Towards a Reinvigorated Global Media Strategy in Support of Sustainability

Based on analysis of the EUMEPLAT project and Science-Policy-Society Preparatory Workshops for COP29

Thomas
Andersson, IKED,
Malmö,
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EUMEPLAT
European Media Platforms: assessing positive and negative externalities for European culture

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1. Introduction

The global science community, notably manifested by the widely publicized IPCC reports, has become increasingly vocal in calling attention to a worsening crisis emanating from combined unsustainable human resource use. Meanwhile, the consequences of disruptions to nature's ecosystems, the world's water cycles, more unstable weather conditions, etc., are becoming apparent for anyone to see (Stern, 2008). Following decades of controversy, where various business interests, academics and other thought leaders trivialised the threats of unheralded markets and economic growth to the global environment, the overwhelming majority of the world's policy makers have by now agreed to need of pursuing sharp countermeasures, e.g., to combat climate change, halt biodiversity loss, cut down on pollution, and so forth.

Despite the apparent seriousness of the situation at hand, and the pledges and promises of decision makers to address the issue, the remedial measures taken thus far are far from adequate. Compared to the promises made, only a limited amounts of resources are actually disbursed as a consequence, and much less compared to the amounts that continue to subsidise unsustainable practices[2]. Much of the business sector, subjected to requirements of extensive reporting on carbon footprints along with other impetus on the environment, as well as to present plans how to rectify the damage, similarly demonstrates meagre progress when it comes to actual impacts (Adolfsen et al., 2024; Butler, 2024).

These conditions demonstrate that neither governments nor markets stay clear of continued massive failure in responding to the sustainability issues at hand (Andersson, 1991; Bowen and Steren, 2010; Hepburn, 2010). Against this backdrop, various observers have pointed to massive engagement by the public as the only viable force capable of bringing about required systemic, transformational change (Hess,2018; Milkoreit et al., 2018; Otto et al., 2020; Winkelmann et al., 2022). Significant responses on the part of the public have indeed occurred on multiple occasions and has clearly induced substantive reforms as well as many other remedial actions (Buzogány and Scherhaufer, 2022). On the other hand, what actions are pursued by the general public is far from conclusive. While most mainstream policymakers and institutions have come to agree that the sustainability crisis needs to be acted on, opposing voices have gained

[1] The present paper draws and expands on the analysis of media systems pursued by the EU-funded EUMEPLAT project, and also on the outcomes of a workshop hosted by the ADA Academy, Baku, Azerbaijan, on June 5, 2024. The ADA Academy is the official academic partner of COP29, scheduled for November 11-24, 2024.

[2] In an updated assessment of fossil fuel subsidies ranging from national to global level, Black et al. (2023) estimate the total at $7 trillion, or 7.1 % of GDP in 2022. Explicit subsidies, undercharging supply, amount to 18% of the total, an amount twice as high as in 2020. Undercharging for global warming and local air pollution accounts for the lion share, though, about 60 % of the total.

momentum too, some at grassroots` level, others in business, political opposition, or in the shape of influencers and media profiles.

Indications suggest that broad segments of society are becoming deeply sceptical about the call for action on sustainability. In Europe, regulations and taxes enacted to limit carbon emissions or induce more sustainable production and consumption patterns, have been met with mass-demonstrations and also political backlash. In the United States, politicians have become deeply divided on the issue. Similar tensions are seething around much of the world.

Legitimate differences in the opinion on the relative merits of various strategies and tools to tackle sustainability agenda are undeniable. Challenges to candid assessment and communication arose from early on, however. Realising the damage caused by their operations, some of the most pollutive and destructive industries initiated a systematic lobbying effort to hide, tone done, or in other ways confuse the public for the purpose of delaying counteraction (McKie, 2019; Lamb et al., 2020). Some academics and thought leaders were funded, or in other ways, pulled in to grow an impenetrable web of distractions, marked by an intensive search for the most effective ways to downplay or discount the need for action. The arguments pursued have spanned denial of human causation (Farrell *et al.*, 2019), climate-impact scepticism (Harvey *et al.*, 2018), reference to the supremacy of market mechanisms and technical progress (Ekberg and Pressfeldt, 2022), to more subtle questioning what action should be taken, by whom, and at what speed (Bohr, 2016; Michaels, 2020). Lamb (2020) refer to the latter as discourses of "climate delay", aimed to set up obstacles and cause deadlock to action.

Ahead of the Climate negotiations at COP29 to take place in Baku, Azerbaijan, on June 5, 2024, a preparatory workshop was arranged taking aim at the combined issues of insufficient funding and support for sustainability efforts on the ground, along with the challenges of achieving widespread benefits from green growth, in terms of jobs, rural development, and so forth. The Workshop featured participation by the COP29 organising secretariat, ministries, multilateral organisations including UN Habitat and UNESCO, specially invited international experts, and representatives of the hosting ADA Academy.

As preparations for the workshop, dialogue with representatives of the Presidency of COP29 had set out ambitions to work out new vehicles for achieving inclusion, trust, and buy-in by the public in policy action to tackle sustainability issues. Meanwhile, an extensive mapping and analysis of ongoing far-reaching changes to the media landscape has been undertaken over the past years by EUMEPLAT, an EU-funded Horizon project exploring the consequences of media platformisation, including an in-depth examination of social media trends and patterns notably across the EU.

Drawing on the outcomes of EUMEPLAT, as well as of the Baku Workshop, the present note initially takes stock of some of the main developments and challenges that characterise today's media landscape. It further takes account of the trend towards diminished trust placed by the public not just in governments but also other authorities of relevance for public communication on climate change specifically. Important considerations in this context concern the widespread use of so-called "greenwashing" by the private sector, as well as lack of adequate initiative by financial intermediaries to play their part in investment and channelling resources to "green" projects.

On this basis, the paper points to outstanding significant challenges that need to be overcome in order to lay the basis for better informed and more constructive science-policy-society interfaces and responses to the global sustainability crisis. It further presents conclusions and recommendation calling for novel initiatives to combine more effective channelling of financial resources in support of sustainability with revamped communication & media tools. Devised and powered with AI-support, such vehicles carry the potential to realise enhanced constructive engagement by the public, leading away from a defensive stance – being part of the problem – towards the public gaining not just awareness but also being awarded with a true sense of ownership and empowerment to contribute to real solutions.

2. A Transforming Media Landscape and Climate Change

Underpinned by intertwined technological, economic, and political driving forces, the media landscape is staged in an ongoing transformative change process (Kamarck and Gabriele, 2015; Siles and Boczkowski, 2012)[3]. The traditional dominance of printed newspapers and public broadcasting has given way to a diverse arena where multiple media channels compete for attention among diverse audiences. For content creation as well as dissemination, professional journalists blend with diverse other voices, including peoples' journalism. The media industry is subjected to continuous rationalisation, applying to printed press as well as broadcasting. Skills requirements and jobs are being transformed, and salaries are subjected to downward pressure for many (Fenwick and Edwards, 2016; Williams, 2017).

With digitalisation, commercialisation including advertising has evolved and become more differentiated while also targeted. The rise of social media initially brought piecemeal change, including through incremental innovation in established media, rather than major renewal (Weber, 2019). Gradually, however, more multifaceted development paths were embarked upon, applying to funding, investment, organisation, distribution, culture, and content. With its reach accelerating, over the past decade social media attained a remarkable global penetration, connecting more than half the world's population by 2020.[4] This progress draws on the decisive advantage of its means to reach virtually unlimited audiences with means for engaging in interactive, two-way communication. It has opened for new models of journalism, based on less formality, fluidity, and unconventional collaboration (Perreault and Ferrucci, 2020).

