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Scaling green transitions: *using social listening to explore Green Deal online discourse across Europe*

Methodological Appendix

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SHARED GREEN DEAL

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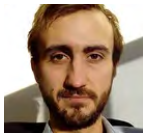
AUTHORS



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1. Introduction

This methodological appendix presents the approach and processes underpinning the social listening analysis conducted as part of the Horizon 2020 project "Social Sciences and Humanities for Achieving a Responsible, Equitable and Desirable Green Deal" (SHARED GREEN DEAL). It accompanies a fuller report on the results of this analysis, which can be found in Crowther et al. (2026).

Social listening refers to the process of monitoring and analysing conversations, trends, and sentiments expressed across social media and other digital environments. Proprietary platforms such as Pulsar, Brandwatch, and Sprinklr use data harvesting and algorithmic tools to gather large volumes of publicly available information from online sources including social media platforms, blogs, forums, news sites, and review platforms.

A year-long process of 'social listening' analysis using the Meltwater platform was conducted, aiming to explore how recommendations arising from in-person social experiments run by the SHARED GREEN DEAL project were resonating with ordinary citizens in informal online spaces across the European Union. The overall objective was to examine how ordinary citizens engage with themes of sustainability governance in online spaces. The analysis focused on informal, organic conversations taking place across social media platforms, blogs, forums, and digital news outlets. It is hoped that conclusions drawn from the insights generated from social media platforms will be of assistance to policymakers as they come to design and expand environmental and social policy in the context of the European Green Deal.

More specifically, this work contributes to a broader understanding of the scale, generalisability, and international comparability of the SHARED GREEN DEAL's governance, policy, and regulatory recommendations, by situating them within the wider landscape of online discourse.

This appendix is structured as follows. After this Introduction, Section 2 outlines the concept of social listening, including its application as a social science research tool, its relevance to SHARED GREEN DEAL objectives, our considerations around language selection, and key limitations of the methods. Section 3 details the data collection and analysis processes, including the design of search operators, results harvesting, and initial analytical approaches. Finally, Section 4 discusses the changes to the design and scope of the social listening analysis which took place throughout the project.

2. What is social listening?

2.1. Social listening as a social science research tool

Social listening is broadly defined by Stewart and Arnold (2018, p. 86) as "an active process of attending to, observing, interpreting, and responding to a variety of stimuli through mediated, electronic, and social channels". When approached as a methodological research tool, it involves monitoring, collecting, and analysing publicly available online content to understand how people talk about topics (Ballestar et al., 2020). Unlike traditional media monitoring, which tracks formal news coverage, social listening captures informal, user-generated content such as social media posts, comments, hashtags, and shared articles (Stewart and Arnold, 2018). It enables researchers to identify emerging trends, emotional responses, and thematic clusters in real time or retrospectively.

The Meltwater platform uses Natural Language Processing (NLP), machine learning, and AI-powered clustering to process vast volumes of online data. It can assess sentiment (positive, negative, neutral), identify frequently used keywords and phrases, and map geographic distribution of mentions. It also tracks 'social echo', which measures how widely content is shared or amplified across platforms. These features make social listening particularly useful for understanding public discourse, especially in multi-country, multi-language contexts like Europe.

Social listening is a a viable and effective method for sustainability governance and social science research because it captures some of the lived experiences, frustrations, and aspirations of citizens who may not be formally represented in policymaking processes. It provides insight into how policy frameworks are interpreted, contested, or supported at the local level, and how institutional narratives align or clash with grassroots perspectives.

2.2. Relevance to SHARED GREEN DEAL objectives

This methodology supports SHARED GREEN DEAL's broader aim of understanding how experimental governance approaches are perceived and discussed across diverse European contexts. By capturing informal, bottom-up discourse, the social listening analysis complements formal stakeholder engagement and policy review processes undertaken in other parts of the project. It may help identify where governance recommendations resonate most strongly, where they face resistance, and how they might be adapted to reflect local realities.

Moreover, the use of a scalable, multilingual platform like Meltwater enables international comparability. The findings can be benchmarked across countries, regions, and demographic groups, offering a more nuanced view of how sustainability governance is evolving in the EU. This approach also provides a replicable model for future research and monitoring activities within the SHARED GREEN DEAL project and beyond.

