SEPTEMBER 2023 ISSUE 4

SDG Investment Trends Monitor

UNITED NATIONS
UNCTAD

SDG INVESTMENT IS GROWING, BUT TOO SLOWLY
THE INVESTMENT GAP IS NOW $4 TRILLION, UP FROM $2.5 IN 2015

H I G H L I G H T S

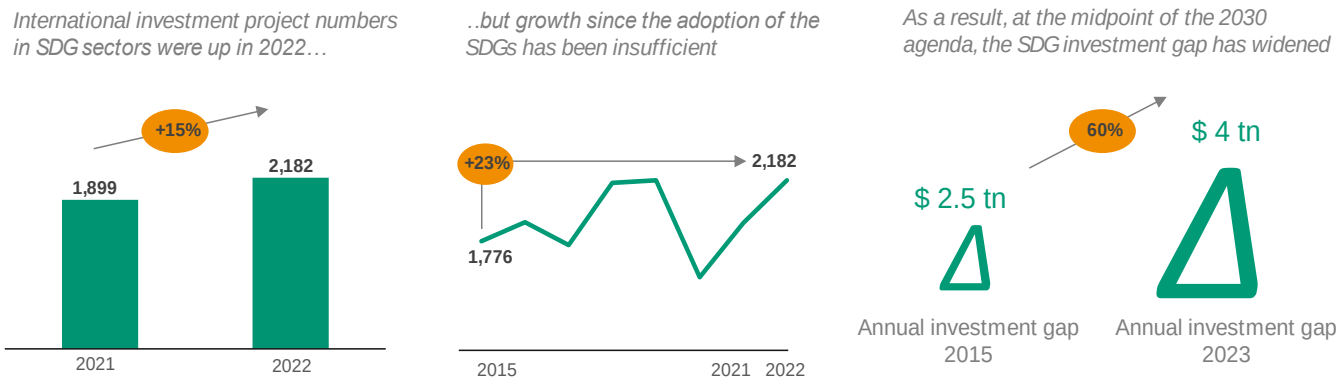
- *The number of international investment projects announced in developing countries in sectors relevant to the Sustainable Development Goals (SDGs) increased by 15% in 2022.* However, the growth was unbalanced, with some SDG sectors showing only slow progress. It was also uneven, with negative trends in LDCs (-9%) and stagnation in many other developing countries. Preliminary data for 2023 H1 suggests that the number of projects in developing countries fell by 7% relative to 2022 H1.

- *UNCTAD's review at the midpoint of the 2030 agenda shows that the annual SDG investment gap in developing countries is now about $4 trillion.* If the SDG investment needs to 2030 are to be met, some $30 trillion of additional investment must be found over the next eight years. More than half of the gap, or $2.2 trillion, relates to the energy transition alone.

- *The current investment gap is 60% higher than the (already significant) gap of $2.5 trillion estimated by UNCTAD in 2014 on the eve of the adoption of the SDGs.* The increase is the result of shortfalls in the years since 2015, combined with the effects of multiple global challenges, including the pandemic and the food, fuel and finance crises.

Figure 1. Midpoint review of the SDG investment gap

International investment projects in SDG sectors (greenfield and project finance deal numbers)



Source: UNCTAD, based on the *World Investment Report 2023 (WIR23).*

Note: This Monitor has been prepared ahead of the United Nations SDG Summit. Together with the coverage of SDG investment trends in UNCTAD's annual *World Investment Reports*, it responds to the request of the United Nations General Assembly resolution on promoting investments in sustainable development (A/C.2/75/L.15) for UNCTAD to monitor investment in the SDGs. UNCTAD will further convene stakeholders and partners working on SDG investment in the upcoming World Investment Forum https://worldinvestmentforum.unctad.org/.

SDG investment up in 2022 but slow progress overall

The number of international investment projects announced in developing countries in sectors relevant to the Sustainable Development Goals (SDGs) increased by 15% in 2022. However, the growth was unbalanced, with some SDG sectors showing only slow progress. It was also highly uneven, with negative trends in LDCs (-9%) and stagnation in many other developing countries (table 1 and table 2).

