

# Communicating Climate Change: A Comparison Between Tweets and Speeches by German Members of Parliament

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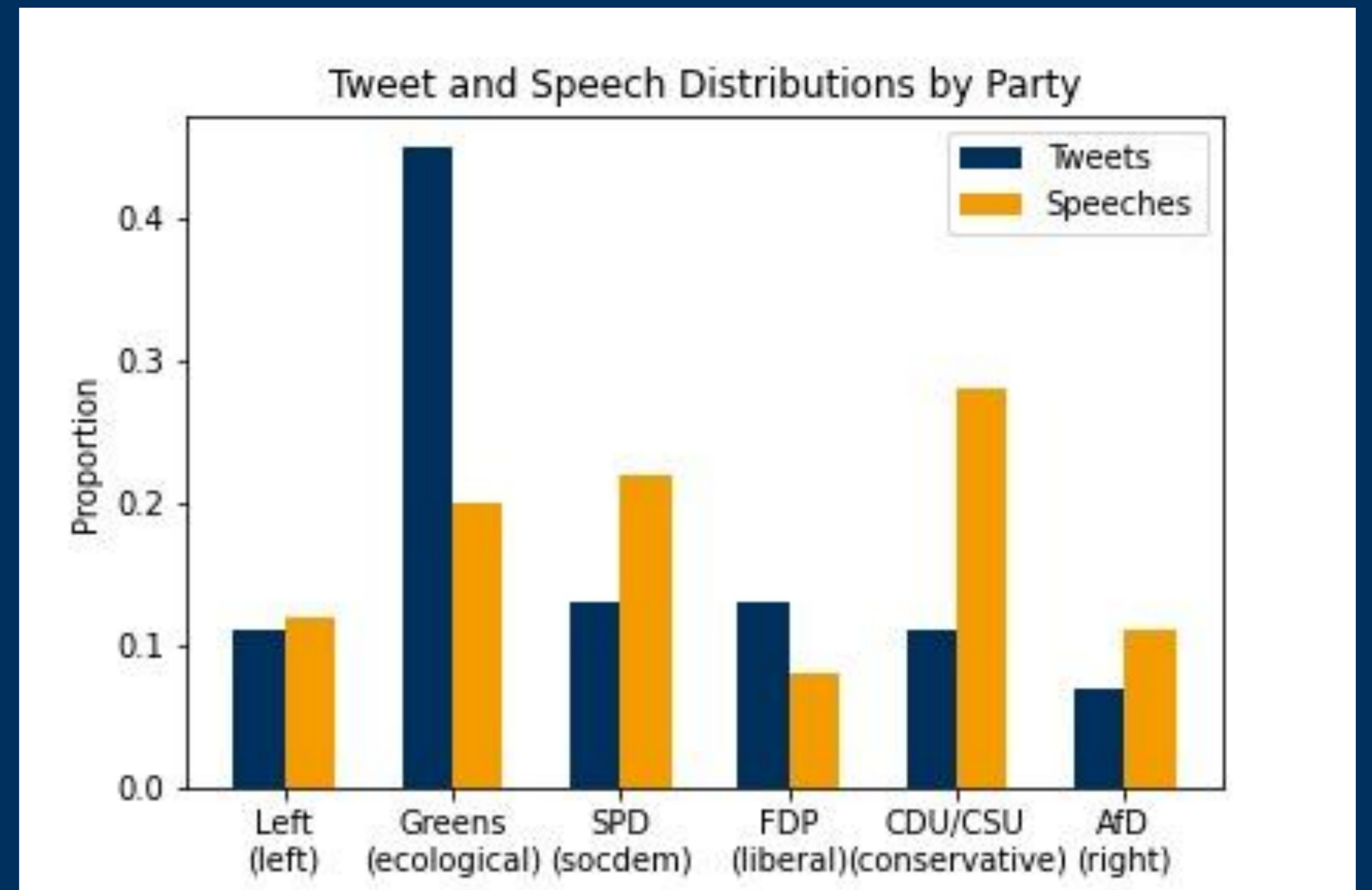
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## Motivation:

- Climate change (CC) is discussed in different channels of communication (domain).
- Members of Parliament (MPs) are a crucial group of actors engaging in CC discourse by using 1. Twitter and 2. parliamentary speeches.
- Differences in CC discourse may appear across different dimensions, e.g. 1. domain or 2. political orientation.

