

# Mitigation is the shared anchor, but governance context changes the climate policy emphasis.

## A Corpus-Based NLP Framework for Thematic Analysis of English Climate Documents and Policies in Africa

### INTRO

- Manual semantic document analysis and comparison across different governance structures is a substantive task.
- This project converts African climate governance documents into structured thematic evidence across national, United Nations, and African Union policy contexts.

### METHODS

- N = 163,
- Collected climate policy documentation across three governance structures.
- Modelling
  - TF-IDF
  - Logistic Regression
  - Sentence Embeddings
  - Support Vector Machine
- Evaluation
  - Precision
  - Recall
  - F1-score
  - Hamming Loss
  - Subset accuracy

### RESULTS

- Mitigation is the shared anchor
  - Appears in 89% of documents overall
  - Top theme in both UNFCCC and National documents
- Alignment is uneven
  - Strongest: AU to National,  $r = 0.87$
  - Weaker: UNFCCC to National,  $r = 0.40$
  - Weakest: AU to UNFCCC,  $r = 0.37$
- Model performance supports interpretation
  - Micro F1 = 71.2%
  - Best theme: Mitigation, F1 = 83.2%

### DISCUSSION

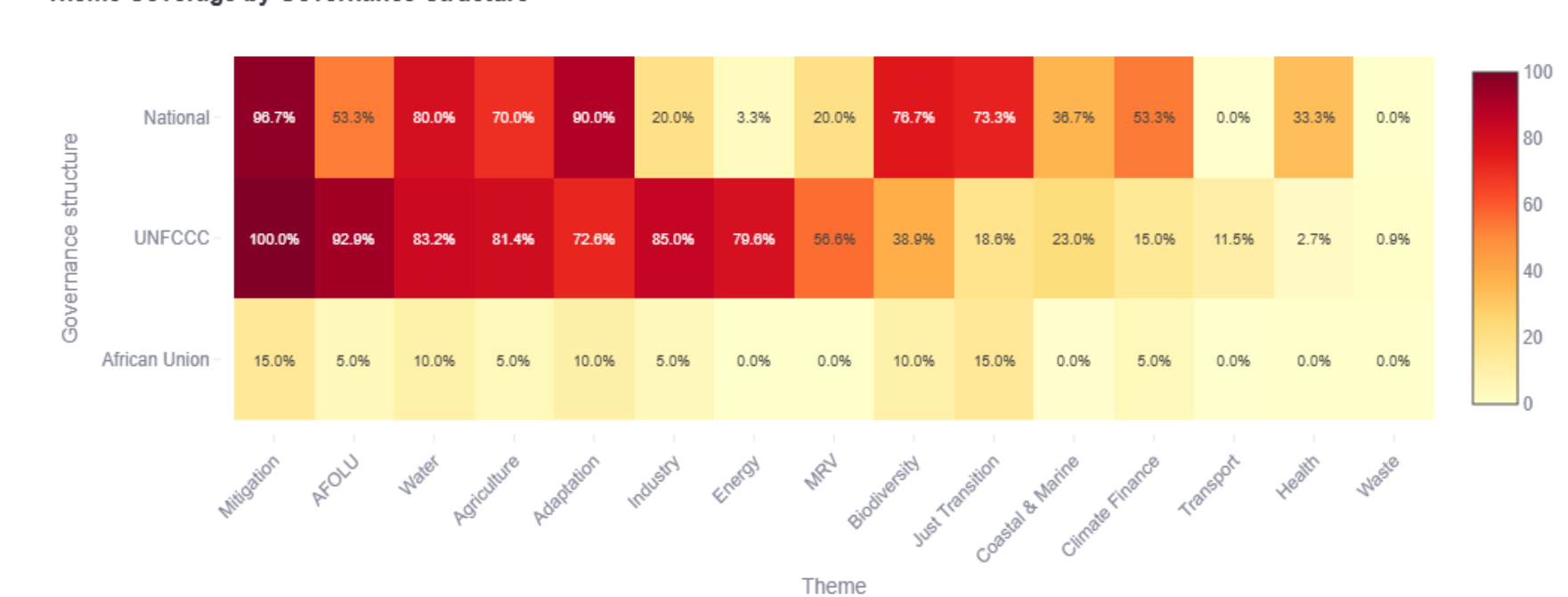
The results suggest that climate priorities are filtered through the purpose of the document. International reporting formats tend to reward themes that can be formalised, measured, and compared across countries, while national policy texts are where those commitments are translated into domestic trade-offs, institutional responsibilities, development constraints, and social legitimacy. Divergence does not imply contradiction, in many cases, it may reflect the shift from reporting climate action to governing climate action.