Table 1 **SDG sectors: announced greenfield projects in developing economies, 2021–2023:H1**
(Millions of dollars and per cent)

	Developing economies						LDCs			
SDG-relevant sector	2021	2022	Growth rate, 2021-2022 (%)	2022 half	2023:H1	Growth rate, half year 2022–2023:H1 (%)	2021	2022	Growth rate, 2021-2022 (%)	Growth rate, half year 2022–2023:H1 (%)
Total										
Value	**113 607**	**242 959**	**114**	**121 602**	**145 679**	**20**	**8 428**	**8 358**	**- 1**	+9 times
Number of projects	**1 296**	**1 540**	**19**	**778**	**820**	**5**	**69**	**61**	**- 12**	**18**
Power[a]										
Value	4 175	3 939	- 6	1 970	3 799	93	2 000	1 717	- 14	..
Number of projects	20	16	- 20	8	11	38	1	2	100	..
Renewable energy										
Value	52 739	162 505	208	81 369	84 294	4	3 337	3 970	19	+18 times
Number of projects	146	176	21	89	111	25	9	11	22	67
Transport services										
Value	12 945	21 591	67	10 826	16 240	50	449	784	74	91
Number of projects	271	431	59	217	284	31	22	18	- 18	44
Telecommunication[b]										
Value	21 592	23 179	7	11 590	28 951	150	1 764	858	- 51	125
Number of projects	291	321	10	162	134	- 17	20	11	- 45	50
Water, sanitation and hygiene (WASH)										
Value	4 128	1 631	- 60	815	210	- 74	136	150	10	..
Number of projects	19	15	- 21	8	6	- 25	1	1	0	..
Food and agriculture										
Value	11 750	19 838	69	9 933	8 317	- 16	426	705	65	- 72
Number of projects	274	280	2	141	132	- 6	7	13	86	- 43
Health										
Value	5 137	9 350	82	4 608	3 347	- 27	180	168	- 7	..
Number of projects	190	207	9	104	89	- 14	3	4	33	..
Education										
Value	1 140	926	- 19	491	520	6	136	7	- 95	970
Number of projects	85	94	11	49	53	8	6	1	- 83	200

Source: UNCTAD, based on the information from The Financial Times Ltd, fDi Markets (www.fdimarkets.com).

[a] Excluding renewable energy.

[b] Including information services activities

Preliminary data for the first half of 2023 shows the number of projects fell by 7% compared with the half year average of 2022. The deteriorating financing conditions that marked 2022 continued in the first half of 2023 with a slowdown in high-value international project finance deals, normally the preferred financing option for large projects in infrastructure. The number of SDG-relevant international project finance deals declined by 34% in the first half of 2023 (-42% in value). In contrast, the number of SDG-relevant greenfield projects rose by 5% (20% in value).

International investment activity in SDG sectors in developing countries is still catching up after slow or negative growth in the early years after the adoption of the SDGs in 2015. The overall increase in investment since 2015, as measured by the number of greenfield projects and international project finance deals, is limited for most sectors; one sector (agrifood systems) even shows lower levels of investment activity in 2022 than in 2015. At the midpoint of the 2030 Agenda for Sustainable Development, the lack of progress in boosting international investment activity in SDG sectors is a major concern.

Table 2 **SDG sectors: announced international project finance deals in developing economies, 2021–2023:H1**
(Millions of dollars and per cent)

SDG-relevant sector	2021	2022	Growth rate, 2021-2022 (%)	Growth rate, half year 2022–2023:H1 (%)	2021	2022	Growth rate, 2021-2022 (%)	Growth rate, half year 2022–2023:H1 (%)
Total								
Value	**370 241**	**228 286**	**- 38**	**- 42**	**51 189**	**15 828**	**- 69**	- 51
Number of projects	**603**	**642**	**6**	**- 34**	**53**	**50**	**- 6**	- 48
Power[a]								
Value	105 667	48 213	- 54	- 30	42 811	1 811	- 96	- 67
Number of projects	57	60	5	- 27	7	7	0	- 75
Renewable energy								
Value	205 648	123 338	- 40	- 41	4 508	5 891	31	- 48
Number of projects	420	438	4	- 30	32	24	- 25	- 36
Transport infrastructure								
Value	28 624	25 708	- 10	- 80	2 963	4 858	64	..
Number of projects	57	53	- 7	- 64	6	6	0	..
Telecommunication[b]								
Value	18 345	12 263	- 33	12	527	319	- 39	822
Number of projects	32	37	16	5	3	4	33	50
Water, sanitation and hygiene (WASH)								
Value	1 159	13 247	1 043	- 81	138	1 001	623	- 61
Number of projects	11	21	91	- 64	2	5	150	- 67
Food and agriculture								
Value	8 137	4 424	- 46	- 86	0	1 932	..	- 100
Number of projects	10	20	100	- 73	0	3	..	- 50
Health								
Value	2 255	524	- 77	107	0	16	..	..
Number of projects	7	5	- 29	0	0	1	..	..
Education								
Value	406	569	40	..	242	0	..	..
Number of projects	9	8	- 11	..	3	0	..	..

