SEI Stockholm Environment Institute

The Paris Agreement and the Sustainable Development Goals: evolving connections

SEI policy brief
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Adis Dzebo

Gabriela Ileana Iacobuță

Raphaëlle Beaussart

Key messages

- **Most countries have updated their Nationally Determined Contribution (NDCs), providing new emission targets, as well as outlining activities to achieve the goals of the Paris Agreement. Using data from NDC-SDG Connections, we compare 63 first and updated NDC submissions to analyse how climate action has developed over time and how it connects to the 2030 Agenda and its 17 Sustainable Development Goals.**
- **Updated NDCs are longer than the originals, and include more activities. The quality of the new activities has also increased, if benchmarked against a rising share of quantified activities (from 12 to 24%). For most SDGs, however, the share of quantified activities remains below 20% of the total activities, while many social SDGs have few or no activities with quantified targets.**
- **In the SDGs, there are now significantly more activities focused on inequalities, under Goal 5 (Gender Equality) and Goal 10 (Reduced Inequalities), and an increased focus on inclusive participation under Goal 16 (Peace, Justice and Strong Institutions). On the other hand, the number of activities on other socially oriented SDGs has decreased, for example under Goal 1 (No Poverty) and Goal 4 (Quality Education), and social aspects of non-social SDGs, such as energy access in Goal 7 (Affordable and Clean Energy), have decreased.**
- **Activities have increased significantly under Goal 13 (Climate Action) and Goal 14 (Life Below Water). However, climate activities that focus on other environmental SDGs have decreased, including those that link climate change with Goal 2 (Zero Hunger), Goal 6 (Clean Water and Sanitation) and Goal 15 (Life on Land). This is problematic, because agriculture, water, land use, and biodiversity and ecosystems are crucial sectors for efforts to reduce emissions and increase resilience.**
- **Aside from Goal 8 (Decent Work and Economic Growth), where action has largely stagnated, the number of activities in other SDGs that support the economic dimension of sustainability have increased.**

Introduction

There is growing evidence that climate action necessitates a transition that addresses all dimensions of sustainability. Similarly, the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda cannot be successfully implemented without strong action on climate change (Campagnolo & Davide, 2019; Moreno et al., 2023). Multiple publications have explored the alignment between the Paris Agreement and the 2030 Agenda, including NDC-SDG Connections. This tool, which was launched in 2017 and developed jointly by SEI and the German Institute of Development and Sustainability (IDOS), shows how activities in countries' Nationally Determined Contributions (NDCs) connect to all 17 SDGs (Brandi et al., 2017).

IMAGE (ABOVE): "UNFCCC_COP27_14Nov22_MinisterialRoundtableFinance_KiaraWorth-10" by UNclimatechange, CC BY-NC-SA 2.0

NDC-SDG Connections allows users to explore how NDC activities (i.e. statements identifying a strand of future activity, conditional or unconditional on financial support) connect to the ambitions of the 17 SDGs and their 169 targets, both globally and for individual countries and country groupings (Dzebo et al., 2017). It reveals how NDCs directly contribute to the SDGs and that they are essentially both climate action plans and sustainable development strategies at the same time (see Box 1).

To allow for this analysis, we extracted activities from NDCs and coded them to identify links to i) each SDG and its targets; ii) climate actions, which vary for each SDG and are a set of the most frequently mentioned categories of action inductively derived from the NDCs; and iii) broader socio-economic categories (such as finance, agriculture, and resilience), which are intended to reveal co-benefits across SDGs. The coding is based on explicit or implicit mentions of a given SDG target, climate action, and/or socio-economic category (Brandi et al. 2017).

The NDCs as well as the 17 SDGs are universally applicable and global in their ambition: almost all countries have committed to achieving the global goals on climate and sustainable development. Both the NDCs and SDGs are derived through a bottom-up process and countries decide for themselves how to implement them, depending on national needs and capacities. Since 2017, most countries have provided updated submissions of their NDCs. In this policy brief, which builds on updated data from NDC-SDG Connections, we provide a comparative analysis of how NDCs have developed over time with regards to the 2030 Agenda. We focus on 63 first and updated submissions,[1] including the 27 EU countries which submitted a common NDC, covering 89 countries in total. Table 1 shows the distribution of countries we analysed, reflecting a good coverage of all geographical regions and economic groups.

