I Don’t Know What We’re Yelling About

Analyzing The Language of COP26
By Matt Edrich

COP26

- Held in Glasgow, Scotland between 10/31/21 and 11/13/21
- A meeting of 197 countries to coordinate global action on climate change
- The 26th overall conference of the UN Framework Convention on Climate Change (UNFCCC)
- Produced the Glasgow Climate Pact:
  - Controversially weakened due to late “interventions”
  - First international climate agreement to mention coal explicitly
  - If the targets are met 100%, global temperature will rise by 1.8C by 2100
- Prompted marches against inadequate action in 101 countries

The People's Climate Vote

- Conducted by the UNDP
- Results span 50 countries and reflect 56% of global population
- A tool for crafting an NDC for a given country
- Six areas:
  - Energy
  - Economy
  - Transportation
  - Farms & Food
  - Protecting People
  - Protecting Nature
- ***Are these values reflected in COP26?***

Data & Algorithms

- 421 documents from UNFCCC: all speeches and reports to emerge from COP26
- Parsed and processed to create ~23,000 documents, with ~1.2M words
- Tf-Idf matrices computed
- Dimensions reduced with PCA
- Topics modeled with LDA and unanchored CorEx
- Anchored CorEx topic modeling with anchors supplied by PCV
- ScatterText to visualize lexical overlap

Dramatically Reducing Dimensions

- n_components = 3 to visualize any possible commonalities between documents
  - 3 components explains 11.25% of the variance - yikes!

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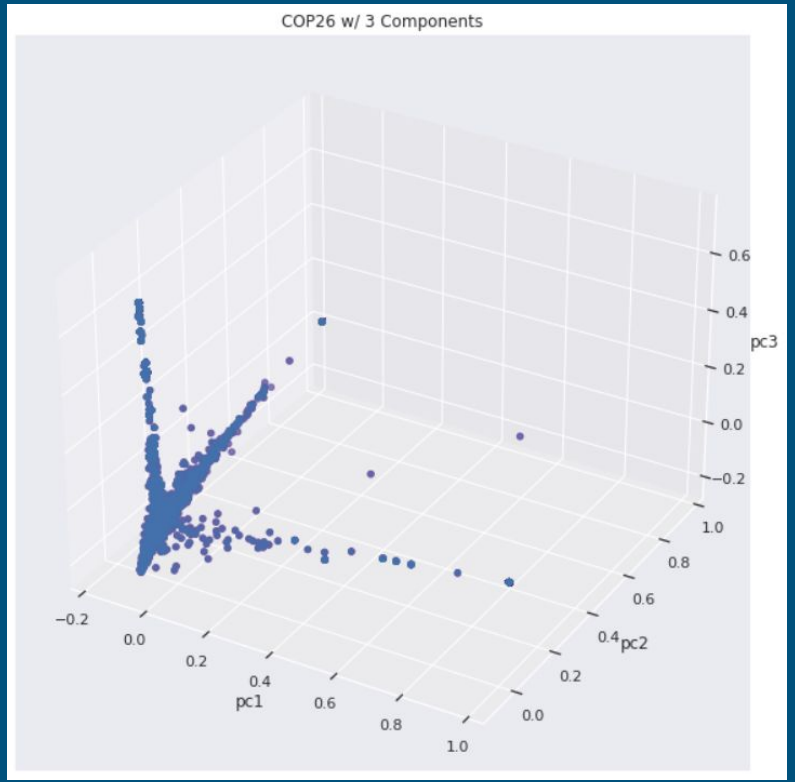
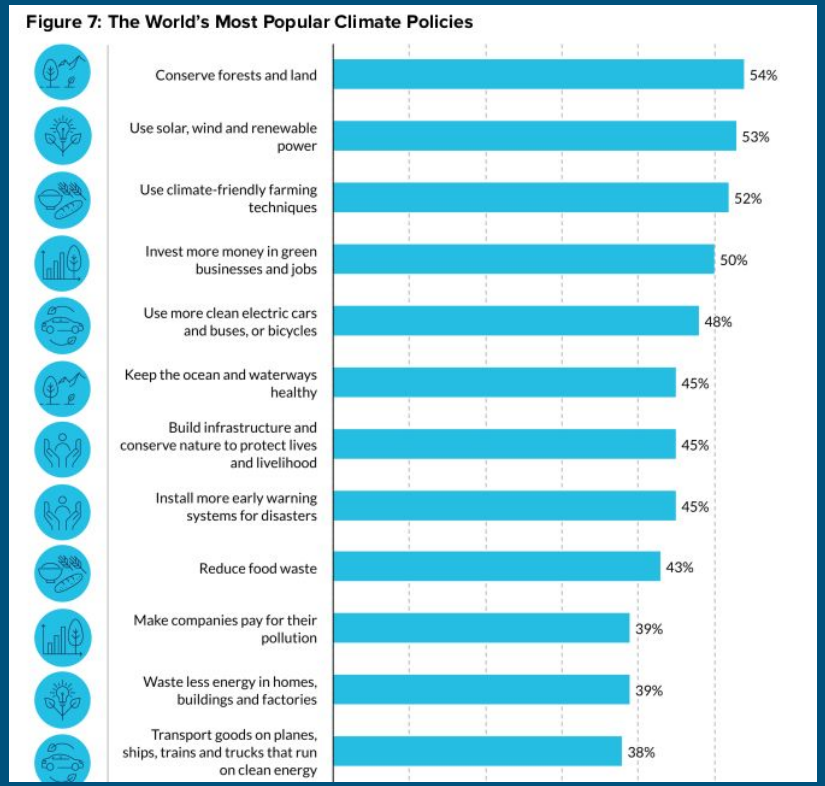


