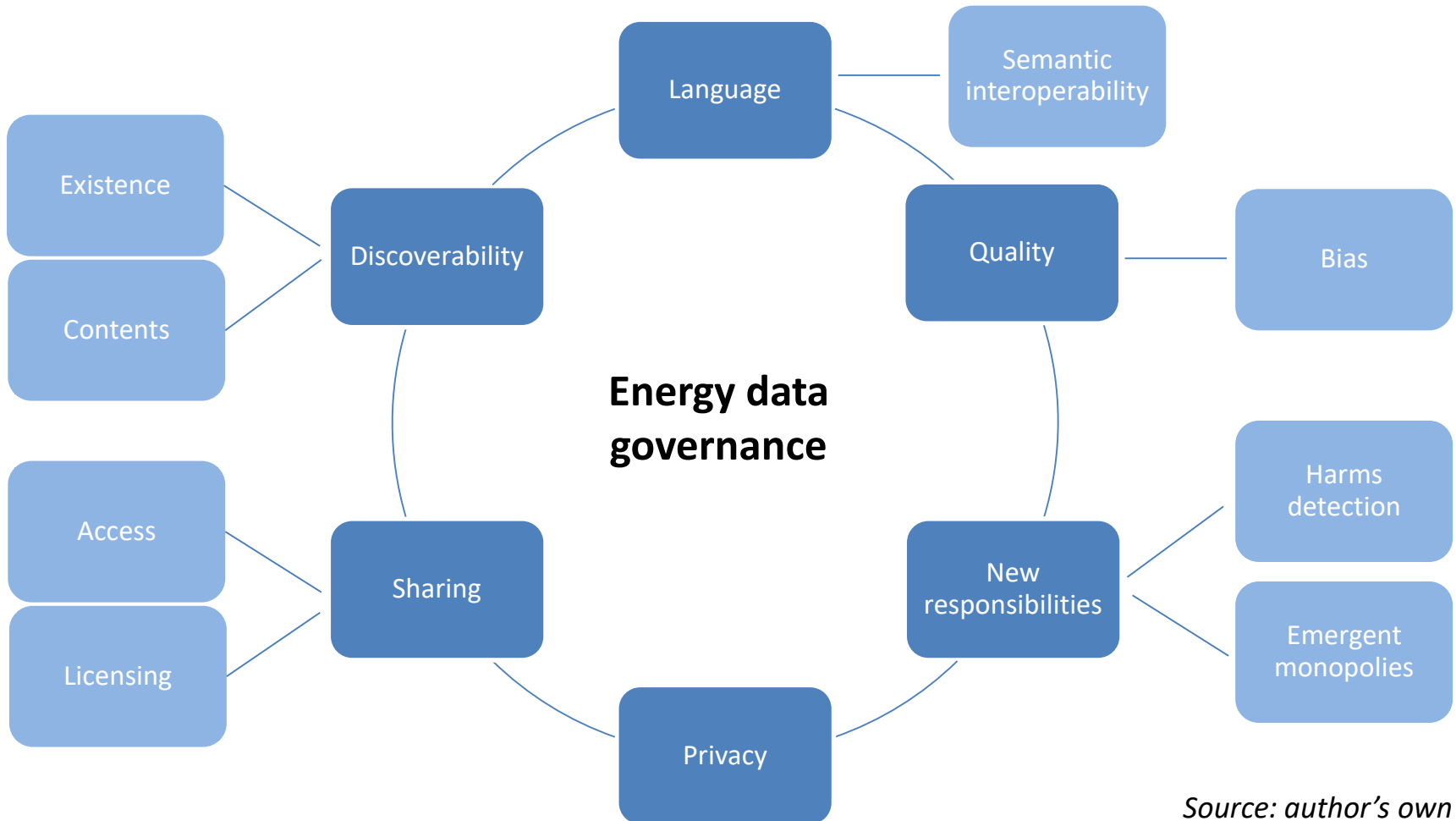
- Literature review and primary data
- Qualitative approach
- 25 interviews and 5 workshops with domain experts from energy and digital sectors between 2019-2020
- Targeting participant sampling for balanced representation of stakeholder groups

<b>SAMPLING CODES</b>	
<b>Organisation type</b>	<b>Code</b>
Codes Governance	CG
Commercial	C
Commercial: SME	C:SME
Commercial: start-up	C:SU
Commercial: regulated: supply	C:R:S
Commercial: regulated: network	C:R:N
Commercial: regulated: other	C:R:O
Commercial: consultancy	C:C
Community Energy	CE
Consumer protection	CP
Government: national	G:N
Government: local: rural	G:L:R
Government: local: city	G:L:C
Housing	H
Legal	L
Regulation	R
Academia	A
Academia: funding	A:F
Innovation	I
Standards Governance	SG
Third sector	TS
Trade association	TA