Table 1. Distribution of analysed NDCs across country groupings and regions, including the share of countries covered in each region (the EU has one NDC for all 27 countries).

Regions	Low income	Lower middle income	Upper middle income	High income	Africa	Americas	Asia	Europe	Oceania
No. of NDCs	10	20	18	15	22	13	16	6	6
No. of countries	10	20	18	41	22	13	16	32	6
Share of countries	34%	40%	33%	64%	41%	37%	34%	73%	38%

Evolving connections between NDCs and SDGs – a comparison of first and updated submissions

Figure 1 illustrates the comparison between first NDC submissions and updated ones in absolute terms (i.e. whether activities related to a specific goal have increased or decreased) and relative terms (i.e. whether the share of activities for a specific goal is higher or lower in the updated NDC compared to the first). Overall, we found that, for the countries we analysed, updated submissions are three times as long as first submissions. The updated NDCs also include a higher number of activities, with an almost 29% increase in aggregate for the analysed NDCs. Around 66% of the SDGs show an increase in the number of NDC activities that are connected to them, with Goal 13 (Climate Action) and Goal 7 (Affordable and Clean Energy) registering the largest absolute increase. Thus, while the total length of the documents has increased, the levels of ambition have not.

1 We analysed the NDCs of the following countries: Angola, Antigua and Barbuda, Armenia, Australia, Bahamas, Bahrain, Bangladesh, Bhutan, Bosnia and Herzegovina, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Central African Republic, Chad, Chile, Colombia, Comoros, Costa Rica, Cote d'Ivoire, Cuba, Dominican Republic, Eswatini, European Union, Fiji, Gabon, Ghana, Georgia, Guinea, Haiti, Honduras, Iceland, Jamaica, Japan, Kenya, Lao People's Democratic Republic, Lebanon, Malaysia, Maldives, Marshall Islands, Micronesia, Monaco, Mongolia, Morocco, Mozambique, Nauru, Niger, Peru, Republic of Korea, Rwanda, Saudi Arabia, Serbia, Seychelles, South Africa, State of Palestine, Switzerland, Timor-Leste, Tonga, Uganda, Uzbekistan, Zambia.

BOX 1: NDC-SDG CONNECTIONS

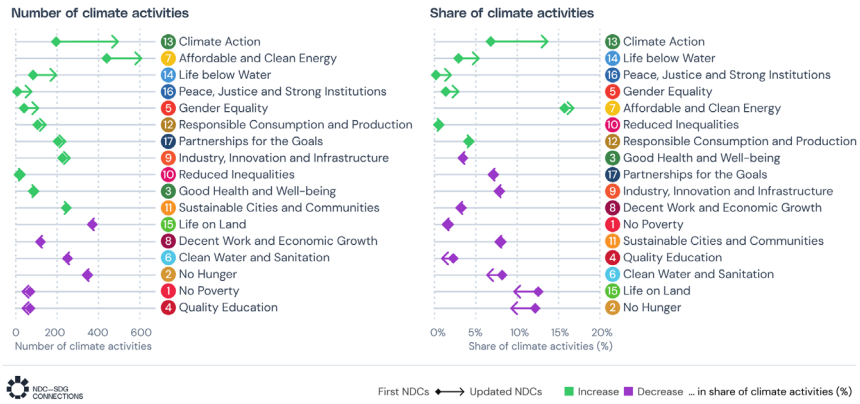
By visualizing connections between the 2030 Agenda and the Paris Agreement, NDC-SDG Connections seeks to foster an open dialogue on how to build complementarity between the two agendas; to increase transparency by making all climate activities easily accessible; and to promote learning and partnership across countries and raise the ambition of future NDCs.

The tool also supports efforts to increase policy coherence in implementation of climate and sustainable development policy, which will allow countries to maximize synergies and minimize trade-offs between climate change and sustainable development. There is significant room for improvement in this area because many synergies have yet to be exploited. Moreover, while countries develop their NDCs based on their own needs and ambitions, narratives and policies at the global level have a large influence on the development and implementation of national policies. Thus, more coherent policy at the global level is a prerequisite for forming and implementing coherent policy at the national level.