CorEx Anchor Words



- Conserve
- Land
- Forest
- Renewable
- Farm
- Invest
- Green
- Clean
- Transportation
- Ocean
- Conservation
- Nature
- Disaster
- Waste
- Food
- Reduce
- Pay
- Pollution
- Energy
- Planning
- Design
- Cities
- Burning
- Pollute
- Indigenous
- Women
- Require
- Plant-based

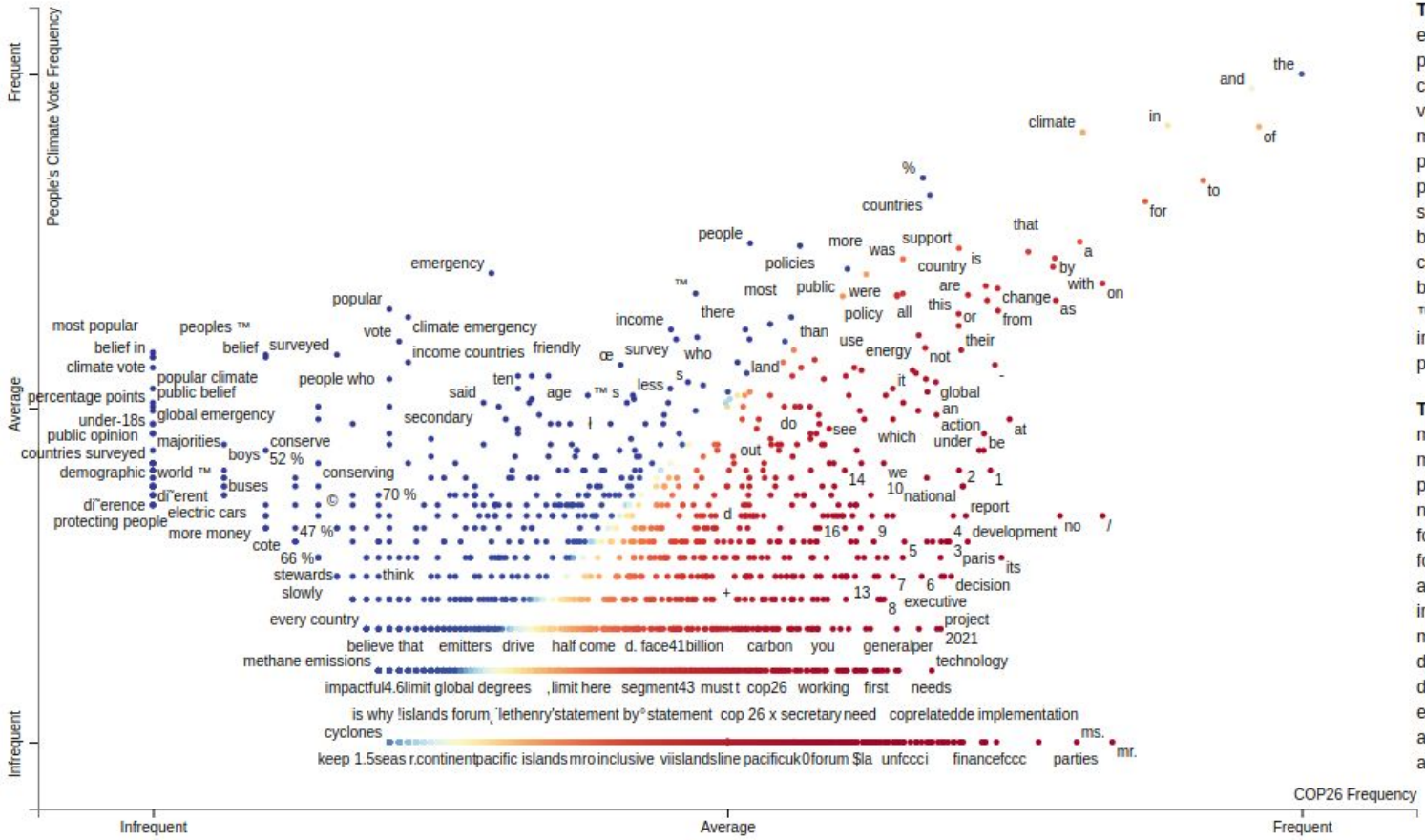
```
WARNING: Anchor word not in word column labels provided to CorEx: conserve
WARNING: Anchor word not in word column labels provided to CorEx: farm
WARNING: Anchor word not in word column labels provided to CorEx: invest
WARNING: Anchor word not in word column labels provided to CorEx: transportation
WARNING: Anchor word not in word column labels provided to CorEx: ocean
WARNING: Anchor word not in word column labels provided to CorEx: waste
WARNING: Anchor word not in word column labels provided to CorEx: pay
WARNING: Anchor word not in word column labels provided to CorEx: pollution
WARNING: Anchor word not in word column labels provided to CorEx: cities
WARNING: Anchor word not in word column labels provided to CorEx: burning
WARNING: Anchor word not in word column labels provided to CorEx: pollute
WARNING: Anchor word not in word column labels provided to CorEx: require
WARNING: Anchor word not in word column labels provided to CorEx: plant-based
```

As I would find again and again, there simply isn't that much overlap between the language of COP26 and what the world really wants to see.

It seems as though the global public and the UNFCCC are speaking different languages to address the same issue.