Source: UNCTAD, based on information fron Refinitiv SA.

[a] Excluding renewable energy.

[b] Including information services activities

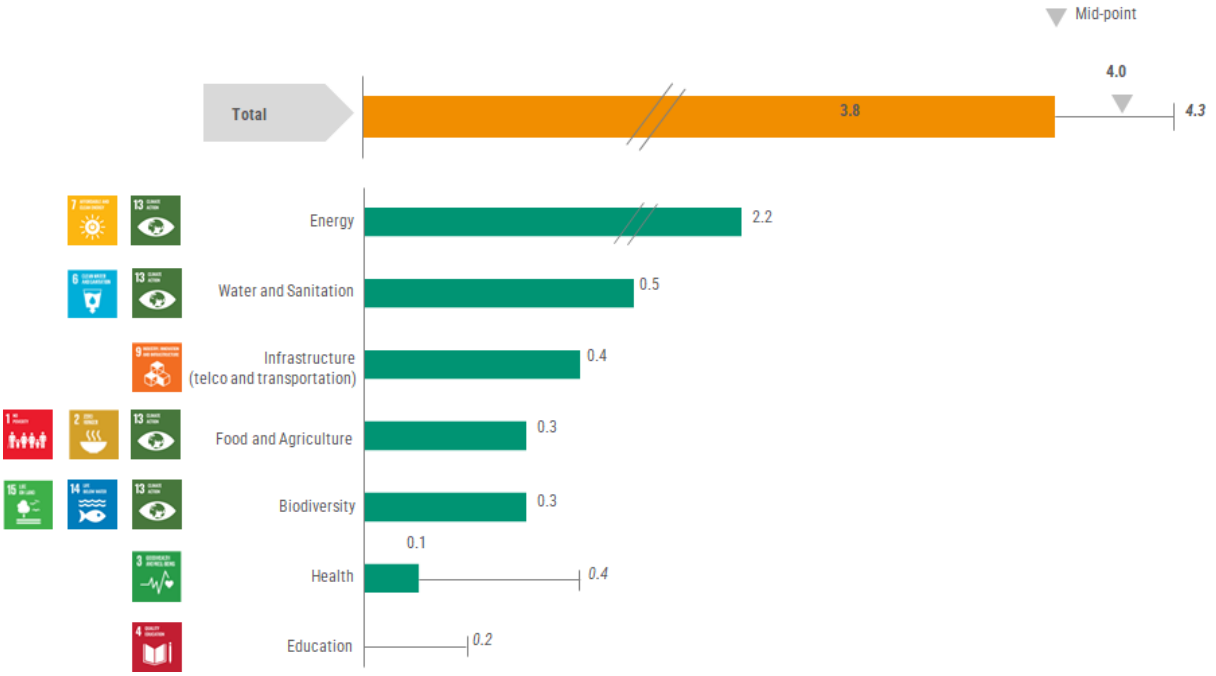
In the first half of 2023, infrastructure (which comprises transport infrastructure, power generation and distribution and telecommunication) was the only SDG sector that saw an increase in projects numbers (+3%) and value (+4%). International investment project numbers fell in all other sectors: renewable energy (-15%), water, sanitation and hygiene (WASH) (-47%), agrifood systems (-11%) and health and education (-9%).

