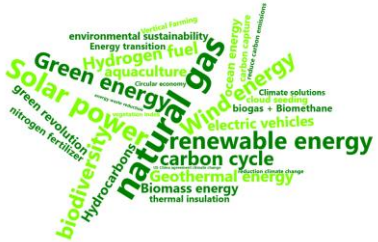
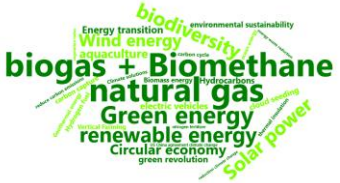
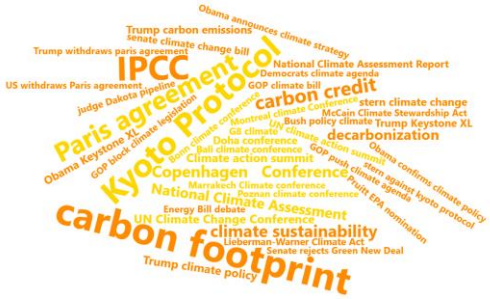
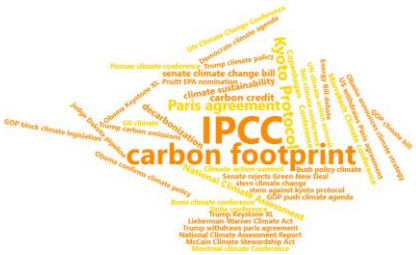
The Climate Concern Index (CCI) for the US and Italy