Social media has similarly spurred more diverse, non-conventional channels for the creation, diffusion, and exchange of information (Weibull and Wadbring, 2014). Platformisation draws on network externalities, reducing variable costs of media production and consumption to virtually zero. Adding another recipient, viewer or sender to the network in effect becomes "zero" once a sufficiently scaled operation is in place.

Economies of scale along with the rise of special interests have gained ground in diffusing selected information, tailored to specific recipients serviced through an evolving portfolio of media channels. The consequences for content development and

[3] The influence of platformisation and network externalities on the European media landscape has been mapped and analysed by EUMPELAT, an EU Horizon research and innovation project, see further www.eumeplat.eu

[4] https://www.statista.com/markets/424/topic/540/social-media-user-generated-content/#overview

competition for user attention have been far-reaching. In the process, user behaviours' have been subjected to remarkable change. A subtle but pervasive element centres on a declining attention span of media customers/citizens, coming down from some 20 seconds on average a few decades ago to only 8 - famously less than that of a goldfish (9 seconds).[5]

Political news, still strongly present across all major media channels, has altered character, generally becoming less substantive and instead more personal and emotional (Allern and Pollack, 2012). This applies particular in rural areas, and distant regions, remotely located relative to capitals.

Media coverage of incidents with short time span such as accidents, abrupt conflicts have a given place in tabloid press but less so in daily newspaper and public broadcasting. Attention to crime represents a niche role, with a function devised to draw attention. Compared to the past, its role appears diminished in mainstream media channels. Crime and violence attain higher attention in social media, however, where it may help catching attention and provoke strong feelings, including to sow hate and conflict though. Radio has lost much ground since its early days as a major source of news. Its typically retains a significant role in channelling sports news and is mostly referred to as the media channel that is the most trusted.

As a particular element, applying to media channels throughout, weather reporting has come to attain more space and also more in-depth analysis and links to politics, reflecting growing attention to climate change. Coverage of sports has gained in prominence, including on commercial channels.

Across much of this space, quality control has dissipated. Fake news and manipulation, fuelled by troll factories and bots serving hidden political or commercial interests, have become a profound element of the media landscape. The EUMEPLAT project, for instance, has documented extensive social media activity on socially divisive issues, such as immigration, gender, and the environment. Empowered by big data, advanced computing, and AI, every element of communication, video, audio, and images, can be taken advantage of for plagiarism, misinformation, and manipulation. Low-grade content can diffuse via websites and networks reached by little or no human oversight.

In recent years, climate change has been subjected to extensive coverage in legacy media (Nacu-Schmidt et al., 2020). This applies across most of the world. The bulk of content displays similarities, with major political, natural, or social developments and events capturing attention. Having said that, the frequency of coverage is typically higher in western mainstream media, compared with other regions, including emerging and developing countries. The former moreover have been found to place greater emphasis on climate science, while journalists in other parts of the world devote more attention to implications for society, including vulnerable groups (Hase et al., 2021). Across the board though, legacy media radiate a sense of global "climate crisis".

Public awareness of sustainability issues received an initial spurt from the wake-up call of Rachel Carson (1962), who conveyed a particular issue – the devasting impact of pesticides on human health – on terms that made it accessible and understandable to the public, including women and families. By contrast, engaging in transformational

[5] https://time.com/3858309/attention-spans-goldfish/

change to address climate change, biodiversity loss, etc., is proving harder to mobilise unequivocal public support for (Moisander, 2007; Autio et al., 2009; Young, 2010). While most people initially have been exposed to these issues via mainstream news (Newman et al., 2020), they are commonly referred to as constituting a complex, 'unobtrusive' topic (Moser, 2010). Failure to ferment broad-based buy-in by the public is widely viewed as closely associated with limited influence of sustainability concerns on consumption behaviours, as well as fledging public support for policies mitigating climate change impacts (Nisbet, 2010; Millner and Ollivier, 2016; Whitmarch and Capstick, 2018).

In social media, climate change has been covered in other ways. At the start, some channels focused on more extensive and engaging coverage, as a way of distinguishing from mainstream media, and to popularise the subject. This approach soon served to feed information to those specially interested, or identified relevant interest groups (Painter et al., 2018). In parallel, media exposure to extreme weather events was found to be linked to pro-environmental attitudes (Akerlof et al., 2013; Lacroix et al., 2020).

Gradually, however, a range of studies have demonstrated how climate change has become embraced from another angle, namely as one of the most divisive factors in social media communication, alongside migration and gender issues (Jylhä and Hellmer, 2020). Reviewing content across major social media channels in EU countries, comparative analysis pursued by EUMEPLAT found messaging about climate change on social media to be disproportionately prevalent on channels marked by little substantive scrutiny, and disproportionately to be of a sceptical, negative nature. Several recent studies have shown the timing of such messaging to match politically delicate events, or the occurrence of public manifestations or campaigns related to natural man-made disasters or calls for action in support of sustainability (Vowles, and Hultman, 2021).

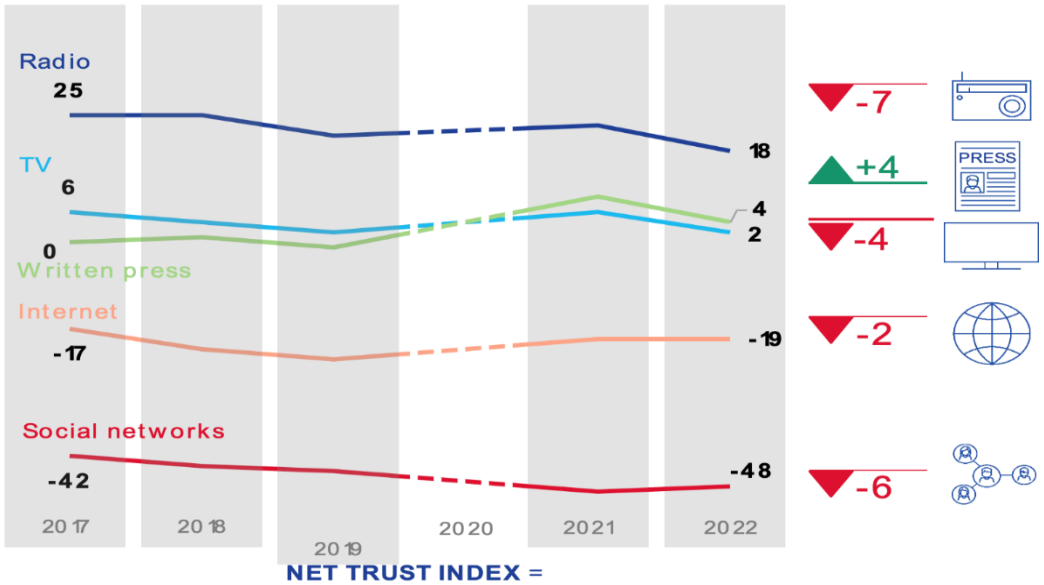
3. Trust Issues and Climate Scepticism

The communication issues at stake form part of a wider troubling landscape marked by a deepening lack of trust by the public. As can be seen by Figure 1, trust levels across the EU are the lowest in social media, followed by the Internet more broadly. Television and printed newspapers are equally subject to markedly low trust levels. Radio is the communication channels that people in general trust the most across Europe. Various observers have pointed to the degrading influence on public trust caused by the Covid crisis. As seen to the right in the period, written press was the only media channel that recorded an uptick in public trust during the past 5 years.