One important aspect of NDC activities is quantifiability. We categorized activities as quantifiable when they included a measurable objective or output (e.g. planting 100 hectares of trees or producing 50MW through renewable energy). While countries do not need to quantify climate activities to report them in their NDCs, quantifiable climate activities are essential for ensuring transparency and accountability. Where NDC activities relate to the SDGs, our analysis indicates that quantification has increased between the first and updated NDCs, except for Goal 1. However, the share of quantified climate activities remains low: most SDGs have less than 20% of climate activities quantified and there are no quantifiable climate activities under Goal 5 (Gender equality), Goal 10 (Reduced Inequality), and Goal 16 (Peace, Justice and Strong Institutions) .

In terms of types of activity, we find that adaptation continues to have the highest share. Nonetheless, there has been an increase in the overall share of climate mitigation activities (from 35% to 38%) and a decrease in climate adaptation activities in the updated NDCs compared to the first NDCs (from 49% to 44%). In addition, there are several new topics emerging in the updated submissions, such as just transitions, participatory approaches, loss and damage, and social protection, which we explore in a separate brief (see Iacobuță and Dzebo, fc.).

Figure 1. Change in the number and share of climate activities related to all 17 Goals from the first and updated first NDCs.



Source: Brandi et al. 2017.

We find a strong increase in both the relative share and absolute number of activities directed towards SDGs that target the social dimension of sustainability, which were previously identified as under-represented in countries' NDCs (Janetschek et al., 2019).

SDGs addressing the environmental dimension of sustainable development show a mixed picture, with an increase in the number and share of activities related to climate action and oceans. But there is a surprising decrease in activities focused on food, water and land use.

Lastly, except for Goal 8 (Decent Work and Economic Growth), all SDGs that address the economic dimension of sustainable development have an increased number of activities in updated NDC submissions. However, in terms of the share of activities relative to other SDGs, Goal 9 (Industry, Innovation and Infrastructure), Goal 11 (Sustainable cities and communities), and Goal 17 (Partnerships for the Goals) have a lower share of activities compared to the first round of NDCs. We explore the findings in detail below, distinguishing between the three dimensions of sustainable development: social, environmental, and economic.

Growing focus on social development for climate action

One of the most significant changes in the updated NDC submissions is the increased focus on gender, inequality, and participation: the number of activities has increased threefold for Goal 5 and Goal 10, and fifteenfold for Goal 16 (albeit from very low numbers). For Goal 5, countries are prioritizing ending all forms of discrimination against all women and girls (Target 5.1) and emphasizing climate actions that foster female employment, increase participation, and strengthen women's skills (Figure 2). In addition, almost half of activities focus on improving policy processes so that they better integrate and mainstream gender considerations. Regarding Goal 10, the number of activities promoting the social, economic, and political inclusion of all (Target 10.2) has increased. In addition, intergenerational integrity has gained attention in the updated NDCs, highlighting the importance of giving a voice in climate policy for youth especially, as well as the elderly (Figure 3). The noted rise in inclusionary practices is also reflected by the fifteenfold increase in activities addressing Goal 16 where countries are striving to ensure more responsive, inclusive, and participatory decision-making (Target 16.6). Building on this, many countries have also noted the importance of effective, accountable, and legitimate institutions for climate action.

Figure 2. Change in the share of climate activities for Goal 5 targets.