# Findings

# Energy data governance

Net Zero 2050



Source: author's own

# Challenges

Area	Challenges	Primary stakeholders
Language	<ul style="list-style-type: none"> <li>Lack of semantic interoperability</li> </ul>	Data users
Quality	<ul style="list-style-type: none"> <li>Common issues: noise, inconsistencies in granularity, unclear measurement units, and irregular data update frequencies.</li> <li>Bias (<i>variously framed as a quality or social issue</i>)</li> </ul>	Data users, public
Discoverability	<ul style="list-style-type: none"> <li>Datasets that cannot be found</li> <li>Dataset contents that are opaque</li> </ul>	Data users
Sharing	<ul style="list-style-type: none"> <li>Non-standardised access mechanisms</li> <li>Ambiguous or missing licenses</li> <li>Dispute resolution gap for Presumed Open data</li> </ul>	Data controllers, data users, regulator
Privacy	<ul style="list-style-type: none"> <li>Poor public trust in privacy practices</li> </ul>	Data controllers, data users, public
New responsibilities	<ul style="list-style-type: none"> <li>Harms detection</li> <li>Emergent monopolies</li> </ul>	Data users, public, regulator

# Responses

Challenges	Responses	Other considerations
Lack of semantic interoperability	<ul style="list-style-type: none"> <li>• <b>Standardised</b> domain glossaries</li> </ul>	<ul style="list-style-type: none"> <li>• Interoperability between adjacent domains</li> </ul>
Common quality issues	<ul style="list-style-type: none"> <li>• <b>Standardised</b> quality metrics</li> <li>• Recording known quality issues in metadata</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitive application of quality metrics to legacy data or data about legacy equipment</li> </ul>
Bias	<ul style="list-style-type: none"> <li>• ‘Know your data’</li> <li>• Bias audits</li> <li>• <b>Transparency</b> about known biases in metadata</li> </ul>	<ul style="list-style-type: none"> <li>• Impacts of bias down data chains harder to establish</li> </ul>
Datasets that cannot be found	<ul style="list-style-type: none"> <li>• Data cataloguing (e.g. Sandys, 2019)</li> <li>• Search development (e.g. Open Energy, 2021)</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance costs/time may inform approach</li> </ul>
Dataset contents that are opaque	<ul style="list-style-type: none"> <li>• Metadata <b>standard</b> that is appropriately descriptive</li> </ul>	<ul style="list-style-type: none"> <li>• Several standards currently in use – change may implicate sunk costs</li> </ul>
Non-standardised access and licensing mechanisms for restricted data	<ul style="list-style-type: none"> <li>• <b>Standardisation</b> of approach to access control and licensing for restricted data</li> </ul>	<ul style="list-style-type: none"> <li>• Standardised expression of access and licensing clauses (e.g. Open Energy) rather than ‘one size fits all’ mechanism</li> </ul>
Non-standardised open data licensing	<ul style="list-style-type: none"> <li>• Ensuring all open data is licensed</li> <li>• Adoption of <b>standardised</b> open data licenses</li> </ul>	
Dispute resolution gap for Presumed Open data	<ul style="list-style-type: none"> <li>• Independent dispute resolution</li> </ul>	
Poor public trust in privacy practices	<ul style="list-style-type: none"> <li>• Informed consent improvement</li> <li>• <b>Transparency</b> about data uses in plain English</li> </ul>	<ul style="list-style-type: none"> <li>• Uncertainty regarding post-Brexit data rights regime beyond GDPR</li> </ul>

# Synthesis: standards

- **Standardisation** was the most common ‘ask’ from participants to improve data governance.
- Standards are **networked institutions** (Cohen, 2020).
- Design and implementation of any standard is a political activity that can reflect **vested interests**.
- Ongoing processes for standards governance are needed to ensure they remain fit for purpose and do not become change-resistant.



# Synthesis: transparency

- Transparency was the most commonly referenced **principle** used to characterise improvements to energy data governance.
- It was framed as particularly important in areas with identifiable **public impact** and/or expected **public scrutiny**
- It also forms the guiding principle behind governance activities such as audits, data cataloguing, and improving metadata.
- Vested commercial interests were perceived to threaten initiatives to improve transparency – e.g. Presumed Open triage decisions.

# New responsibilities: further research

- The emergence of new responsibilities related to harms-detection and emergent monopolies attracted significant discussion implicating **divergent ethical and political perspectives**.
- Responses were not included in the table as they were highly **contested** and only partially articulated.
- This may reflect:
  - Insufficient knowledge of the problem spaces among participants
  - Emergent technologies or trends that cannot yet be clearly assessed
  - Involvement of non-traditional stakeholders not included in sampling
  - Further public engagement required to determine political priorities

Any questions?

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# References

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