SDG investment in LDCs in the first half of 2023 continued its downward trend (-13%) since the pandemic (values rose significantly due to a single large greenfield project announced in March 2023 when an international consortium from the United Arab Emirates, Germany and Egypt signed an agreement with the Mauritanian government for a $34 billion green hydrogen project). In 2022, LDCs received the smallest ever share of SDG-relevant investment projects within the overall developing countries group, dropping from 6.4 per cent in 2021 to 5.1 in 2022 (tables 1 and 2).

The annual SDG investment gap in developing countries is now $4 trillion; half in clean energy

UNCTAD's meta-analysis of investment gap data from specialized agencies and research studies shows that the annual SDG investment gap for developing countries to 2030 is now about $4 trillion (figure 2). This estimate primarily refers to capital expenditure (or "capex").

Figure 2. Estimated annual investment gap in key SDG sectors, capital expenditure, developing countries (trillions of dollars)



Source: UNCTAD elaboration based on various sources. Source listed by sector. *Energy* (IRENA, 2022; IEA, 2022; McKinsey & Co., 2022); *Transportation* (Rozenberg and Fay, 2019; Lefevre et al., 2016; Global Infrastructure Hub, 2017; OECD, 2017); *Telecommunication* (Oughton et al., 2022; Global Infrastructure Hub, 2017; OECD, 2017); *Water and sanitation* (Strong at al., 2020; Hutton and Varughese, 2016); *Food and Agriculture* (FAO, IFAD and WFP, 2015; FAO, IFAD, UNICEF, WFP and WHO, 2022); *Biodiversity* (Deutz et al., 2020; UNEP, 2022; OECD, 2020); *Health* (Stenberg et al., 2017; Kurowski et al., 2021); *Education* (UNESCO, 2020). See (online) appendix 1 for further details.

Note: Figures are rounded at the first decimal ($100 billion). Investment refers to capital expenditure (capex). The range reflects the uncertainty about the size of the capex component in the total investment gap for two sectors (*Health* and *Education*) for which the operational expenditure (opex) component is substantial.

The aggregate gap figure at $4 trillion is obtained as the sum of the investment gaps derived for each SDG-sector individually. This study follows the taxonomy of SDG-sectors used in UNCTAD's latest analyses of SDG investment trends (see for example UNCTAD, 2021a; and all recent *WIR* editions). This taxonomy has the advantage of building on categories that are mutually exclusive – to avoid overlap and double-counting – and collectively (nearly) exhaustive, i.e., together they cover the bulk of the capital investment needed to achieve the 17 Goals. Table 3 provides a summary overview of the scope of each SDG sector in the taxonomy.

Table 3	Summary of SDG sectors	
Sectors	**Main SDGs**	**Investment areas**
Energy	SDG 7: Affordable and Clean Energy SDG 13: Climate Action	• Renewables • Energy efficiency • Electrification • Hydrogen • Carbon capture and storage (CCS) • Bioenergy • Nuclear energy • Non-clean energy: Natural gas, oil, coal
Water and Sanitation	SDG 6: Clean Water and Sanitation SDG 13: Climate Action	• Water sources e.g., new water treatment plants, desalination plants • Sanitation facilities • Wastewater management
Transportation	SDG 9: Industry, Innovation and Infrastructure	• Increase rural access to all-season roads, paving tertiary roads • Urban public transport (tramway, light rail systems, bus rapid transit) • Low-emission vehicles: shift to rail and bus rapid transit
Telecommunications	SDG 9: Industry, Innovation and Infrastructure	• Equipment (deployment), site build, installation • Site rental, backhaul, operations and maintenance, power
Food and Agriculture	SDG 1: No Poverty SDG 2: Zero Hunger SDG 13: Climate Action	• Investment in agriculture and agri-food systems • Food processing • Agriculture research • Rural infrastructure
Biodiversity	SDG 14: Life Below Water SDG 15: Life on Land SDG 13: Climate Action	• Investment in conservation • Investment in sustainable fishing practices • Ocean pollution control • Marine resource management • Sustainable forestry
Health	SDG 3: Good Health and Well-being	• Investment in infrastructure, e.g., new hospitals • R&D on vaccines and medicines • Health education
Education	SDG 4: Quality Education	• Infrastructural investment, e.g., new schools • Investment in education infrastructure • Teacher training • Educational technology

Source: UNCTAD.