Available data indicate a long-term trend towards declining levels of trust in government, although with some ups and downs and variation between regions. Trust in the national government declined markedly in the US from 73 % around 1960s to 24 in 2021. The EU experienced a similar decline since the 1970s, although trust in government has fallen less drastically in this case. Interestingly, trust levels appear not to deviate markedly between generations.

Since 2000, trust has fallen in public bodies more generally across most countries, and with a similar pattern for financials and many other types of institutions (United Nations, 2024). In the case of media, stark differences appear between different channels. Figure 2 illustrates the presence of growing gap, from an average 29 % in 2017 to 42 % in 2022,

Figure 1: CHANGE IN EU NET TRUST INDEX (2017-2022)



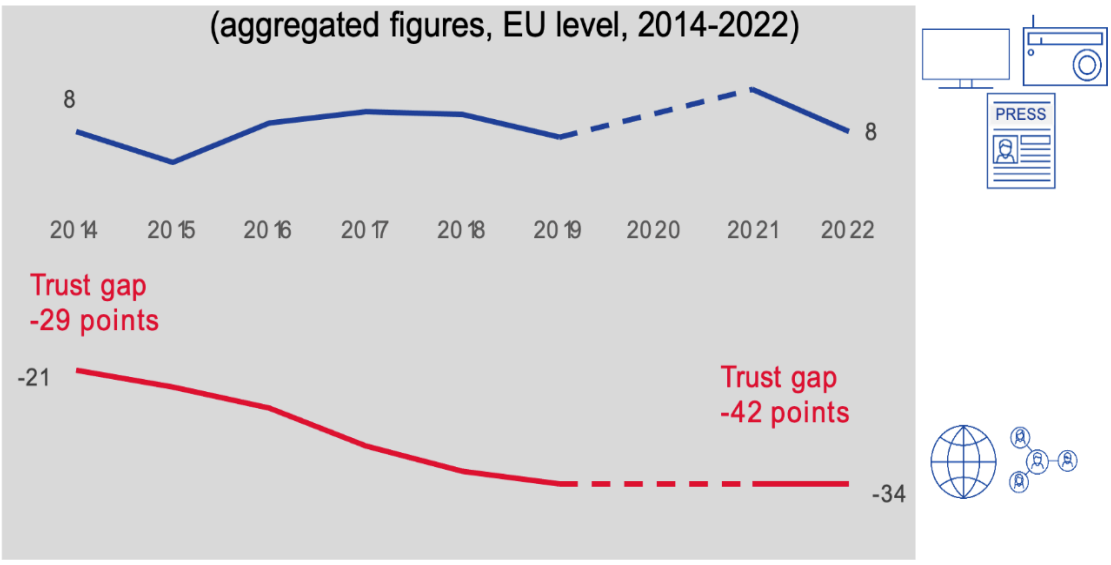
Note: Survey results at EU level represent a weighted average across EU Member States, applying official population figures provided by EUROSTAT. Until 2019: Data includes UK (EU28); from 2021: EU 27 only. Comparisons should be drawn carefully due to this and changes of methodology in a range of countries because of the COVID -19 pandemic for the surveys in 2021 and 2022. No survey data in 2020.

Source: EBU (2022)

when it comes to the share of EU citizens that express trust in legacy media compared to media on-line. Comparing trust in other mainstream institutions, Figure 3 shows political parties to appear at the bottom with the lowest level of public trust of all categories, at a 54 % gap between those that trust and those that do not. This is followed by social media, at 48 %. National government and parliament appear slightly more trusted, yet both with such a trust gap of more than 20%. Television displays a neutral position, with as many reporting trust as those who do not trust. Legal systems, policy and – at the top – health and medical staff, display the highest trust levels.

Trust levels display noteworthy geographical variation, however. Asian countries mostly display more favourable ratings and also increased public trust over time, applying both to government and to the media. Exploring government - media relations, Hanitzsch et al. (2019) found evidence for a significant co-correlation, in that trust in media and in government go together at country level. Different "media systems" have been found to behave differently as well. According to Hallin and Mancini (2004 and 2017), the so-called Nordic corporatist model features a relatively strong standing for public service media, coupled with high status for journalistic professionalism and independence from the state. Earlier predictions that the Nordic model would gravitate towards the Anglo-Saxon have not materialised (Sapiezynska, 2018) but the impact of commercialisation and digitalisation has played out in specific ways (Andersson, 2023). In the Nordic countries, while all along technologically advanced and ahead of the curve in Internet penetration and social media, legacy media retain relatively high public trust, while social media and the Internet are trusted the least. Southern Europe are at the other extreme, having digitalised later but presently with the highest buy-in by the public in on-line content, while trust in government institutions and legacy media is the lowest (EBU, 2023; Papathanassopoulos and Miconi, 2023).

Figure 2: Change in Average Net Trust, 2017-2022

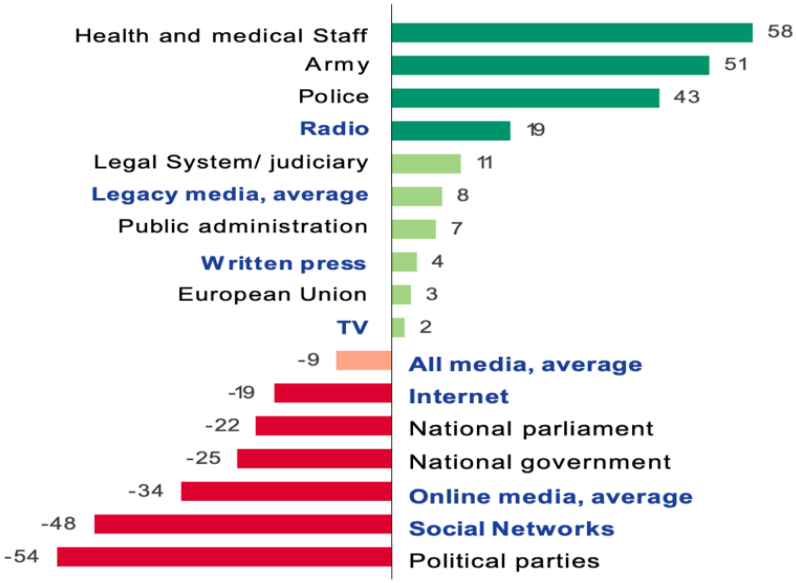


NET TRUST INDEX =
'% of people who tend to trust' – '% of people who tend not to trust'

Note: Survey results at EU level represent a w eighted average across EU Member States, applying official population figures provided by EUROSTA T. Until 20 19: Data includes UK (EU28) ; from 20 21: EU 27 only. Comparisons should be draw n carefully due to this and changes of methodology in a range of countries because of the COVID -19 sanitary pandemic for the surveys in 20 21and 20 22. No survey data in 20 20.

Source: EU Net Trust Index (2022)

Figure 3: Trust in Media vs- Trust in other institutions



Note: Survey results at EU level represent a weighted average across the 27 EU Member States, applying official population figures provided by EUROSTAT.