2.3. Language selection to expand reach

A key aspect of the use of social listening was to expand the findings of SHARED GREEN DEAL to new locations where the project has not run in-depth social experiments. The following ten languages were included in the Meltwater searches:

Croatian; Czech; English; Estonian; Finnish; French; German; Latvian; Romanian; Spanish

These languages were selected to fulfil the deliverable criteria, specifically: "*… for each of 10 languages… (including all EU countries which have not hosted an experiment)*". The list above, therefore, reflects a subjective mix between representing the most widely spoken languages in the European Union – to ensure a statistically significant level of results – and those languages and regions that were not represented at the social experiment level (for example, Finland). Whilst the searches were undertaken in these 10 languages, the Meltwater search also captured online discourse in other, additional languages that shared common phrases and terms, including Italian and Dutch. These were also included in our analysis.

Internal discussion was undertaken to attempt to make the language list both representative and reflective of both the wider EU, and conversations happening in less populous or 'online-visible' regions.

AI-powered automatic translation was used to translate the English searches into each of the target languages. There was no budget for the translations to be done by a human, but an effort was made for the translations to be checked by a native speaker for accuracy, where possible.

The translated searches were then combined with the English versions and run simultaneously, so that the results gathered cover all ten of the languages. In addition, a continent filter was added to the search parameters, specifically excluding all results that were not geo-tagged to originate within continental Europe.

2.4. Limitations of social listening

Alongside its benefits, social listening has limitations, including:

- **Representation Bias:** Not all demographic groups use social media equally. Certain populations—such as older adults, rural communities, or individuals without internet access—are likely to be underrepresented. This creates a skewed sample that does not fully reflect broader societal views.
- **Data Quality and Context:** Social media posts are often brief, informal, and lack depth compared to interviews or ethnographic observations. This can make it difficult to interpret nuanced meanings, cultural context, or motivations behind statements.
- **Ethical Concerns:** Analysing user-generated content raises issues of privacy, consent, and data protection. Even when data is publicly available, ethical guidelines require careful consideration of how it is collected, stored, and reported.
- **Algorithmic and API Limitations:** Access to data often depends on platform APIs, which can restrict the scope of research, and are not exactly transparent in their design and operation, making it difficult for researchers to properly understand how the dataset is generated. Algorithms that curate content also influence what researchers can observe, introducing bias into the dataset.

- **Noise and Irrelevant Data:** Social media contains vast amounts of unrelated or spam content, and relying on search terms is a blunt instrument. Filtering out irrelevant data requires advanced tools and can still leave significant amounts of irrelevant data, especially when trying to draw comparisons between different cultural contexts and languages across a large geographical region such as the European Union.
- **Temporal Volatility:** Online conversations change rapidly, making it hard to capture stable trends. What is trending today may disappear tomorrow, complicating longitudinal analysis.

3. Data collection and analysis

3.1. Search operator design

SHARED GREEN DEAL used Meltwater to collect extracts of data which were posted on social media between 1 January to 31 December, 2024. A tailored set of keywords was developed to reflect various topics and themes of the SHARED GREEN DEAL project.

The key topics from both Work Package 4 (six streams of social experiment data analysis) and Task 5.1 (five priority SSH themes) were broken down into Boolean search strings, readable by the Meltwater platform, via an iterative process. Each search string was a complex series of operators, refined by trial and error within the platform to try to exclude erroneous results and capture as much high-quality, relevant information as possible. Continent and language filters were added to both exclude non-relevant regions and prioritise the inclusion of non-English sources.

Through several such rounds of iteration, each search string was refined to be more appropriate; once a subjective level of quality had been reached, the string was then translated into multiple EU languages to ensure broad coverage and comparability across member states (see section 2.3 for more on this).

The search strings were then uploaded to Meltwater and executed across the entire breadth of data that the platform has access to between the dates of 1 January to 31 December, 2024.

Against each of the searches, the platform aggregated and analysed content from social media (Twitter/X, Facebook, Instagram, TikTok), blogs, online forums, and digital news sources. Only publicly available content was included. Filters were applied to exclude promotional material, spam, and duplicate posts. Where possible, posts were geotagged and categorised by country, allowing for regional analysis.

Given the breadth of sources, and the volume of content indexed daily, a comprehensive search covering one year across the EU region would likely involve processing between 10 to 50 terabytes of data. This includes metadata (timestamps, geolocation, engagement metrics), multimedia content analysis (images, videos, audio transcripts), and sentiment and entity analysis layers.