## Contribution:

- A comparative analysis of tweets and speeches of German MPs from 2016-2022
- Methods: keyword/hashtag analyses and topic modeling



## Hashtag Analysis

The Left		The Greens		SPD	
Hashtag	C   P	Hashtag	C   P	Hashtag	C   P
#climateprotection	351   .04	#climateprotection	2,751   .09	#climateprotection	624   .10
#fridaysforfuture	238   .03	#climatecrisis	1276   .04	#energytransition	261   .04
#transporttransition	206   .03	#transporttransition	736   .02	#spd	170   .03
#climatechange	168   .02	#coalphaseout	608   .02	#climateprotectionlaw	144   .02
#climatejustice	148   .02	#energytransition	497   .02	#climatechange	116   .02
#climatecrisis	146   .02	#climate	429   .01	#fridaysforfuture	89   .01

FDP		CDU/CSU		AfD	
Hashtag	C   P	Hashtag	C   P	Hashtag	C   P
#climateprotection	608   .08	#climateprotection	477   .08	#afd	602   .09
#co2	276   .04	#climate	124   .02	#energytransition	198   .03
#energytransition	246   .03	#co2	100   .02	#co2	174   .02
#climate	171   .02	#climatechange	87   .02	#climatehysteria	152   .02
#emissiontrading	150   .02	#energytransition	75   .01	#climate	144   .02
#climatechange	115   .02	#parliament	57   .01	#fridaysforfuture	134   .02

Hashtag Counts (C) and Proportions (P) By Party.

## Compound Analysis

The Left		The Greens		SPD	
Compound	C   P	Compound	C   P	Compound	C   P
climate justice	235   .44	climate crisis	1,951   .77	climate friendly	109   .43
climate crisis	208   .39	climate friendly	164   .06	climate crisis	88   .35
climate friendly	25   .05	climate justice	157   .06	climate denier	10   .04
climate crisis	54   .35	climate crisis	403   .84	climate friendly	68   .56
climate justice	31   .20	climate friendly	31   .06	climate crisis	34   .28
climate friendly	30   .19	climate denier	7   .01	climate consensus	4   .03

FDP		CDU/CSU		AfD	
Compound	C   P	Compound	C   P	Compound	C   P
climate friendly	75   .43	climate friendly	90   .52	climate hysteria	193   .34
climate crisis	27   .16	climate crisis	23   .13	climate delusion	70   .12
climate activist	13   .08	climate consensus	11   .06	climate crisis	30   .05
climate friendly	11   .28	climate friendly	120   .79	climate hysteria	35   .19
climate consensus	9   .23	climate crisis	17   .11	climate religion	16   .09
climate nationalism	4   .10	climate denier	4   .03	climate rescue	15   .08

Compound Counts (C) and Proportions (P) By Party (above dashed line: tweet; below dashed line: speech).

## Topic Labels (By Party and Corpus)

	The Left (Tweet)	The Greens (Tweet)	SPD (Tweet)
T1	politics,parties	climate crisis,adaptation	CO2 emissions,pricing
T2	climate politics,protection	railroad,streets	cities,transport
T3	profit,economy	CO2 emissions,reduction,pricing	dates
T4	CO2 emissions,reduction	dates	climate protection,elites
T5	dates	EU,green(washing)	EU,council presidency
T6	street,city	politics,police	energy transition,renewables

	FDP (Tweet)	CDU/CSU (Tweet)	AfD (Tweet)
T1	CO2 emissions,trading	CO2 emissions,pricing,reduction	CO2 emissions
T2	climate politics,protection	dates	CC,protection,world climate
T3	innovation,technology	innovation,technology	climate hysteria,socialism
T4	dates	economy,feasibility	diesel,car,fuel
T5	energy sources, transition	industry,sector	energy transition,nuclear
T6	economy	energy sources,transition	wind energy

	The Left (Speech)	The Greens (Speech)	SPD (Speech)
T1	climate politics,protection	climate crisis,protection	climate protection, costs
T2	energy,transition, "bürgerenergie"	CO2 emissions,trading	energy transition,renewables
T3	CO2 emissions,car	energy transition,renewables	CO2 emissions,pricing
T4	transport infrastructure	coal committe,phase-out	technology,industry
T5	finances,investment	EU	EU
T6	digitalisation,transformation	dates,goals	money,investment

	FDP (Speech)	CDU/CSU (Speech)	AfD (Speech)
T1	CO2, emissions trading	CO2 emissions,trading	energy sources,transition
T2	energy,transition,politics	EU,Russia	CO2 emissions
T3	-	energy transition,renewables	CC,climate religion
T4	-	railroad,money	CC,climate dogma
T5	-	e-mobility,fuels	money
T6	-	farming	economy,EU

## Main Findings:

- Strong overlap in keywords and topics across tweets and speeches
- Substantial differences between party lines
  1. The Left and Greens apply a *climate crisis* frame.
  2. SPD focuses both on *climate crisis* and *economy/technology*.
  3. FDP and CDU/CSU focus on *economy/technology*.
  4. AfD denies the need to adopt CC mitigating measures.

## Outlook:

- Investigate CC communication of MPs in climate-related committees
- Conduct a time-sensitive analysis using dynamic topic modeling