For each SDG sector, the estimation of the investment gap is based on the most recent studies published by specialized agencies, institutions, and research entities in their respective areas of competence, using a meta-analytic approach (appendix 1).[1]

While all SDG sectors are crucial to promote sustainable development, this analysis confirms the predominant importance of the *Energy* sector (*WIR23*). At $2.2 trillion, investment in energy makes up more than half of the total investment gap. This gap refers entirely to investment in "clean" energy – including renewables, energy efficiency and all other transition-related technologies and sources – covering not only SDG 7 (affordable and clean energy) but also SDG 13 (climate action). Climate action is also financed by investment in the other SDG-sectors, including most notably Water and Sanitation, Biodiversity and Food and Agriculture. However, investment in clean energy represents the lion's share of climate financing (box 1).

With an estimated investment gap of half a trillion per year, the second most capital-thirsty SDG area is *Water and Sanitation,* addressing SDG 6 ("Clean water and sanitation"). It includes water sources (e.g., new water treatment plants, desalination plants), sanitation facilities, and waste-water management. Similar to *Energy* investments, *Water and Sanitation* is an area where the objectives to secure access (SDG 6) and to tackle climate change (SDG 17) are inextricably linked (Caretta et al., 2022). Combined, *Energy* and *Water and Sanitation* represent almost 70% of the total investment gap over the remaining years to 2030.

[1] The latest (2023) UNCTAD SDG Pulse focuses on SDG-costing (https://sdgpulse.unctad.org), providing estimates of the costs of achieving SDG transition pathways for selected SDG indicators. While sharing the objective to shed light on the financing requirements to achieve the SDGs, the SDG Investment Monitor and the SDG Pulse differ in the underlying scope and methodology. The Monitor aims at quantifying the investment gap to finance capital expenditures in all developing countries, while the SDG Pulse considers both operational and capital expenditures channeled by the government in selected countries. The estimates reported in this Monitor are estimates by SDG-sector, based on available studies in relevant areas. The cost estimates, first released in SDG Pulse for 21 developing economies, were calculated for SDG transition pathways based on official statistics on government expenditures and SDG indicators, and their coverage is currently being extended.

Investment in economic *Infrastructure* (other than energy) mainly address SDG 9 "Industry, innovation and infrastructure", including targets to "Develop sustainable, resilient and inclusive infrastructure" (9.1) and to secure "Universal access to information and communication technology" (9.8). The bulk of the financing need is in transportation and telecommunication infrastructure, for which the combined investment gap for developing countries amounts to $400 billion annually (approximately equally split between transportation and telecommunication).

Eliminating extreme poverty and hunger (SDG1 and SDG 2) will require an additional $300 billion per year in *Food and Agriculture*. Investment in Food and Agriculture is also highly instrumental to support SDG 13 on "Climate action". It mainly involves capital investment in agricultural and agri-food systems, food processing, agricultural research and rural infrastructure.

The investment gap in *Biodiversity* is comparable in scale to that in *Food and Agriculture*, at about $300 billion. It covers mainly SDG 14 ("Life below water") and SDG 15 ("Life on land") but also SDG 13 on "Climate action". *Biodiversity* encompasses a wide and heterogeneous range of investment needs in areas associated with environmental sustainability, including for example nature conservation, sustainable fishing practices, ocean pollution control and sustainable forestry.

Finally, progress in social infrastructure, notably in *Health* and *Education*, is a pre-requisite for effective sustainable development and a key enabler for the achievement of all SDGs. However, most of the financing needs in these areas are absorbed by operational costs (related for example to operating hospitals and schools), while the capital expenditure component is less substantial than for the other SDG-sectors. To reflect this specificity, a range is provided to reflect the uncertainty on the size of the capex component, resulting in a combined investment gap in *Health* and *Education* of between $100 billion and $600 billion.

Box 1. UNCTAD's estimate of the SDG investment gap and SDG 13 on "Climate Action"

Climate change is one of the greatest challenges for humanity. SDG 13 on "Climate Action" must be at the core of any SDG financing effort, across all sectors.

To reflect the pervasive nature of SDG 13, unlike in *WIR14*, the new UNCTAD estimate of the SDG investment gap does not separate climate-change investment from investment in the other SDG sectors. This approach is consistent with the work of other institutions (IEA, 2022; IRENA, 2022; UNEP, 2022; McKinsey, 2022) and it reduces risks of overlaps and double counting.