In total, 22 search strings were created: 17 for the social experiment stream key topics.. This included three search strings for five of the six experiment streams, two for one of the experiment streams (the third search for this stream did not complete accurately so was discarded), and five for the priority SSH themes.

A summary of the search strings used for each of the 6 experiment streams is presented in Table 3.1, below.

Table 3.1 How 'hot topics' from the social experiment streams were translated into search terms

Social experiment stream	Sub-categories	Boolean search examples in English language
Clean Energy	***Independence and Climate Anxiety***	("energy independence" OR "off-grid living" OR "home battery systems" OR "energy monitoring apps" OR "DIY solar" OR "self-sufficient energy")
	Scepticism and Misinformation	("carbon footprint of EVs" OR "lithium mining" OR "renewables reliability" OR "wind farm criticism" OR "solar array impact" OR "clean energy conspiracy" OR "Iberian blackout")
Efficient Renovations	***DYI Renovation culture***	("DIY renovation" OR "modular construction" OR "tiny homes" OR "co-housing" OR "rural restoration" OR "solar panels on farmhouses")
	Energy Efficiency	("energy efficiency" OR "retrofitting" OR "insulation upgrades" OR "window replacements" OR "heat pump installation" OR "government subsidies")
	Natural Materials and Health	("natural building materials" OR "hempcrete" OR "clay plaster" OR "recycled wood" OR "lime-based paints" OR "non-toxic insulation" OR "low-VOC finishes")
Circular Economy	***Recycling and Reducing***	("recycling" OR "reuse" OR "second-hand" OR "modular phones" OR "refurbished electronics" OR "battery reuse" OR "e-waste" OR "circular design")
	Upcycling and DIY culture	("upcycling" OR "DIY projects" OR "#CircularLiving" OR "#TrashToTreasure" OR "maker culture" OR "tool libraries" OR "hackathons")
	Why don't we do this more moments	("refill stations" OR "food waste" OR "electronics recycling" OR "circular economy frustration" OR "common sense sustainability" OR "waste reduction ideas")
Sustainable Mobility	***Car Use and Electrification***	("EV charging" OR "car sharing" OR "electric vehicle incentives" OR "combustion engine bans" OR "hybrid vehicles" OR "EV range anxiety" OR "battery swapping" OR "second-life batteries" OR "vehicle-to-grid" OR "smart charging")
	Rail Travel Renaissance	("rail travel" OR "high-speed rail" OR "TGV" OR "Eurostar" OR "Frecciarossa" OR "climate-friendly travel" OR "scenic train routes")
	Urban Mobility	("low-emission zones" OR "car bans" OR "pedestrianisation" OR "cycling infrastructure" OR "cargo bikes" OR "e-bikes" OR "car-free living" OR "superblocks" OR "15-minute cities")
Sustainable Food	***Cost of living and Home Cooking***	("rising food prices" OR "budget meals" OR "bulk buying" OR "meal prepping" OR "home cooking" OR "urban gardening" OR "seasonal produce" OR "farmers markets")
	Farming and Agriculture	("drought" OR "water scarcity" OR "dry farming" OR "crop rotation" OR "regenerative agriculture" OR "no-till farming" OR "EU farming regulations")
	Sustainability and Ethics	("plant-based eating" OR "regenerative agriculture" OR "local food systems" OR "eco labels" OR "carbon-neutral food" OR "ultra-processed foods" OR "fast food chains" OR "food traditions")
Preserving Biodiversity	***Grieving for Nature Loss***	("nature loss" OR "species extinction" OR "threatened species" OR "local species decline" OR "loss of green spaces" OR "urban sprawl" OR "nostalgia for nature")
	Impact on Daily Lives	("pollinators" OR "bees" OR "wild pollinators" OR "birdsong" OR "green spaces" OR "mental well-being" OR "wildlife tourism" OR "ecosystem services")
	Waste and Pollution	("plastic pollution" OR "fly-tipping" OR "illegal dumping" OR "air pollution" OR "corporate pollution" OR "sewage dumping" OR "industrial runoff" OR "habitat degradation" OR "recycling infrastructure")