NET TRUST INDEX =
'% of people who tend to trust' – '% of people who tend not to trust'
AVERAGE NET TRUST ACROSS THESE INSTITUTIONS = 0

Source: EU Net Trust Index (2022)

In much of the world, a trend has further been documented towards increasing scepticism in regard to multilateral frameworks and the efforts or international policy coordination to come up with adequate responses to climate change along with the broader challenges of sustainability (Tollefson, 2021).

While the overall trend towards diminishing trust precedes the rise of social media, a number of studies have identified significant destabilising impetus exerted by social media content and communication on public sentiments. Compared to traditional media, social media has opened up much more potent channels for purposefully diffused and targeted misinformation. Deepening social conflict, thwarted democratic processes and derailment of public policies are among the many consequences that have been demonstrated (Alcott and Gentzkow, 2017; Kumar and Shah, 2018; Ginsburgh, 2020; Quiring, 2021). Negative spillover-effects of deepened mistrust in social media moreover undercut trust in legacy media (Štětka, and Mihelj, 2024).[6]

Characterizing false information[7], a common separation is that opinion-based (e.g., fake reviews), and fact-based (e.g., false news and hoaxes). The former aims to influence the opinion of the target while the latter aims to prevent the same from distinguishing between true and false information – both ultimate aims to cause confusion and influence behaviours one way or the other. Depending on what is most effective in each case, massive smart campaigning via social media is widely perceived as a major breeding ground for scepticism against environmentally motivated policy measures. Consequently, several European countries adopting policy measures in support of sustainability have run into vehement protests. Recent examples include the systematic resistance against levies on fossil fuel by the so-called "yellow vests" in France, or the strikes and barricades raised in and around Brussels as well as in Dutch and other major European cities, notably by farmers attempting to fend off adjusted land use practices introduced for purposes of combating climate change. In parallel, so-called climate-denial parties have made headway across many European countries, and also in the European Parliament where their presence attained a previously unprecedented level in 2024.

A deepening lack of trust by the public in media as well as in government, intensified campaigning on-line against climate change and climate policy, and lingering manifestations of resistance to environmental and sustainability policies, form a stark combination. Further reflection is required what lays behind, as well as what countermeasures are warranted.

4. Public Sentiments, Vested Interests, and Impact Investment

Public attitudes to climate change and the degree of support for countermeasures are influenced by various factors. These include the level of income and education of

[6] A society's vulnerability to disinformation, meanwhile, is typically associated with social polarisation, populist politicians, low trust, weak public service media and media regulation, a large advertisement market, and high social media use (Humprecht et al., 2020).

[7] False information has been defined as misinformation coupled with the intent to cause harm by purposefully deceiving others (van der Linden, 2017).

individuals, as well as gender, age, culture, etc. Systematic impetus has been demonstrated moreover by the state of the economy. Under conditions of a downturn, voters prioritise material and short-term payoffs such as unemployment benefits and tax relief while paying less attention to long-term, softer benefits such as medical research or environmental protection (Meyer, 2021; Abou-Chadi, 2022).

It may thus come as no surprise that the outpouring of resistance to policies taxing fossil fuels, affecting land management and agriculture, etc., concerns measures with apparent adverse distribution effects, notably consequences for vulnerable parts of the population. Those affected by other sources of stress and uncertainty are more likely to object to unfairness and demand that rectifying measures should be adopted by others, such as those responsible for causing the problem[8].

Extensive social media messaging aims to engineer a false perception of belonging to a select community that knows the real truth (Albright, 2016; Kumar and Shah, 2018). In this it applies and adapts to individual user attributes, as a basis for delivering what is likely to be most convincing in each case (Jacques and Knox, 2016). Climate changes, for instance, be conveyed as a hoax to some users, an invented idea, e.g., rains and storms and hot weather is nothing new. Another user will meet messaging that recognises climate change as real but not-important/not-negative - in due time there will be an ice-age anyway; warmer weather will be good for the north, other regions will receive more rain, and so forth. A third category will keep hearing that climate change is real and indeed a threat, but the problem has been generated by others – perhaps by the elite, in business or politics, or by other countries. Those who created the problem are the ones obliged to do something about it, which they do not. Instead, claims and blame befall the innocent, ordinary people.

Meanwhile, the presence of information asymmetry, which is striking in the case of environmental impetus, grants the public limited ability to know what damage is inflicted on the environment, or what is actually done about it. Although many companies pursue serious efforts to achieve “green” supply chains and products, others keep presenting authorities as well as citizens with what appears empty advertising. Popularly referred to as “Greenwashing”, such misinformation contributes to erode public trust (Font and McCabe, 2017; Möllers, 2022). Perceptions of government are equally critical though. The bulk of the environmental movement displays a pronounced state of “contestation”, i.e., a conviction the prevailing political and economic system is unfair, undemocratic, and dominated by big money, (Machin,2022).

Reflecting such sentiments, most of the green movement oppose the application of market mechanisms, such as carbon or bio-diversity credits, as means to support sustainability. In practice, the relationship between commercialisation/market solutions and sustainability is far from given. Commercialisation may serve as a gateway to more efficient emission reductions or conservation efforts, improve access to funding, help protect property rights, enhance awareness of environmental benefits, and spur innovation (Igoe and Brockington, 2007; Hejnowicz et al., 2014). Negative consequences appear as well, however. Examples include “green grabbing” by vested interests hurting local communities, increased inequality and adverse outcomes for vulnerable groups,

[8] https://www.economist.com/international/2023/10/11/the-global-backlash-against-climate-policies-has-begun

alienation of people from their resource base, corruption, administrative costs, and lack of sustainability due to external dependency (Mariki, 2016; Büscher and Fletcher, 2020).

In the case of carbon credits specifically, non-government organisations have been extensively engaged in tracking and disclosing malpractice, particularly subjecting forestry and other NbS projects in developing countries, certified in so-called voluntary markets, to negative publicity for failure to achieve net carbon absorption (Kollmuss et al., 2015; West et al., 2023). Others, however, point to a negative bias in this evaluation agenda, and unfair discrediting of local developers in the least developed countries (Mitchard et al., 2024). This has in effect added to the administrative hurdles and fragmentation of carbon markets (Michaelowa et al., 2019), leaving even less returns, and a dearth of investments in NBS, where they are most needed.

In the case of Eco-conservation, the societal value of which is even more difficult to determine, the prospect of biodiversity credits is nevertheless under consideration, including by environmental movements, as part of the effort to work out a way of attracting much needed private investment. Developing viable to means to monetise the environmental benefits will hinge, however, on the ability to determine meaningful eligibility criteria, along with adequate verification and validation practices.

On this basis, a fine line may separate disseminating factual information on hurtful actions and behaviours from loading people with personal responsibility and guilt for problems ultimately caused by others. This boundary line is consciously blurred by derogatory influences for which social media has emerged as a handy tool to cause confusion (Bruns, 2019). In this, effective use is made of factors that make some people more receptive than others to responding defensively, as well as to buying into fake news (Tsibursky et al., 2018). Among them is a disposition to identify and associate with what can be perceived as their "own-group", while defining and taking a stance against those outside (Verkuyten and Nekuee, 1999),

Major backlashes including outright public movements putting up resistance to climate action, improved land management, etc., now appear in many cases as a major hurdle to government action. More subtly, the aggregate influence of the world's citizens as consumers, voters, or investors, exert limited pull and push for unleashing remedial action, whether on the part of policymakers, financiers, and corporation).