What Topics Did Emerge?

- “Administrative” - report, information, implementation, technical, capacity
- “Paris Agreement” - continued, paris agreement, serving
- “Emissions Reports” - ghg, emissions, advance version, base
- “Procedural” - decisions, account, workshop, submissions, procedures
- “Financial” - usd, budget, approved, figure, contributions
- “Climate” - climate, environment, affairs, change,



Top People's Climate Vote	Characteri
emergency	fccc
popular	ctcn
climate emergency	unfccc
vote	gef
most popular	ndcs
peoples ™	adaptation
people	sbsta
surveyed	lcer
belief in	ghg
climate vote	ndc
belief	workplan
™	gcf
income countries	climate
popular climate	sbi
	pccb
Top COP26	cma
mr.	lenvironnen
ms.	cers
parties	scf
no no	lulucf
fccc	mitigation
fccc /	secretariat
adaptation	ldcf
implementation	mme
ministry	nwp
de	annex
director	cge
environment	resilience
annex	ldcs
activities	paras

People's Climate Vote document count: 68; word count: 13,416
COP26 document count: 22,487; word count: 1,164,581

Conclusions & Future Work

- The analysis suggests that the language of international diplomacy isn't sufficiently connected to global sentiment regarding climate change
- Broad language fails to capture the nuance of the unique and highly specific needs and realities of each country
- After removing the rarest 1.5% of words used by delegates in speeches, a mere 204 unique terms were used.
- Future work:
  - Dramatically refine stop words
  - Apply NMF
  - Fine-tune CorEx anchor words