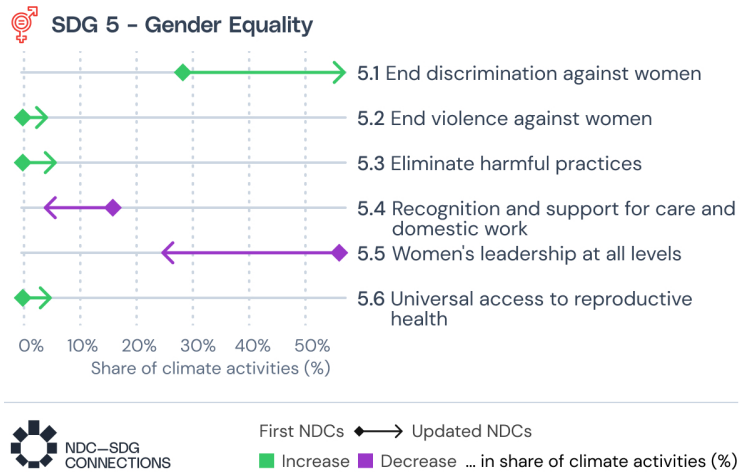
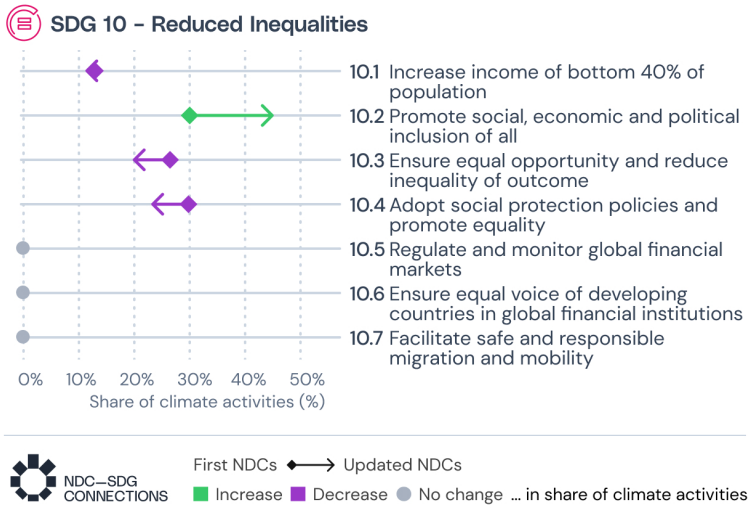


Figure 3. Change in the share of climate activities for Goal 10 targets



Health has also received more attention in the updated NDCs; in particular, there are more activities that address epidemics and communicable diseases (Target 3.3) – a likely effect of the Covid-19 pandemic. However, despite the overall increase in this dimension,

the number of activities targeting Goals 1 and 4 have received less attention in updated SDGs. In Goal 1, the difference is particularly clear among activities that aim to reduce relative poverty. Moreover, while the updated NDCs show a growing focus on inclusion, we note a relative decrease in activities directed towards other issues important for social development, including environmental integrity and reducing inequality (under Goal 10).

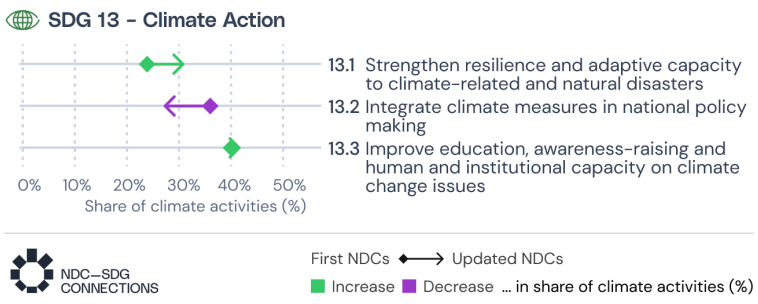
While overall there is a significant increase in activities in the social dimension, countries' NDCs do not include quantified targets for it. This implies ambitions in this area continue to remain broad and generalized, compared to the higher share of quantified activities under economic and environmental dimensions. Furthermore, we note that the largest share of activities addressing socially oriented SDGs relate to adaptation action.

A changing climate-environment nexus

Within the environmental dimension of sustainability, NDCs set out a larger number of activities across climate adaptation and mitigation in general terms (i.e. falling under Goal 13), and fewer activities that directly address specific sectors, such as water, agriculture and biodiversity. Activities falling under Goal 13 have significantly increased while water, agriculture and biodiversity, which are among the most vulnerable sectors to climate change risks and impacts, have a lower share of activities compared to first submissions, both in absolute and in relative terms. Moreover, activities related to Goal 2 (Zero Hunger) focus more on agricultural productivity (Target 2.3) overall, but there is less explicit action on food security and the resilience of agricultural systems in the updated submissions. For instance, several submissions mention the development of more productive crops but do not ensure that these crops are climate-resistant, resource efficient, or have nutritional benefits. Similarly, Goal 6 (Clean Water and Sanitation) now has fewer activities that explicitly aim to protect water ecosystems (Target 6.6), while focus has turned towards improving water quality and reducing pollution (Target 6.3). While the latter can certainly have benefits for water ecosystems, some countries only improve their systems for water treatment without addressing the pollution of water ecosystems.