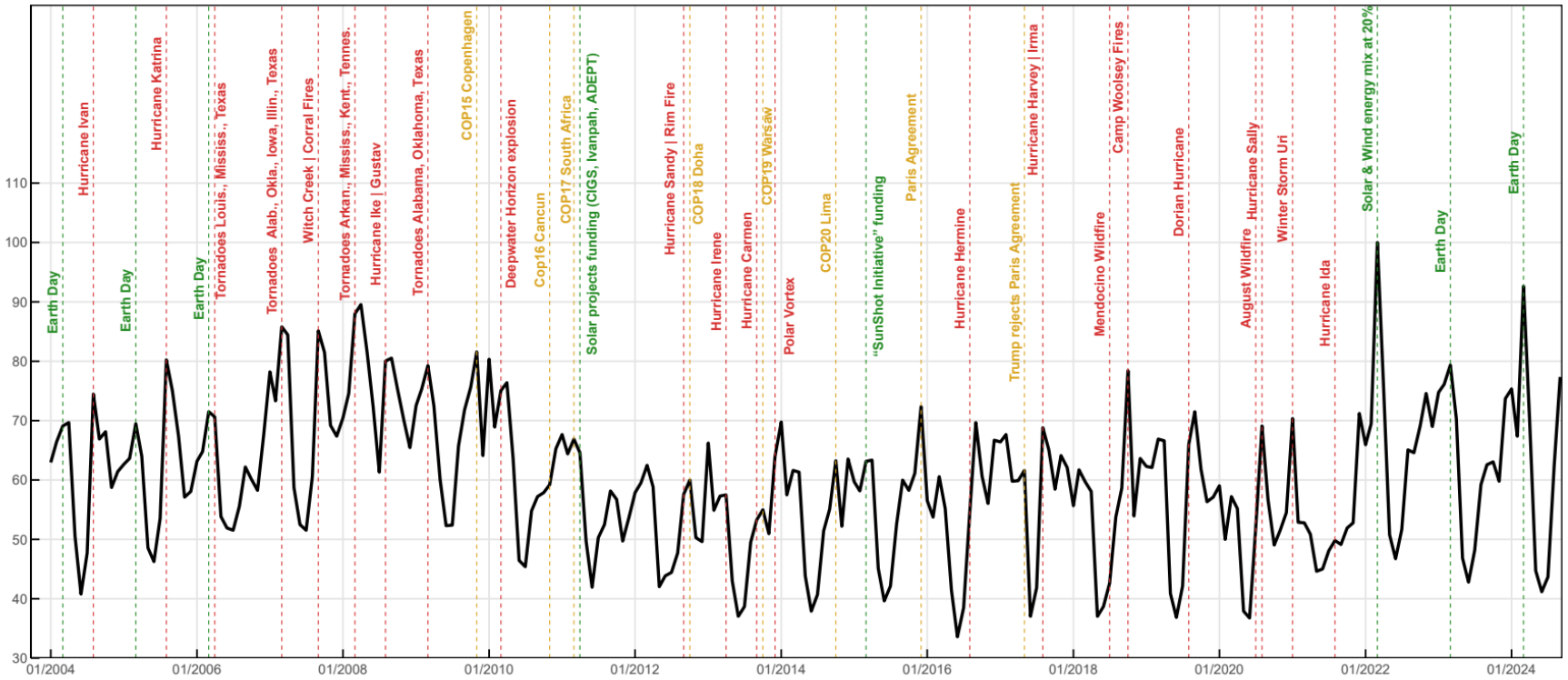
Fear & Concern	
US	Italy
	
Reduction & Hope	
US	Italy
	
Policy & Summits	
US	Italy
	

The above word clouds illustrate the most frequently searched terms across the following three macro categories. **Fear & Concern**, collecting 1. Natural disasters that generate fear, such as "extreme weather", "floods"; 2. Global warming-related threats, such as "rising seas", "deforestation"; and 3. Broader climate change narratives, such as "climate refugees", "climate crisis". **Reduction & Hope**, collecting 4. Mitigation and reduction strategies such as "climate solutions", "circular economy"; and 5. Technological hope such as "biodiversity", "aquaculture". **Policy & Summits**, collecting 6. International summits such as "Paris Agreement", "Kyoto Protocol", and 7. Climate or environmental policy terms such as "decarbonization", "IPCC".

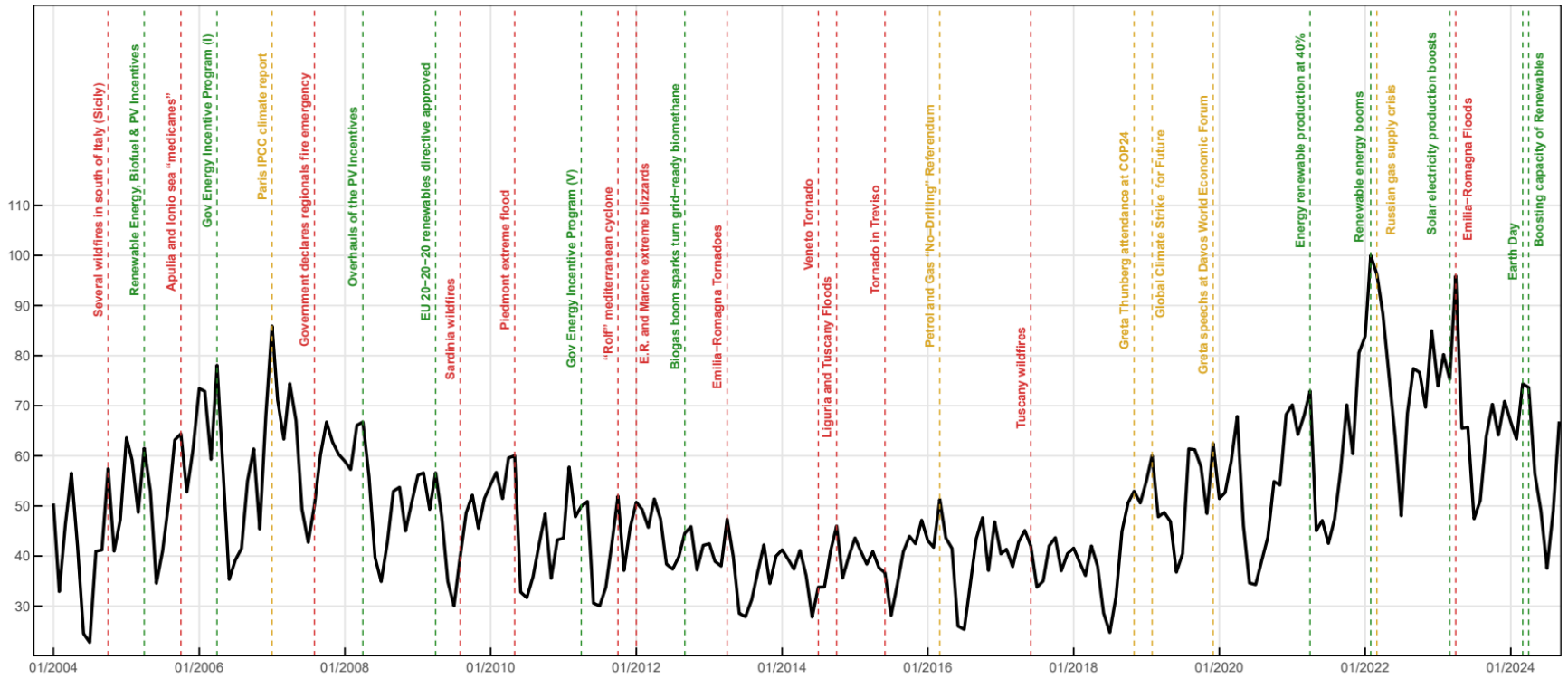
In 2024, the most relevant category is 4. Mitigation and reduction strategies, which accounts for 27.86% of total searches in the US and 49.52% in Italy. For the US, this is followed by 1. Natural disasters (20.02%), 5. New technologies (19.09%), 3. Broader climate change narratives (18.57%), 2. Global warming related threats (10.31%), 7. Climate or environmental policy terms (2.89%) and 6. International summits (1.27%). For Italy, 3. Broader climate change narratives (12.33%) and 2. Global warming related threats (12.33%); 7. Climate or environmental policy terms (9.72%), 5. New technologies (5.35%) and 6. International summits (0.46%). One incontrovertible fact that emerges is how the Paris Conference in December 2015 shifted general interest from global warming to climate change in both countries. According to the annual Climate Perceptions Index, based on data on awareness, risk perception and commitment to action collected by Meta in its Facebook Climate Change Opinion Survey in collaboration with Yale, in 2022 the US score (55.13) is lower than Italy's (62.76). The lower perception of climate risk in the US compared to Europe is also found in Van Der Linden (2017) and in the Pew Foundation survey.