Investment in climate action can be classified into two main categories, investment in mitigation and investment in adaptation. Investment in mitigation is aimed at reducing greenhouse gas emission, while investment in adaptation focuses on moderating and managing the harmful impact of the climate crisis. From a capital expenditure perspective, investment in climate change mitigation is much more prominent than investment in adaptation. UNCTAD's *WIR14* reports capital investment needs in climate change mitigation more than 5 times bigger than those for adaptation.

A more granular inspection of the main climate-related investment items (following the taxonomy in IPCC, 2022) allows an assessment of the overlap between the scope of SDG 13 and UNCTAD's sectoral approach. More specifically, box table 1 reports the taxonomy of climate mitigation areas as framed by the IPCC with six main categories (first column), each with multiple areas of intervention (second column). For each category, the coverage in UNCTAD's approach is reported based on the share of the number of areas included in the total number of areas (third column). The fourth column assigns a "weight" to UNCTAD's coverage based on the IPCC estimate of the contribution of each area to the reduction of global emissions within the category. Overall, the UNCTAD estimates cover the bulk of the investment in climate mitigation. The same exercise for climate change adaptation – a much smaller component of climate investment – still shows an overall good coverage of UNCTAD's estimate, however with some potential gaps in specific areas such as those related to migration and climate management and services.

Box table 1 UNCTAD coverage of investment in climate mitigation (SDG 13)

IPCC taxonomy of areas of intervention		UNCTAD coverage	
Main categories	**Areas of interventions**	***Number of areas included the estimate (share in total number of areas of intervention by category)***	***Contribution in reduction emissions of areas included in estimate (share in total reduction emissions of areas of interventions by category)***
Energy	Wind energy; Solar energy; Bioenergy; Hydropower; Geothermal energy; Nuclear power; Carbon capture and storage (CCS); Bioelectricity with CCS; Reduce emission from fossil fuels	100%	100%
Agriculture, Forestry, and other Land Use	Carbon sequestration in agriculture; Reduce CH4 and N2O emission in agriculture; Reduced conversion of forest and other ecosystems; Ecosystem restoration, reforestation, afforestation; Improved sustainable forest management; Reduce food loss and food waste; Shift to balanced, sustainable healthy diets	86%	76%
Buildings	Avoid demand for energy services; Efficient lighting, appliances, and equipment; New buildings with high energy performance; Onsite renewable production and use; Improvement of existing building stock; Enhanced use of wood products	100%	100%
Transport	Fuel-efficient light-duty vehicles; Electric light-duty vehicles; Shift to public transportation; Shift to bikes and e-bikes; fuel-efficient heavy-duty vehicles; Electric heavy-duty vehicles, incl. buses; Shipping – efficiency and optimization; Aviation – energy efficiency; Biofuels	70%	75%
Industry	Energy efficiency; Material efficiency; Enhanced recycling; Fuel switching (electricity, natural gas, bioenergy, H2); Feedstock decarbonization, process change; Carbon capture with utilization (CCU) and CCS; Cementitious material substitution; Reduction of non-CO2 emissions; Reduction of non-CO2 emissions	100%	100%
Other	Reduce emission of fluorinated gas; Reduce emissions from solid waste; Reduce emissions from wastewater	33%	30%
	TOTAL	**82%**	**80%**

Source: UNCTAD.

Source: UNCTAD; IPCC (2022).

From $2.5 trillion at the start to $4 trillion at the midpoint of the 2030 Agenda