Regarding the five priority SSH themes (Gender and Diversity; Geographic and Institutional Differences; Governance Agendas; Justice, Vulnerability and Inequality; Societal Challenges), below is an example of a single search string, reproduced in its entirety, that was used to generate the data analytics for the "T5.1 Justice, vulnerabilities and inequalities" theme.

continent:6255148 AND ("Green Deal" AND ("procedural justice" OR "fair process" OR "inclusive policy" OR "tick box participation" OR "meaningful engagement" OR "community involvement" OR "grassroots participation" OR "marginalised communities" OR "vulnerable groups" OR "policy design" OR "decision-making" OR "funding fairness" OR "equitable funding" OR "small-scale organisations" OR "community organisations" OR "long-term engagement" OR "social capital" OR "cultural capital" OR "co-production" OR "inclusive innovation" OR "best practices" OR "case studies" OR "knowledge sharing" OR "toolkits" OR "stories of change" OR "community building" OR "group formation" OR "local norms" OR "barriers to participation" OR "exclusion" OR "access to decision-making" OR "regulatory barriers" OR "funding barriers")) OR ("Zeleni plan" AND ("proceduralna pravda" OR "pošten postupak" OR "inkluzivna politika" OR "formalno sudjelovanje" OR "značajno sudjelovanje" OR "uključenost zajednice" OR "lokalno sudjelovanje" OR "marginalizirane zajednice" OR "ranjive skupine" OR "dizajn politike" OR "donositelji odluka" OR "pravedno financiranje" OR "jednako financiranje" OR "male organizacije" OR "organizacije zajednice" OR "dugoročno uključivanje" OR "socijalni kapital" OR "kulturni kapital" OR "sudjelovanje u sukreiranju" OR "inkluzivna inovacija" OR "najbolje prakse" OR "studije slučaja" OR "razmjena znanja" OR "priručnici" OR "priče o promjeni" OR "izgradnja zajednice" OR "formiranje grupa" OR "lokalne norme" OR "barijere sudjelovanju" OR "isključenost" OR "pristup odlučivanju" OR "regulatorne prepreke" OR "financijske prepreke")) OR ("Zelená dohoda" AND ("procedurální spravedlnost" OR "spravedlivý proces" OR "inkluzivní politika" OR "formální účast" OR "smysluplné zapojení" OR "zapojení komunity" OR "místní účast" OR "marginalizované komunity" OR "zranitelné skupiny" OR "návrh politiky" OR "rozhodování" OR "spravedlivé financování" OR "rovné financování" OR "malé organizace" OR "komunitní organizace" OR "dlouhodobé zapojení" OR "sociální kapitál" OR "kulturní kapitál" OR "spoluvytváření" OR "inkluzivní inovace" OR "osvědčené postupy" OR "případové studie" OR "sdílení znalostí" OR "nástroje" OR "příběhy změny" OR "budování komunity" OR "tvorba skupin" OR "místní normy" OR "bariéry účasti" OR "vyloučení" OR "přístup k rozhodování" OR "regulační bariéry" OR "finanční bariéry")) OR ("Roheline kokkulepe" AND ("protseduuriline õiglus" OR "õiglane protsess" OR "kaasav poliitika" OR "formaalne osalus" OR "sisukas kaasamine" OR "kogukonna kaasamine" OR "kohalik osalus" OR "marginaliseeritud kogukonnad" OR "haavatavad rühmad" OR "poliitika kujundamine" OR "otsuste tegemine" OR "õiglane rahastamine" OR "võrdne rahastamine" OR "väikesed organisatsioonid" OR "kogukonna organisatsioonid" OR "pikaajaline kaasamine" OR "sotsiaalne kapital" OR "kultuuriline kapital" OR "kaasloome" OR "kaasav innovatsioon" OR "parimad praktikad" OR "juhtumiuuringud" OR "teadmiste jagamine" OR "tööriistakomplektid" OR "muutuse lood" OR "kogukonna ehitamine" OR "grupi moodustamine" OR "kohalikud normid" OR "osalemistõkked" OR "väljaarvamine" OR "juurdepääs otsustele" OR "regulatiivsed tõkked" OR "rahastamistõkked")) OR ("Vihreä sopimus" AND ("menettelyllinen oikeudenmukaisuus" OR "oikeudenmukainen prosessi" OR "osallistava politiikka" OR "muodollinen osallistuminen" OR "merkityksellinen osallistuminen" OR "yhteisön osallistuminen" OR "paikallinen osallistuminen" OR "marginalisoidut yhteisöt" OR "haavoittuvat ryhmät" OR "politiikan suunnittelu" OR "päätöksenteko" OR "oikeudenmukainen rahoitus" OR "tasapuolinen rahoitus" OR "pienet organisaatiot" OR "yhteisöorganisaatiot" OR "pitkäaikainen osallistuminen" OR "sosiaalinen pääoma" OR "kulttuurinen pääoma" OR "yhteiskehittäminen" OR "osallistava innovaatio" OR "parhaat käytännöt" OR "tapaustutkimukset" OR "tiedon jakaminen" OR "työkalupakit" OR "muutostarinoita" OR "yhteisön rakentaminen" OR "ryhmän muodostaminen" OR "paikalliset normit" OR "osallistumisen esteet" OR "poissulkeminen" OR "pääsy päätöksentekoon" OR "sääntelyesteet" OR "rahoitusesteet")) OR ("Pacte vert" AND ("justice procédurale" OR "processus équitable" OR "politique inclusive" OR "participation formelle" OR "engagement significatif" OR "implication communautaire" OR "participation locale" OR "communautés marginalisées" OR "groupes vulnérables" OR "conception des politiques" OR "prise de décision" OR "financement équitable" OR "financement égal" OR "petites organisations" OR "organisations communautaires" OR "engagement à long terme" OR "capital social" OR "capital culturel" OR "co-création" OR "innovation inclusive" OR "meilleures pratiques" OR "études de cas" OR "partage des connaissances" OR "boîtes à outils" OR "histoires de changement" OR "construction communautaire" OR "formation de groupes" OR "normes locales" OR "obstacles à la participation" OR "exclusion" OR "accès à la décision" OR "barrières réglementaires" OR "barrières de financement")) OR ("Grüner Deal" AND ("Verfahrensgerechtigkeit" OR "faires Verfahren" OR "inklusive Politik" OR "formelle Teilnahme" OR "bedeutungsvolle Beteiligung" OR "Gemeinschaftsbeteiligung" OR "lokale Teilnahme" OR "marginalisierte Gemeinschaften" OR "verletzliche Gruppen" OR "Politikgestaltung" OR "Entscheidungsfindung" OR "gerechte Finanzierung" OR "gleichberechtigte Finanzierung" OR "kleine Organisationen" OR "Gemeinschaftsorganisationen" OR "langfristiges Engagement" OR "soziales Kapital" OR "kulturelles Kapital" OR "Ko-Kreation" OR "inklusive Innovation" OR "Best Practices" OR "Fallstudien" OR "Wissensaustausch" OR "Werkzeugkästen" OR "Veränderungsgeschichten" OR "Gemeinschaftsaufbau" OR "Gruppenbildung" OR "lokale Normen" OR "Teilnahmebarrieren" OR "Ausschluss" OR "Zugang zu Entscheidungen" OR "regulatorische Barrieren" OR "Finanzierungsbarrieren")) OR ("Zaļais kurss" AND ("procedurālā taisnīgums" OR "taisnīgs process" OR "iekļaujoša politika" OR "formāla līdzdalība" OR "jēgpilna iesaiste" OR "kopienas iesaiste" OR "vietējā līdzdalība" OR "marginalizētas kopienas" OR "neaizsargātas grupas" OR "politikas izstrāde" OR "lēmumu pieņemšana" OR "taisnīga finansēšana" OR "vienlīdzīga finansēšana" OR "mazas organizācijas" OR "kopienas organizācijas" OR "ilgtermiņa iesaiste" OR "sociālais kapitāls" OR "kultūras kapitāls" OR "koprade" OR "iekļaujoša inovācija" OR "labākā prakse" OR "gadījumu izpēte" OR "zināšanu apmaiņa" OR "rīku komplekti" OR "pārmaiņu stāsti" OR "kopienas veidošana" OR "grupu veidošana" OR "vietējās normas" OR "līdzdalības šķēršļi" OR "izslēgšana" OR "pieeja lēmumu pieņemšanai" OR "regulatīvie šķēršļi" OR "finansēšanas šķēršļi")) OR ("Pactul verde" AND ("justiție procedurală" OR "proces echitabil" OR "politică incluzivă" OR "participare formală" OR "implicare semnificativă" OR "implicarea comunității" OR "participare locală" OR "comunități marginalizate" OR "grupuri vulnerabile" OR "proiectarea politicilor" OR "luarea deciziilor" OR "finanțare echitabilă" OR "finanțare egală" OR "organizații mici" OR "organizații comunitare" OR "angajament pe termen lung" OR "capital social" OR "capital cultural" OR "co-creare" OR "inovație incluzivă" OR "cele mai bune practici" OR "studii de caz" OR "schimb de cunoștințe" OR "seturi de instrumente" OR "povești de schimbare" OR "construirea comunității" OR "formarea grupurilor" OR "norme locale" OR "bariere de participare" OR "excludere" OR "acces la decizie" OR "bariere de reglementare" OR "bariere de finanțare")) OR ("Pacto Verde" AND ("justicia procedimental" OR "proceso justo" OR "política inclusiva" OR "participación formal" OR "participación significativa" OR "implicación comunitaria" OR "participación local" OR "comunidades marginadas" OR "grupos vulnerables" OR "diseño de políticas" OR "toma de decisiones" OR "financiación justa" OR "financiación equitativa" OR "pequeñas organizaciones" OR "organizaciones comunitarias" OR "compromiso a largo plazo" OR "capital social" OR "capital cultural" OR "co-creación" OR "innovación inclusiva" OR "mejores prácticas" OR "estudios de caso" OR "intercambio de conocimientos" OR "herramientas" OR "historias de cambio" OR "construcción comunitaria" OR "formación de grupos" OR "normas locales" OR "barreras a la participación" OR "exclusión" OR "acceso a la toma de decisiones" OR "barreras regulatorias" OR "barreras de financiación"))