As for countermeasures, a range of standards, codes of conduct, certification instruments and new types of investment have been introduced and diffused in the markets. So-called ESG (Environment-Society-Governance) compliance belongs to those capturing the most attention and achieving the greatest reach. A number of studies, examining whether ESG compliance has succeeded in reducing capital costs for companies that abide to the standard – a *greenium* effect - have arrived at inconclusive results (Krishnamoorthy, 2021; Larcker et all, 2021). Other financial instruments issued in support of sustainability include Socially Responsible Investment, Performance bonds and Green bonds. The EU launched a sustainable finance strategy in 2021, including a green taxonomy and EU Green Bond Standard – EU GBS6 – to strengthen conditions for underpinning and verifying impacts. At the same time, political and legal risks blend with remaining issues of lacking transparency and integrity on the part of some investors, calling for reinforced engagement by both investors and regulators in support of credibility.

Today, the EU's "Green Deal" and associated legislation, combine with the multilateral push brought about by the Climate-related Financial Disclosures (TCFD) and Nature-Related Financial Disclosures (TNFD) in stepping up pressures on the entire spectrum of corporate behaviours, both to ensure proper measurement and disclosure of sustainability impact and to present credible plans for rectifying outstanding issues.

In several respects, continued efforts will be required to close outstanding gaps in measurement and verification, with consideration to industry-specific and often also area-specific conditions. Corresponding capabilities need to be reflected in frameworks for monitoring and evaluation (Shipley and Utz, 2012; Sadik-Khan and Solomonow, 2017; Croci et al., 2021). In some respects, such as capturing impetus on the value of ecosystem services, adequate standards are absent (Dasgupta, 2021). Measurement tools and reporting on environmental impacts may moreover interlink with protection of consumer and citizens' rights (McQuaid et al., 2022). Reporting businesses, meanwhile, may anyway adjust so as not avoid having to assume responsibility for impact on sustainability where it matters most, for instance by outsourcing problem activities.

Greenwashing as well as the wider impetus of misinformation via social media, tends to relate either directly or indirectly to conscious strategy enacted by "vested interests", i.e. those who have an inherent motivation, political or economic, to evade and avoid sustainability considerations (Egan and Mullin, 2017; Jeffries, 2017; Lockwood, 2018). A number of studies have documented "behind-the-scenes" influence and inter-related linkages between fossil fuel industry, conservative think-tanks, and opportunistic policymakers (Evans and Feng, 2013; Brulle, 2014; Farrell, 2016). Gradually improved organisation and technical means have led to a full-fledged "climate change denial campaign", covering the US and Europe but also with wider reach. The precise targets and tactics keep evolving and assume new shapes notably around critical elections.[9]

At the other side of the aisle stands the interest of those "frontrunners" who move ahead of the curve in taking account of and defending sustainability. Analysis of such organisations points to the presence of strategic considerations, with a proactive stance in contrast to a reactive or neutral focus on short term cost minimisation (Muff and Dyllick, 2014). Through investment and innovation around green solutions, so-called "Nature-based Enterprises" (NBE) innovate, assume a transformative role as drivers of change in consumer sentiments, behaviours, and market dynamics (Loorbach and Wijsman, 2013). Profit-motives may co-exist with social/environmental drive in the part of founders or managers (Andersson et al., 2022).

The scope for NBEs to make headway is interrelated with what recognition, rewards, and scope for further success they meet with as a result. Effective measurement of sustainability impacts along with naming and shaming matters but needs to be accompanied by adequate incentives in the marketplace.

[9] https://www.economist.com/international/2023/10/11/the-global-backlash-against-climate-policies-has-begun?utm_medium=cpc.adword.pd&utm_source=google&ppccampaignID=18151738051&ppcadID=&utm_campaign=a.22brand_pmax&utm_content=conversion.direct-response.anonymous&gad_source=1&gclid=Cj0KCQjw-5y1BhC-ARIsAAM_oKmcw77KHO6vFbyKC9Gd4mdTdl1qv4ZAatvAOjcXBqZZvlScdolGMw4aAvckEALw_wcB&gclsrc=aw.ds

All in all, a remaining predominant focus on short term profit maximisation coupled with public disincentives and institutional hurdles, risk aversion, and agency problems, keeps marginalising market responses to the sustainability agenda. Private sector investment in Nature-based Solutions (NbS) is a mere trickle (EIB, 2023)[10] while fossil fuel exploitation remains expansive (Adolfsen et al., 2024), exemplifying continued weak private sector follow-through when it comes to allocating resources in support of sustainability (Butler, 2024).

By contrast, a range of studies demonstrate a largely untapped willingness among the public to invest "green" (Hartzmark and Sussman, 2019; Barber at al., 2021). Analysis of the underlying causes point to social preferences, rather than financial beliefs or confusion, as the prime driver (Bauer et al., 2021). For the countries displayed in Figure 4, 20-30% of respondents who would like to invest in energy transition reportedly cannot access financial products doing that. This is captured by Figure 5, which shows an oversupply of financial products without any sustainability objective while financial products with an impact focus are in deficit[11]. These and similar observations point to a large remaining untapped potential for greening financial products.

As part of the problem, the contemporary disclosure-oriented regulatory architecture - coupled with inconsistent public policies - provides inadequate support for private capital into sustainable investments (Brühl, 2022; Butler, 2024). Those sectors and organisations that exert the most damaging impacts on sustainability tend to be exempt from rectifying regulatory requirements. Where counteraction is pressured for in multilateral negotiations, effective resistance is often raised by those countries whose industry accounts for the greatest damage. Examples abound, e.g., in agriculture (France), fishery (Spain), whale hunting (Norway and Japan), forestry (Sweden), fracking (US), palm oil (Indonesia), burning of coal (Australia and India), and so forth.