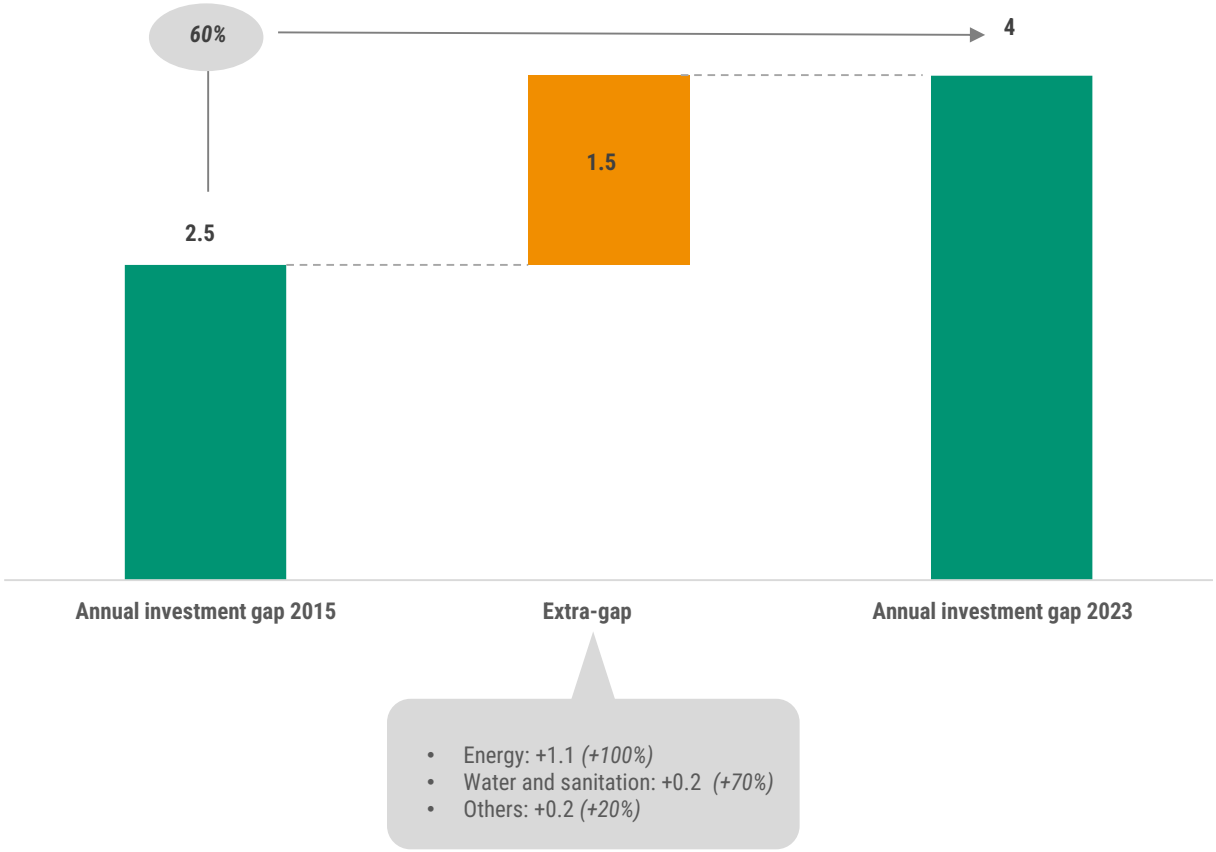
When compared with the $2.5 trillion estimated in 2014 *(WIR14)*, the aggregate annual gap in 2023 has increased by around 60% (figure 3). This increase is concentrated in the two SDG-sectors with the largest gap – *Energy* and *Water and Sanitation* – where the investment gap has grown by 100% and 70% respectively. Together these two sectors account for more than 85% of the $1.5 trillion increase in the investment gap. For the other SDG sectors, the aggregate funding gap has also increased, but more moderately.

The additional gap weighing on SDG financing is the result of two factors.

1. Underinvestment: Given the investment needed to achieve the SDGs, the pace of growth of SDG investment has been below the 2014 ambitions, with the Covid-19 pandemic playing a major role in slowing down progress. Looking at cross-border investment, a critical component of the SDG financing pool for developing countries, investment flows to SDG sectors were growing before the COVID-19 pandemic, although not at a sufficient rate. International SDG investment was then hit hard in the first year of the pandemic with double-digit declines across most sectors. A strong recovery in the last two years (2021 and 2022) is helping to bring SDG investment back on track, but only partially (UNCTAD, 2021; *WIR* various editions).

2. Additional needs: SDG investment needs have increased as a result of exogenous shocks, particularly the COVID-19 pandemic and food, fuel and finance crises. These economic shocks have hit developing countries and LDCs disproportionately. The climate change emergency is becoming more serious every year, with extreme weather events increasingly difficult to manage, especially for the most vulnerable populations exposed to acute food and water insecurity (WMO, 2022; IPCC, 2022).