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### VISUALS

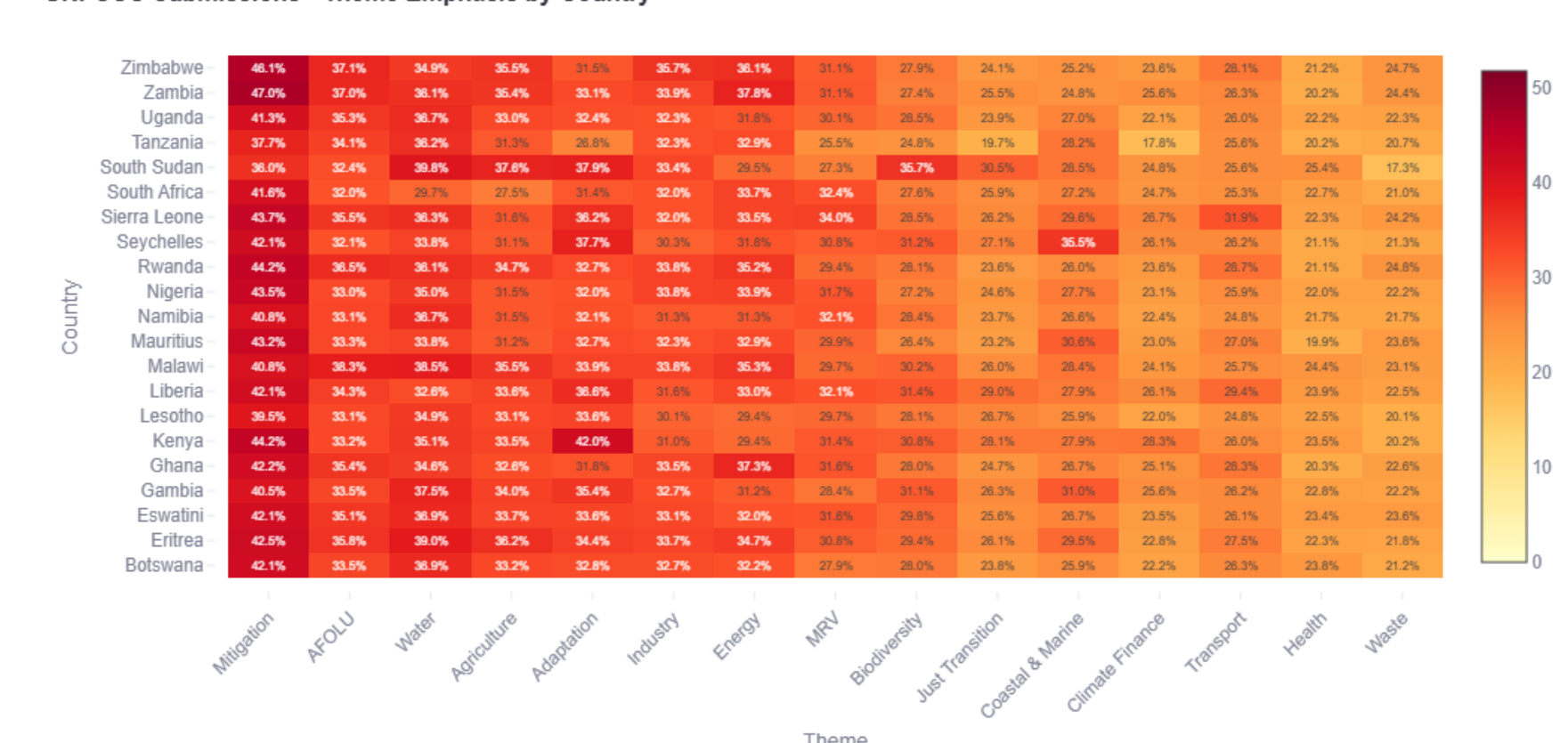
Theme coverage shifts by governance structure:

Theme Coverage by Governance Structure



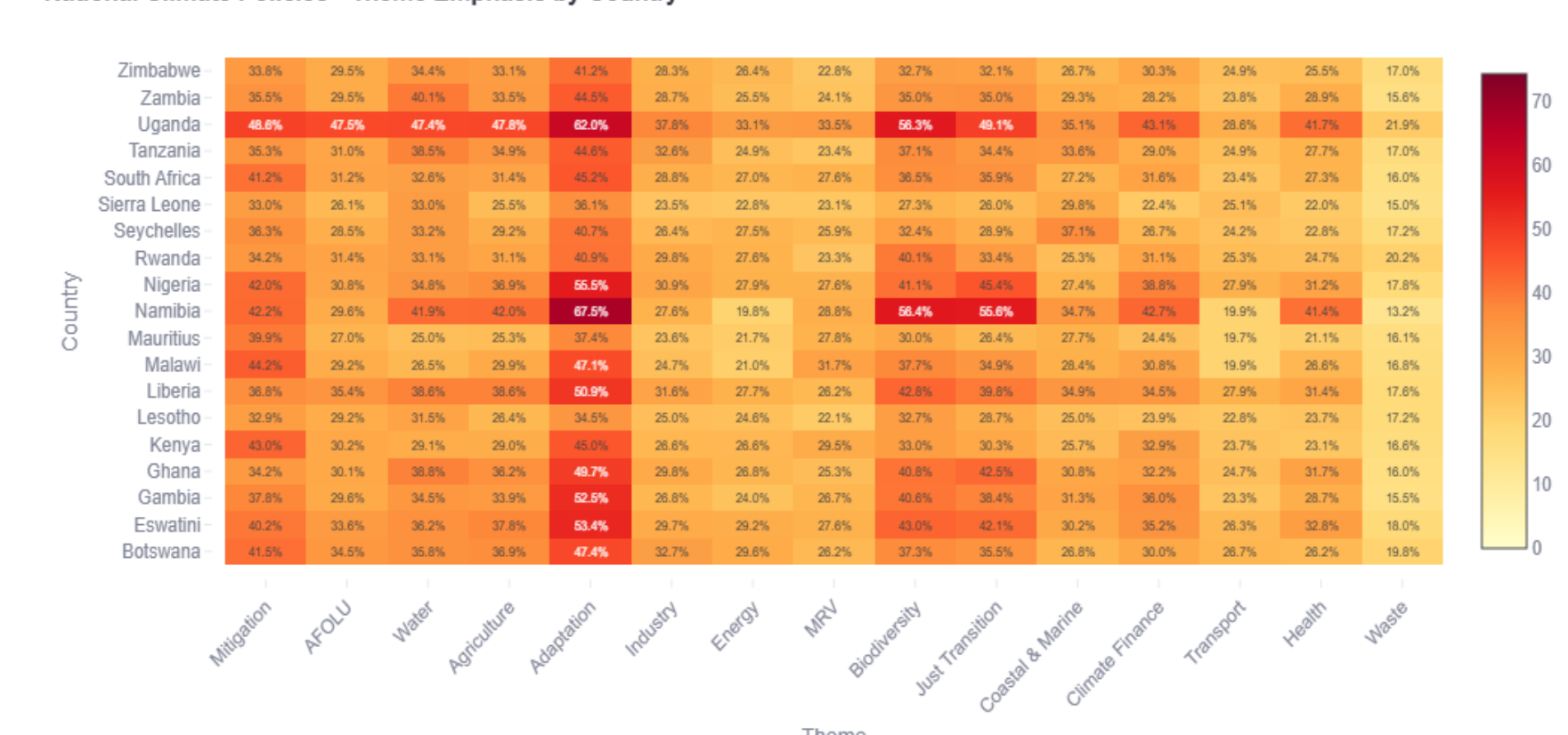
Country specific theme emphasis for UNFCCC submissions:

UNFCCC Submissions - Theme Emphasis by Country



Country specific theme emphasis for National Climate Policies:

National Climate Policies - Theme Emphasis by Country



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