The two figures below show the CCI, normalized so that its maximum value in the sample period is equal to 100, for the US and Italy. The CCI presents clear peaks corresponding to extreme weather events, particularly for the US, which is more vulnerable, although Italy has been hit by floods recently (and unfortunately). A hurricane, flood or heatwave can trigger the cognitive link between the event and climate change, generating affective responses that shape public concern and stimulate search activity on the Web. This mechanism is consistent with the post-cognitive interpretation proposed by Van Der Linden (2014), according to which people only develop concern after attributing personal experiences to broader climate phenomena. These reactions are strong determinants of perceived climate risk and are a key driver of information-seeking behaviour (Campiglio et al., 2025). More generally, public engagement with climate change is often hampered by perceived psychological distance. As noted by Van Der Linden et al. (2015), many people view climate change as a temporally, spatially, and socially distant threat, which can lead to procrastination in personal and collective decisions regarding mitigation and adaptation strategies. This gap between scientific urgency and perceived immediacy highlights the importance of tools such as the CCI, which help to quantify the evolution of concern over time and in response to salient events.

The CCI index for the US



The CCI index for Italy



The relatively limited share of search activity dedicated to international summits (category 6) and environmental policy terms (category 7) may reflect the diffuse and often fragmented nature of climate governance. Although many countries aim to formally adopt net-zero emission targets and long-term strategies to limit global warming, transition paths remain highly uncertain. In particular, the Network for Greening the Financial System (NGFS) outlines several climate scenarios based on varying degrees of physical and transition risks. Among these, disorderly transition scenarios, characterized by delayed or inconsistent policy action, can generate significant economic disruptions and increase the exposure of financial and economic systems to climate-related shocks. Given the absence of a globally coordinated climate change mitigation framework, future policy trajectories are inherently uncertain. This uncertainty may influence public expectations and potentially affect the behaviour of both individuals and businesses, further justifying the need for high-frequency sentiment-based indicators such as the CCI.

It is interesting to note that many "journalistic" terms used by other authors to construct their climate risk indices (e.g. Faccini et al., 2023, Gavriilidis, 2021) are less visible than other queries in the CCI. The link between public knowledge and public concern appears to be moderated by political

ideology (Shao and Goidel, 2016, McCright and Dunlap, 2011). Perceptions of climate risks also depend on experience, particularly with extreme weather events (e.g. hurricanes, floods, heat waves), which are more tangible than gradual temperature increases (Pawlik, 1991).

From the above Figures, one can also distinguish three distinct phases: an initial growth in climate concern from 2004 to 2010, a stagnation between 2011 and 2020, possibly linked to rising scepticism, and a renewed upward trend beginning in late 2021. According to Baiardi (2023), this latter phase may be partially driven by climate communication through social media, amplified by popular figures such as Mr. Beast or Greta Thunberg. "Earth Day events", held annually on April 22 since 1970, also tend to produce noticeable spikes in the index. These spikes vary in intensity depending on the year's theme and media resonance, and they offer a way to detect the influence of coordinated environmental campaigns on public sentiment (Leombruni, 2015).