For Goal 13, activities have shifted towards raising awareness of risks and impacts and managing them, while the strong focus on climate mainstreaming (Target 13.2) in the first NDCs has decreased. As Figure 4 shows, activities mainly focus on improving education, awareness-raising and human and institutional capacity (Target 13.3) and on strengthening resilience and adaptive capacity to climate-related and natural disasters (Target 13.1). The most commonly proposed means to adapt to climate change are monitoring and tracking of climate change, disaster risk reduction, and the development of early warning systems. A cautious conclusion could be that the sudden increase of planned activities focusing on disaster risk reduction and increasing adaptive capacity is a consequence of countries experiencing increasingly adverse impacts from climate change. Nonetheless, for such plans to be effective, it is essential to define concrete activities at the sectoral level. Activities for Goals 2, 6 and 15 have decreased, particularly as a share of total activities, even though they are essential for access to and protection of natural resources.

Figure 4. Change in the share of climate activities for Goal 13 targets



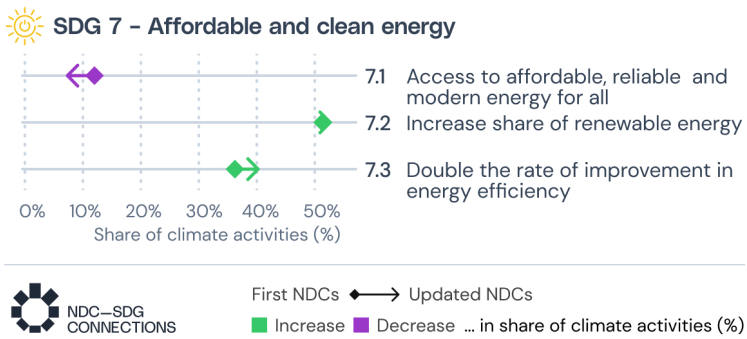
One outlier is Goal 14 (Life Below Water), where activities have more than doubled. For both Goal 14 and 15, most activities are focused on conservation and loss of biodiversity on water and land, respectively, which could be a consequence of the Kunming-Montreal global biodiversity framework (UNCBD 2022). However, the decrease in forest-related activities (Target 15.2) is a concern, because achieving the Paris Agreement global temperature increase limit without overshoot requires a boost in carbon sinks (IPCC 2018).

Quantifiable activities linked to environmental SDGs have increased significantly; by 10 percentage points or more for most, which is a step in the right direction. Adaptation-related activities remain dominant across all environmental SDGs, but mitigation activities have increased their share in the updated submissions.

Beyond energy: evolving climate action in the economic dimension of sustainability

Unsurprisingly, the largest share of NDC activities falls under Goal 7, both in first and updated submissions. However, while energy remains the most prominent area of climate policy for countries, it continues to surprise that Target 7.1 on energy access and affordability is given low priority: both the share and number of activities addressing it have decreased in the updated NDCs (Figure 5).

Figure 5. Change in the share of climate activities for Goal 7 targets



Beyond energy, Goal 9 (Industry, Innovation and Infrastructure), Goal 11 (Sustainable Cities and Communities), Goal 12 (Responsible Consumption and Production) and Goal 17 (Partnerships for the Goals) have a higher number of activities in the updated submissions compared to original submissions. In contrast to energy, however, their share in the updated submissions is lower, due to much higher increase in SDGs 7 and 13. Meanwhile, Goal 8 has decreased in both absolute and relative terms as there are fewer activities that aim to increase economic productivity (Target 8.2) and resource efficiency that specifically seeks to decouple economic growth from environmental degradation (Target 8.4).

Another interesting finding relates to Goal 17, where we noted a large increase in activities calling for resource mobilization. Recent research has shown that finance for climate and development is a key policy measure for achieving all the SDGs (Dzebo and Shawoo 2023, Iacobuță et al. 2022). However, in the updated NDC submissions we note that alongside calls from developing countries for developed countries to fulfil their commitments to deliver climate finance, as agreed in the Copenhagen Accord and the Paris Agreement, there is also a strong push to strengthen domestic mobilization (Target 17.1), something that was rarely mentioned in the first submissions. Such domestic support is intended to be raised, in part, through partnerships with the private sector and civil society (Target 17.17), which are now more prominently featured among climate activities. Resource mobilization is also supported by activities in Goal 8, where there is

an increase in climate actions aiming to strengthen financial institutions (Target 8.10) through increased access to finance. In contrast to finance, requests for technology transfer and capacity building have received less attention.