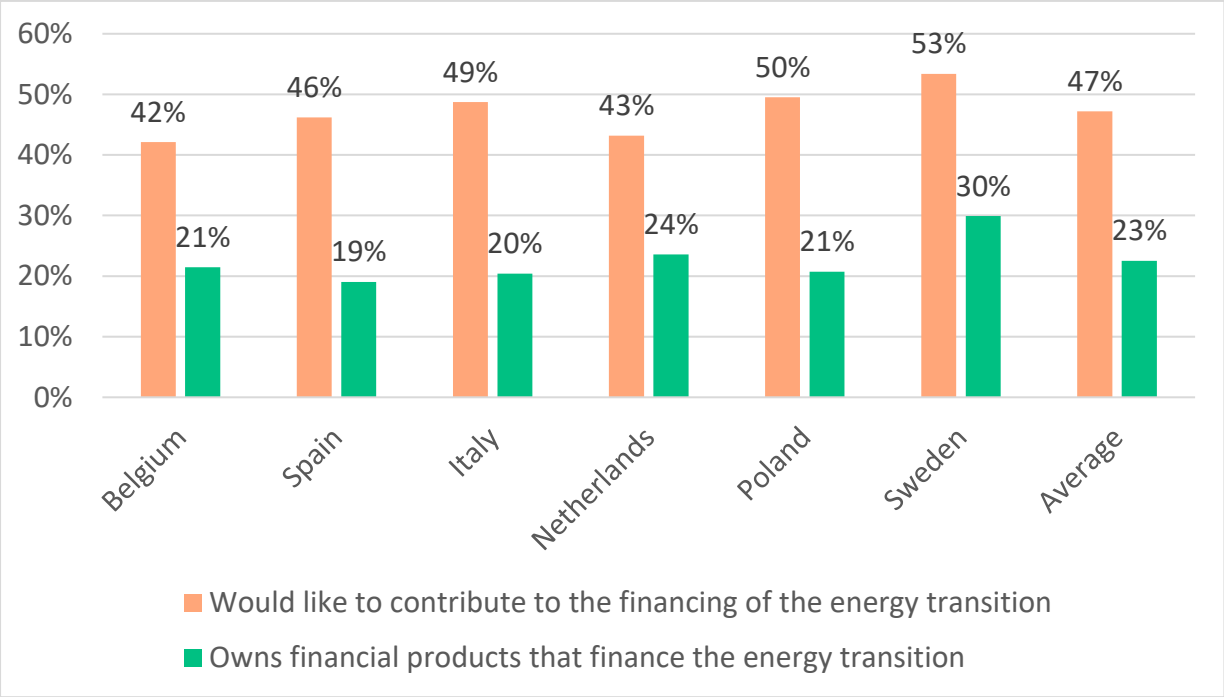
On a related note, lax regulation coupled with expectations of bail-out by government blur the incentives for insurance industry to respond to the anticipated costs (Anthoff and Hahn, 2010). The absence of credible future policy directions similarly weakens incentives for – or outright discourage against – long-term investment in green technology by the private sector (Xie et al., 2022). Subsidies of "grey" infrastructure and carbon intensive fuels and production processes continue to roll, by far exceeding government support for backing the energy transition (Black et al., 2020).

Other issues have to do with the idiosyncratic nature of development projects. This coupled with agency problems, such as moral hazard and adverse selection, make banks poorly equipped to carrying out due diligence, examining the properties and reliability of individual projects. There is no "one size fits all" for providing support conducive to success. Overcoming such hindrances have been observed to call for economies of "aggregation" (EIB (2023). By establishing a pool of complementary competences and services devoted to facilitation, capable of pursuing due diligence and instigating supportive training and capacity building where needed, the risk of failure along with the hurdles and costs separating investors and projects can be reduced.

[10] According to EIB (2023), for NBS-projects, only those with a capital cost requirement exceeding 10 mill. euro are big enough to make up for the fixed transaction costs emanating from due diligence, etc.

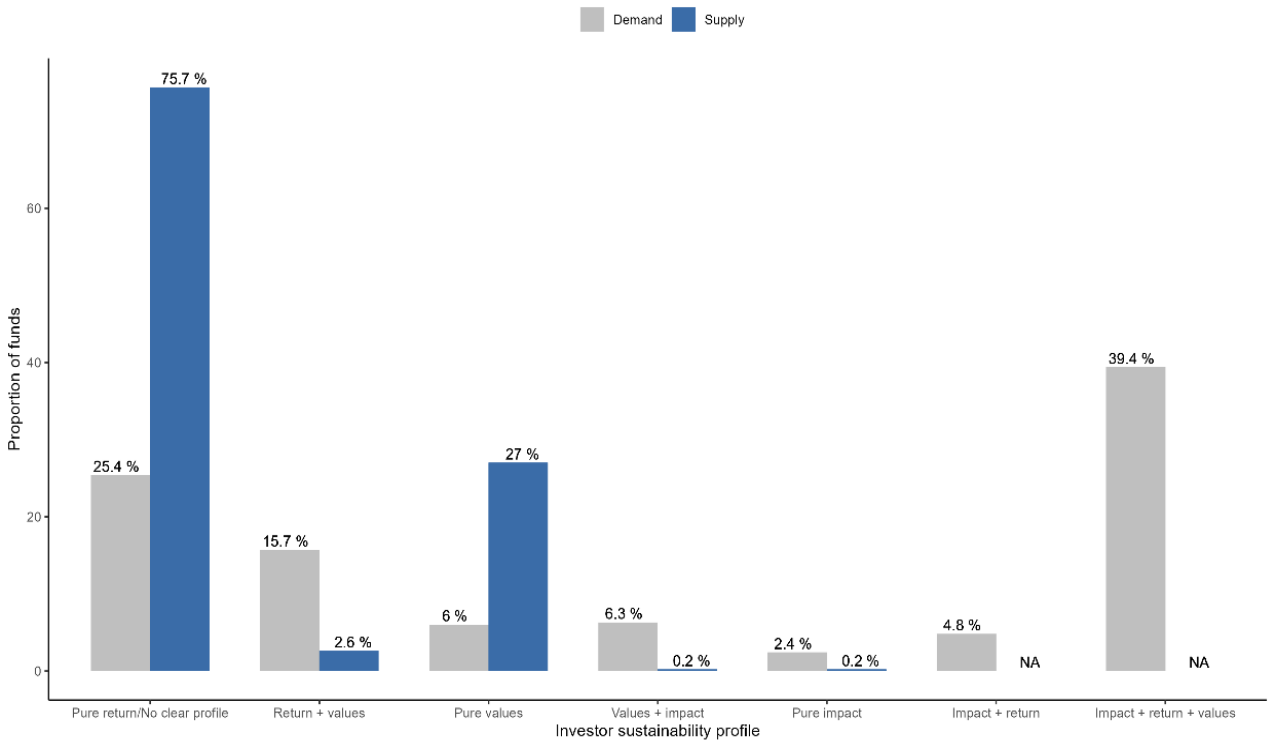
[11] https://2degrees-investing.org/resource/the-impact-potential-assessment-framework-ipaf-for-financial-products/

Figure 4: Attitude-behaviour gap in financing the green energy transition



Source: 2-Investing Initiative (2024)

Figure 5: Comparing demand and supply for investor sustainability profiles (EU-6)



Source: 2-Investing Initiative (2024)

Even as investors gain improved access to projects, prevailing business practices in the corporate and investor community, as well as public authorities, present hindrances, however. Other factors are rooted in market imperfections, lack of competences as well as low motivation on the part of financiers. Along the lines of EIB (2023), the following sums up some of the hurdles:

- **Value streams of nature are diverse and run in multiple directions –** direct/indirect, short/vs. long term, hard to internalise (take the shape of "externalities")
- **Benefits of exploitation are relatively short term and concentrated,** with vested interests better placed to defend their interests. Many beneficiaries are uninformed/absent
- Challenges to measure social/indirect/long-term benefits + vested interests/populists sow confusion
- While public sources dominate private investment in conservation/nature regeneration, realising needed increase in investment + capable management + innovation, hinges on extended private sector investment
- Investment in **green technology** is costly in the short term whereas the benefits are long-term and uncertain
- Investing in green projects requires the ability to assess their merits, including to overcome agency problems such as moral hazard and adverse selection, resulting in **high transaction costs**
- **Commercialisation** favours easily monetised benefits while causing **bias** against "public goods"
- Responses taking the shape of **Blended finance/PPP, public procurement,** requires access to **specialist** skills with capacity to tailor solutions, which is in short supply.

In essence, short-termism and profitability-maximisation blend with practical hurdles, lack of relevant expertise in green projects, costs of due diligence, and so forth, relegating financial intermediaries to acting as a clog to motivations among much of the population to invest in sustainability. Realising investment in impactful activities under these circumstances will require transformational change of one sort or another.