3.2. Results harvesting

Once the keyword search design and iteration process was complete, it was time to move to data collection.

Each of the 22 search strings outlined above returned a vast amount of data, far more than could ever be reviewed by a human. For example, the 'Justice, Vulnerabilities and Inequalities' search string detailed above returned over 209 million total results, each of which includes meta-data, regional location tags, gender metrics, sentiment indicators, multimedia links etc.

As it is not possible to economically and efficiently download and store such a vast trove of raw data, a sample for each search was archived, comprising of more than 20,000 randomly selected results from within the results corpus of each search string, categorised and sortable across 43 different metrics including date, time, author nationality, author gender, reach, impressions, associated hashtags and hyperlinks, hit phrases and sentences, estimated views, social echo, and so on.

3.3. Data analysis: initial approaches

Once the data collection phase was completed, it was time for the analysis phase. The Meltwater platform produced automated analytics data structured around several key dimensions:

- **Sentiment Analysis**: Meltwater's NLP tools were used to classify posts according to emotional tone, helping to assess whether governance-related content was received positively, negatively, or neutrally.
- **Social Echo**: The platform tracked how often content was shared, liked, or commented on, providing insight into which topics gained traction and viral visibility.
- **Keyword and Entity Clustering**: AI-driven clustering identified dominant themes, recurring phrases, and named entities (e.g. institutions, locations, public figures), revealing how governance issues were framed and contextualised.
- **Geographic Distribution**: Mentions were mapped across EU member states to identify regional hotspots of engagement and thematic variation.

The analytical outputs generated by the Meltwater platform were reviewed, sifted and compiled to create a starting point for further analysis undertaken by SHARED GREEN DEAL researchers.

Drawing upon Meltwater's analytical outputs to guide the analysis, key themes within the online discourse were identified by engaging with the different online posts/outputs that made up the social listening data. Every online post/output within the data had a 'hit sentence' which was the sentence that included one of the search terms and meant that this post/output was included within the social listening data. Keywords and phrases identified by Meltwater were searched by the researcher analysts within these 'hit sentences' to obtain a richer understanding of the narrative and context in which these phrases were being discussed. Google Translate was used to translate the data that was in a language not understood by the researchers. By going beyond the keywords and engaging with the context surrounding the social listening data, it enabled the SHARED GREEN DEAL researchers to identify key themes and topics within the online discourse on Green Deal related topics and cross-cutting themes. Direct quotes from these online posts/outputs act as evidence to support the themes identified.