All SDGs across the economic dimension of sustainable development have seen the largest increase in the share of quantifiable activities, from 10% in the first NDCs to more than 20% in the updated submissions, for some goals. Goal 7 is dominated by mitigation activities, but other SDGs in this group also continue to predominantly address climate change mitigation over adaptation.

Implications for the future

Our findings show how evolving climate action remains strongly connected to the 2030 Agenda and its 17 goals. It is encouraging that the social dimension is gaining strength in countries' climate actions, which can complement SDG progress in a way that "leaves no one behind" (UN, 2017). However, much remains to ensure that efforts to address global climate change and sustainable development are effective, and that the burden does not fall disproportionately on vulnerable groups. Implementation of the 2030 Agenda is far behind schedule as we approach its halfway point (Biermann et al., 2022). Similarly, progress to achieve the goals of the Paris Agreement is way off track, as countries' NDCs fall short of the required commitments in the Agreement (UNFCCC, 2022). There is an increasingly acute need for measures that intensify implementation and seek synergies across the two agendas making a strong case for increased policy coherence at the global level (Dzebo et al., 2018).

For the 2030 Agenda, the SDG Summit in September 2023 and launch of the Global Sustainable Development Report present critical moments for reflection. The lack of progress on its implementation has led to growing calls for acceleration. Similarly, for the Paris Agreement, 2023 marks the third and final step of the first Global Stocktake, which will provide critical information assessing what progress has been made on meeting the Paris Agreement goals, as well as identifying gaps and opportunities for increased ambition and strengthened action. One crucial step towards accelerating implementation of both agendas is to increase efforts to maximize synergies between sustainable development and climate action. Climate action would not only contribute directly to the SDGs, but also indirectly – by averting the enormous impacts of climate change that are likely to push back progress on the SDGs in the coming decades (see e.g. Dzebo and Shawoo 2023).

Policy recommendations

- Countries should improve and sharpen future NDCs by defining specific, measurable and, to the extent possible, quantified activities across all three dimensions of sustainable development. Particular attention should be paid to quantifiable activities that deliver co-benefits with Goal 1 (No Poverty), Goal 10 (Reduced Inequalities), and Goal 16 (Peace, Justice and Strong Institutions) which only have one quantifiable climate activity that connects to them in updated NDCs. Providing clear quantifiable targets for climate activities in NDCs is essential to accelerate the implementation of the Paris Agreement.
- Countries should work towards a better balance between socially, environmentally and economically oriented SDGs. Despite a notable increase in the number of activities that address SDGs in the social dimension, it still has the smallest share of climate activities in the NDCs. Climate action that connects to these SDGs is necessary for achieving a just transition to low-carbon and climate-resilient societies, maximizing societal benefits and leaving no one behind because it can directly support vulnerable communities and reduce inequality and poverty.

- Countries must address SDGs for which progress is particularly at risk due to climate change (Goals 2, 6 and 15 on food and agriculture, water, and biodiversity and ecosystems, respectively). Although these SDGs are particularly important, they were covered by fewer climate activities in the updated NDCs. Countries should reverse this trend and make sure to address these at-risk SDGs, both in their own right and to avoid negative spillover effects on other SDGs that result from food and water insecurity and a loss of natural resources.
- Countries should increase and improve climate activities that address economic SDGs because they are the main drivers of greenhouse gas emissions. Except for Goal 7 on energy, Goals 9, 11 and 12 have increased in number, but only slightly, while goal 8 has decreased. The economic dimension should be strengthened further, and a larger share of activities should be quantified for improved transparency, as well as accountability on how the overarching emissions targets are expected to be achieved.

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SEI Stockholm Environment Institute

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Linnégatan 87D, Box 24218
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Author contact
adis.dzebo@sei.org

Media contact
ulrika.lamberth@sei.org

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