5. Confronting the Duality of Communication and Investment Issues

In recent years, governments, the corporate sector, and financiers have all come to express determination to take action in response to climate change, biodiversity loss, and other threats to sustainability. Public mobilisation in response to such issues has been around for decades, however, appearing as street protests, disobedience, strikes, etc. Ample evidence is at hand that civil action exerts significant influence on policies as well as on the actions of business and other stakeholders, showing up at various levels, nationally, internationally, and locally (Ruser, 2020; Scherhaufer et al., 2021; Buzogány and Scherhaufer, 2022).

Notwithstanding such manifestations, all in all, the impetus for transformational change at the level now required is evidently lacking. Articulated particularly by the IPCC,

scientists have become vocal about the damage inflicted and that time for counteraction, before irreversible thresholds have been passed, is running out. In the meantime, the world keeps warming, biodiversity is crumbling, evermore plastic is pouring onto the land and into the oceans, extreme weather events are intensifying, and so forth. Even worse, as the signs of unsustainable human activities descend on the world, a state of destructive interdependency keeps deepening between critical actor spheres - a vicious circle boiling down to firming resistance to remedial action. If this holds course, the worse the damage to nature, the greater the inability of society – including the inter-related spheres of economy, politics, media, and the public – to respond decisively and constructively.

Various reasons have been put forward for this state of affairs. In contrast to previous environmental challenges, the sustainability crisis is all-encompassing. Its implications cover a much broader range of industries and organisations. At stake, moreover, is the contrast between immediate massive investment in remedial action on the one hand, vs. the diffused long-term benefits thereof on the other. Bringing change thus calls for multi-stakeholder collaboration on terms capable of aligning conflicting and highly diverse interests. Some important stakeholder categories inevitably lack direct representation (such as future generations, those that are yet unborn but bound to be deeply affected by today's decisions) while others display weak or no motivation to take part in the first place (Fischer, 2014; Elelman and Friedman, 2018). In some situations, inertia arise due to a combination of political economy and path dependency (Filion et al., 2015). Access to practically applicable knowledge and tools for assessing outcomes in terms of distributional impacts tend to be lacking in situations where efforts to strike agreement are embarked upon (Shipley and Utz, 2012; Fischer, 2014).

Coping with this systemic challenge demands substantial investment, estimated by OECD to reach $8 trillion annually, surpassing $10 trillion, by 2030. Actual investments remain limited, however, with many nations facing fiscal constraints, but also failing to shift from subsidies of fossil fuels and other conventional growth policies to support sustainability . Consequently, the private sector is urged to step up and play a significant role. As we have seen, however, commercialisation/monetization of natural assets meet with challenges and financial intermediaries appear as a bottleneck to effectuating sustainability funding. Public trust, meanwhile, is at a low, applying to governments as well as to markets and the media, especially social media which in effect are extensively engaged in causing further confusion, applying particularly to vulnerable communities.

The stance and readiness of citizens' to contribute to solutions are still at a high level among many, however. Some require policymakers and businesses to act, and vast strides of the population are motivated to channel investment to viable green projects, while others view the issues and proposed responses as unfair and the responsibility of those truly responsible. Under the present circumstances, the manifestation of an escalating crisis tends to induce a worsening polarisation - those already convinced that nature needs to be protected become more determined, while those who are sceptical become more so (Drobner, 2022; Hu, 2023; Anderson and Robinson, 2024).

What can be done to counter this ongoing systematic, massive misinformation agenda. Multiple proposals have been put forward, ranging from strengthening public media and media regulation, procuring counter-factual industry development, education of the public, supporting vulnerable individuals, institute pre-emptively warning systems

putting the public on alert about misinformation, along with other measures to help build resistance against climate denial (Farell et al., 2019; van Linden, 2018; Tsibursky et al., 2018; Lamb, 2020). For all the sense of these and other proposals, enacting a comprehensive agenda appears far off, and it remains unclear where and how required momentum for such action can be mobilised.

As an additional complication, various studies suggest that enhanced environmental knowledge does not necessarily result in pro-environmental behaviours, including sustainable consumption patterns, or an enhanced propensity to refute fake news (Kollman and Agyeman, 2002; Clark, et al., 2003). Values, attitudes, and emotional engagement matter too. According to Hughner et al. (2007), actual demand may reflect a "value-action gap". A response may entail instilling feelings such as threat and fear (Dutta-Bergman, 2005), or positive associations may be invoked, under-pinning self-respect and a sense of empowerment (Bandura, 1977; Schultz, 2014).

Certain change processes of high relevance to sustainability have been pursued successfully over the years. The habit of smoking cigarettes, widely prevalent around the world for decades, appears on course to be phased out in most developed countries, following a systematic push at multiple levels. Once environmental morality has transcended into a stage of "privatisation", encompassing significant shares of the population, far-reaching shifts in demand occur at times. Such advance of pro-environmental behaviours seems particularly likely when "internal" and "external" influences combine synergistically (Knussen et al., 2004). Lasting changes, moreover, appear to require going beyond piecemeal interventions, such as attempting to revise habits within a given framework. Markedly improved results are at hand given a perceived change in context, backed by engaging social relations, as in the case of high expectations communicated by peers (Marteau and Hall, 2013; Teyhen et al., 2014).

Meanwhile, overcoming the dearth of transaction costs facing prospective impact investors when it comes to accessing projects that are reliable and whose return-on-investment display genuine contributions to sustainability, hinges on improved avenues for communication, networking, and strategic partnership on the ground. Opportunities in this regard can be pursued by applying "platform economy" functionality, capturing positive network externalities along with first-rate computing and AI capabilities in working out impactful interactive reward structures.

Against this backdrop, innovative vehicles should be worked out and tested for novel means of mobilising private sector investment in support of sustainability, combined with functionality geared to enhance user control and trust. Again, by applying digital enablers and AI, real-time interfaces can be constructed, where funding is channelled to projects selected by users based on impact criteria under their control. Feedback loops, operating in real time, can be devised so to underpin trust along with leveraged rewards, personalised and fine-tuned for optimised inspiration. Linking the latter to broader communication schemes, i.e., novel media initiatives can help drive diffusion and scaling.

Diverse sector knowledge and entry points need to be engaged along the way in advancing such vehicles. This includes attracting the efforts and ingenuity of entrepreneurs and innovators, in part since the outlined approach is unlikely to fit the narrow interests of incumbent market players. Neither the contemporary financial

system nor mainstream media bodies have shown appetite for innovation and renewal along the lines indicated. Neither does this kind of citizen/user-centric innovation naturally befall the direct engagement of public institutions. Yet, governments may need to step in to play a role in catalysing and enabling such schemes, possibly through public procurement initiatives. To achieve required momentum, and an approach that is operational cross-border, a government trigger may preferably emanate from the multilateral level.

Drawing on the momentum of the EUMEPLAT projects as well as the coordination offered by the EU NBS Task Force of Horizon Research and Innovation Projects, addressing issues of Governance, Business Models and Financing, an effort was thus pursued in June 2024, to plug into preparations for COP29 to be hosted in Baku, Azerbaijan, to propose a framework for breeding such initiative. The venue constituted a set of preparatory workshops hosted by the Presidency for the forthcoming climate negotiations. The set-up amounted to brainstorming how frame and implement synergies between inclusive impact-oriented investment schemes coupled with a revamped communication scheme.