Whilst the key themes and topics identified through this analysis are not aimed at being a statistically representative depiction of European discourse and sentiment towards the SHARED GREEN DEAL project topics, they do provide a snapshot of the issues, language, framing, and controversies associated with the SHARED GREEN DEAL project topics and the EU Green Deal more broadly.

4. Changes in design and scope of social Listening results

This section explains the need to adjust the design and scope of the social listening's expected results and analysis in response to unanticipated methodological difficulties. Although the final approach differed from the original plan, these challenges were addressed through a series of internal consortium meetings, during which solutions were identified to help refine the process and ensure the task's objectives were achieved. It further outlines how these changes emerged and the reasons behind them. Despite the methodological changes outlined below, these observations can serve as useful guidance for future research teams working with Meltwater and other social listening research tools.

The initial expectation was that we would be able to translate each recommendation from the SHARED GREEN DEAL experiments directly into Boolean search operators that could be read by Meltwater, and be presented with data, analytics, demographic info and so on, which would give us insights into how those recommendations were being talked about online, and by who. As it turned out, this was not possible, despite several attempts made by the team to overcome difficulties in collecting valid and useful data aligned with task's objectives.

For example, the very first recommendation of the D4.1 Biodiversity stream is as follows:

> **Leverage the Study Circle approach to enhance adults' biodiversity knowledge and awareness.** *The concept of biodiversity is not always easy to grasp. Non-formal community learning can help deep-dive into the importance of biodiversity in everyday life and the cruciality of thriving ecosystems for prosperous communities. Its interactive and participatory structure fosters an open, discussion-oriented environment. Members exchange experiences and perspectives, deepening their understanding of complex ecological relationships and the necessity for sustainable action. Above all, local actors (e.g. farmers, foresters, Birdlife NGO and other experts) should be involved so that practical knowledge can be incorporated into these projects. Through the exchange with experts from the field, a deeper understanding can be developed.*

Translated into Boolean, this looks something like the following:

> ("biodiversity" OR "ecosystems" OR "ecological relationships") AND ("community learning" OR "non-formal education" OR "participatory learning" OR "discussion-oriented") AND ("sustainability" OR "sustainable action" OR "thriving communities") AND ("local actors" OR "farmers" OR "foresters" OR "Birdlife NGO" OR "environmental experts" OR "field experts") AND ("practical knowledge" OR "experiential learning" OR "knowledge exchange")

What very quickly became apparent, however, was that the above Boolean search string (and other examples taken from the other streams) returned results from Meltwater gave a very low level of positive results – simply put, the terms of the recommendation were not being used directly online and thus did not generate many (or sometimes any) results. Secondly, amongst the meagre results we did get, the false positives were very high – hits that contained some of the terminology but which had little or nothing to do with the actual topics under discussion.

Attempts were made to translate the academic terminology that the recommendations were phrased in into language that non-specialists might use in online spaces – i.e. turning "*interactive*

and participatory structure for fostering an open, discussion-oriented environment" into "*informal chat*", or "*the cruciality of thriving ecosystems for prosperous communities*" into "*healthy nature is good for healthy people.*"

However, when the jargon was stripped out of the recommendations, what did remain was somewhat generalist in approach. As an example, the recommendation quote above could be translated into everyday speech as follows:

> "*Informal chats about nature are a great way to highlight the importance of healthy environments. People should be brought together with local farmers, foresters, and other environmental experts so they can share their knowledge.*"

The problem with phrasing the recommendation in this way is that it was found to also generate millions of unrelated, irrelevant results, resulting in low-quality data.

After several months of attempting different approaches and re-working the search operators to attempt to get better quality results, a workshop of SHARED GREEN DEAL partners at the May 2025 consortium meeting in Brussels resulted in several insights that allowed us to reconfigure the task in line with the capabilities of what the Meltwater research tool was actually able to offer.

Instead of trying to get qualitative data on how target user groups were thinking and feeling about the specific governance recommendations of SHARED GREEN DEAL, we re-focused the searches towards generating insights into the timbre and tenor of online conversations surrounding the general topic areas within which those policy recommendations sat. This would still be able to generate "*insights into the scale, generalisability and international comparability of our findings*", by developing a more detailed and accurate picture of the information environment in which such policy ideas would have to sink or swim. These adaptations also show the importance of methodological flexibility, demonstrating that meaningful insights can still be generated by adapting research strategies to better align with the realities of available data.

5. References

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