Specifically, the workshops considered what building blocks and collaborative schemes can be put in place as a basis for launching innovative user-friendly platforms along the lines indicated, offering the means for the general public to access secure investment vehicles directly linked to verified impact investment opportunities coupled with an interactive awareness creating media platform. Similarly, in the sphere of public policy, contrasting with traditional one-way, top-down administration, the spread of social media has offered planners with a handy tool for engaging with citizens, realising co-creation, and the adoption of reflexive governance models (Evans-Cowley, 2010; Williamson and Parolin, 2012; Andersson et al., 2022).

Insights into the means of engineering changed behaviours were granted special attention. This included emotional aspects and social bonding has gained ground and helped breed the so-called “nudging” profession, which operationalises personalised techniques to instigate behavioural change (Schultz, 2014; Thaler, 2015). Nature-based Enterprises innovate naturally in this space, and here finetuning means tailored to impacting specific target groups. Examples are at hand in energy (O'Keefe and Jensen, 2006), transport and mobility[12], and a healthy environment (Myers et al., 2012).

Content generation needs to blend with other means to capture attention, raise interest, and build trust. The importance of inspiration was underlined with reference to the societal dimension of climate change, e.g., using illustrations of humans attaining the means to both mitigate and adapt to climate change (Painter et al., 2018). Other potent themes include links between climate change and public health (Andersson and Cardinali, 2023), or the formation of local communities taking the lead in identifying and addressing relevant outstanding issues (Hart and Feldman, 2016), as means to foster public engagement.

As for advocacy, winning over and activating respected “champions”, or “ambassadors”, represents a standard approach. “Campaigns” can be devised to turning the minds of relevant specialised expert or stakeholder groups, otherwise

[12] https://www.neste.com/news-and-insights/sustainable-mobility/what-is-sustainable-mobility

embedded in performing incumbent practices. Connecting with and bringing on board locally rooted movements, so-called Communities of Interest (CoI), represent another key venue to breed fertile ground for local buy-in. Beyond that, the diffusion process will be expanded and speeded through electronic means, applying the platform format, and by tapping into and developing new inroads to the media landscape.

In taking theses agendas forward at the preparations of COP29, a workshop format was applied, where participants were engaged in addressing three sets of complementary issues. Following an introduction laying out the background and context (photo 1), the participants separated into 3 sub-sessions aimed to address and work out a way forward in regard to each of the following:

i) Improve conditions for impact investment, contributing to improved outcomes on the ground on terms conducive to trust and inclusion, progressing support and engagement by the public;

ii) Realise better outcomes for sustainability drawing on the power of the media – rethink, reorganise and reinvent the concept of news and communication channels for the purpose of strengthening broad-based inclusion and public acceptance of sustainability, and;

iii) Unleash technology and innovation in response to outstanding critical sustainability issues, as in the field of water, food, and energy, for measurement, verification and validation of support for nature, and so to reach and engage the public.

The main delivery points on each of these themes, including recommendations put forward on the occasion, were summed up as below:

Photo: Preparatory workshop for COP29, at ADA University, Baku, June 5, 2024

i) On Impact Investment:

1. **Relatability:** Bringing the concept home to make it more relatable.
2. **Realistic Solutions:** Offering locally specific solutions.
3. **Task Management:** Breaking large tasks into manageable local actions.
4. **Step-by-Step Approach:** Adopting a visual and measurable method.
5. **Public Engagement:** Making climate change impacts understandable and relevant to individuals' daily lives.
6. **Direct Benefits:** Linking environmental actions to immediate health and economic benefits for individuals.
7. **Real-Time Connection:** Connecting individual actions to benefits and challenges within the community in real time.

ii) On the power of the media:

1. **Inspiring Stories:** Highlighting positive narratives to shift public perceptions and foster optimism.
2. **Audience Targeting:** Tailoring messages for specific audiences, such as the 45-75 age group and youth, addressing their unique needs.
3. **Influencer Engagement:** Utilizing influencers to enhance reach and make messages more relatable and widespread.
4. **Shared Responsibility:** Promoting a model that encourages collective action, fostering a sense of community and motivating individual contributions.
5. **Action-Benefit Communication:** Clearly linking actions to tangible benefits.
6. **Transparency in Algorithms:** Ensuring media-specific algorithms are open and verified.

And, finally, in regard to supportive functions of technology:

1. **Data Relevance:** Connecting data to real-life scenarios, like early warning systems.
2. **Broad Diffusion:** Adopting practical approaches to widespread technology dissemination.
3. **Data Harmonization:** Integrating systems like GPS, satellites, and space technologies.
4. **AI Applications:** Utilizing AI-powered tools to advance sustainability.
5. **Impact Measurement:** Applying user-friendly taxonomies to measure and communicate impacts, with adjustments based on real-world projects
6. **Translational Data:** Making data operational for practical use.

Linking the three sub-themes in subsequent joint sessions, building blocks of initiatives capable of operationalizing a joint approach to the identified issues, were contemplated and structured. The resulting contours of new investment-communication-technology vehicles have subsequently been reported back to relevant organisations with a direct involvement in this area, and/or with an interest in maturing these proposals for further advancement at COP29, or in other relevant fora.

On this basis, the state of operationalization follows next, with the objective of launching and testing new means to realize large scale impact investment on terms realizing public awareness, trust, buy-in and support. Whether COP29 and Azerbaijan will serve as cradle for kick-starting these opportunities, or where the launch will be, is under consideration.

6. Conclusions and Recommendations

Tackling the sustainability crisis confronting us at the present time will require unbundling a vicious circle of self-enforcing influences crippling the scope for remedial action. As things stand, the worse the damage to nature, the greater the inability of society – including the inter-related spheres of economy, politics, media, and the public – to respond constructively.

The phenomenon of such crisis, where cascading risks go together with a failure of governance, have arisen on various occasions through human history (Ohmae, 1995; Keohane and Osborn, 2005). The present case stands out as particularly taxing and hard to resolve, however, given the speed with which the global economy impacts the environment as well as the pervasiveness of a seemingly rudderless media landscape.

With the disturbing dilemma outlined in the present report, as the damage and risks of unsustainable economic development are increasingly felt, by way of global heating, fires, flooding and other extreme weather events, scientists are heard in the media as vindicators of the seriousness. Views of civil society representatives similarly tend to sound the alarm. Statements by mainstream politicians promise counteraction, while business leaders may point to measures they are taken or intend to go forward with. The impressions conveyed tend to be piecemeal while centring on alarm, the seriousness of damage, and the prospects of disaster. Feelings of fear and guilt are typically transmitted. At the same time, influential social media channels instil confusion and aggravation, by presenting the damage as not real and/or proposed counter-measures unfair and meant to hurt ordinary people.

Examining the issues of weakening trust in the media sector, along with the rise of social media, the activities and influence engineered by vested interests, the lack of motivation and inertia of corporations and financial institutions to engage in genuine support of sustainability, and the gap between statements and delivery by policy makers, the present report advances a synergetic approach for joint action spanning; i) impact investment; 2) awareness creation and the media, and; 3) exploiting new technology, notably digitalisation and AI for empowering and scaling the envisaged vehicle in real time.

Preparatory sessions for COP29 held in Baku in June 2024, were used as testing ground for what could be prepared for piloting and a launch in the multilateral context.

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