Figure 3. Change in annual investment gap in key SDG sectors, 2015 and 2023, developing countries (trillions of dollars)

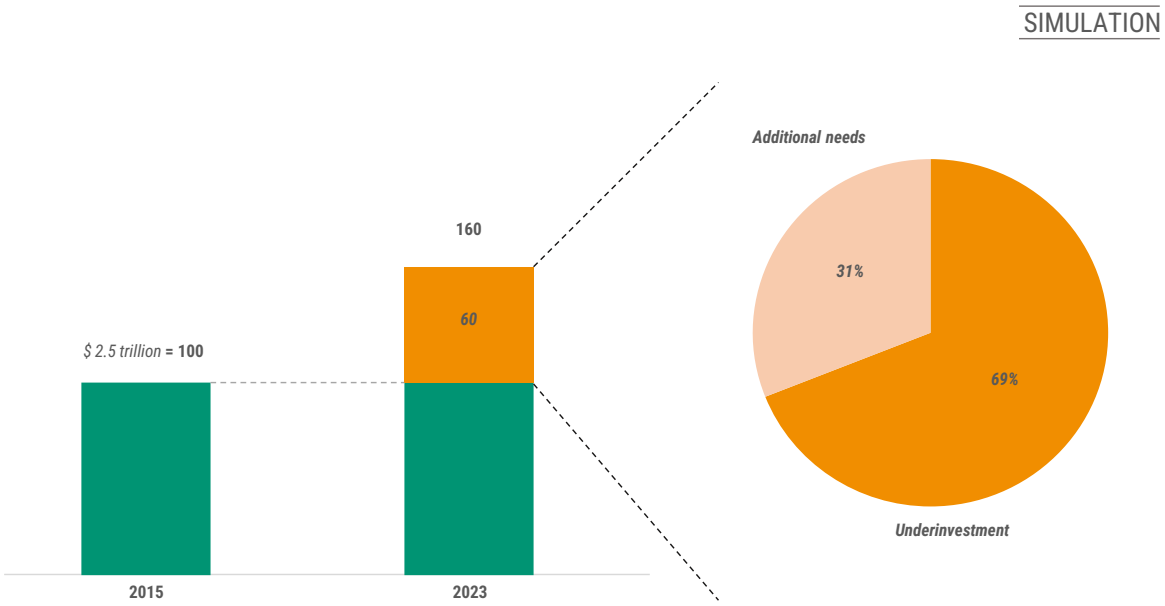


Source: UNCTAD.

The combined impact of investment shortages and exogeneous shocks is felt most in the countries in which SDG investment is most needed. Developing countries are more affected by systemic shocks because of financial constraints on public spending and difficulties in attracting international capital flows.

The relative contribution of (1) underinvestment and (2) additional needs to the $1.5 trillion additional gap accumulated since 2015 is difficult to assess based on available data. A simulation exercise by UNCTAD on the two most relevant SDG sectors from a financing perspective – *Energy* and *Water and Sanitation*, which account for more than 85% of the additional gap – suggests that both components are relevant, with underinvestment more prominent, accounting for about two thirds of the increase (figure 4).

Figure 4. Increase in investment gap in key SDG sectors, 2015 and 2023, developing countries (Per cent)



Source: UNCTAD.

Note: The additional investment generated in two sectors in the period 2015-2022 was calculated. The delta relative to the investment gap as of 2014 was attributed to "Underinvestment" expressed as a share of the investment gap in 2023. The remaining share was attributed to "Additional needs".

Six action packages to accelerate investment towards the SDGs

To support the acceleration of SDG investment, UNCTAD has developed a comprehensive set of priority actions grouped in six areas (figure 5).

These include a concerted engagement by investment policymakers at national *(package 1)* and international levels *(package 2)*; strengthened by focused partnerships for the SDGs *(package 3)*; reinforced by regional and South-South cooperation *(package 4)*; supported by innovative financing solutions and conducive financial markets *(package 5)*; and geared towards resilience to future crises and shocks *(package 6)*. These packages all represent key elements for the next big push of investment into the SDGs.

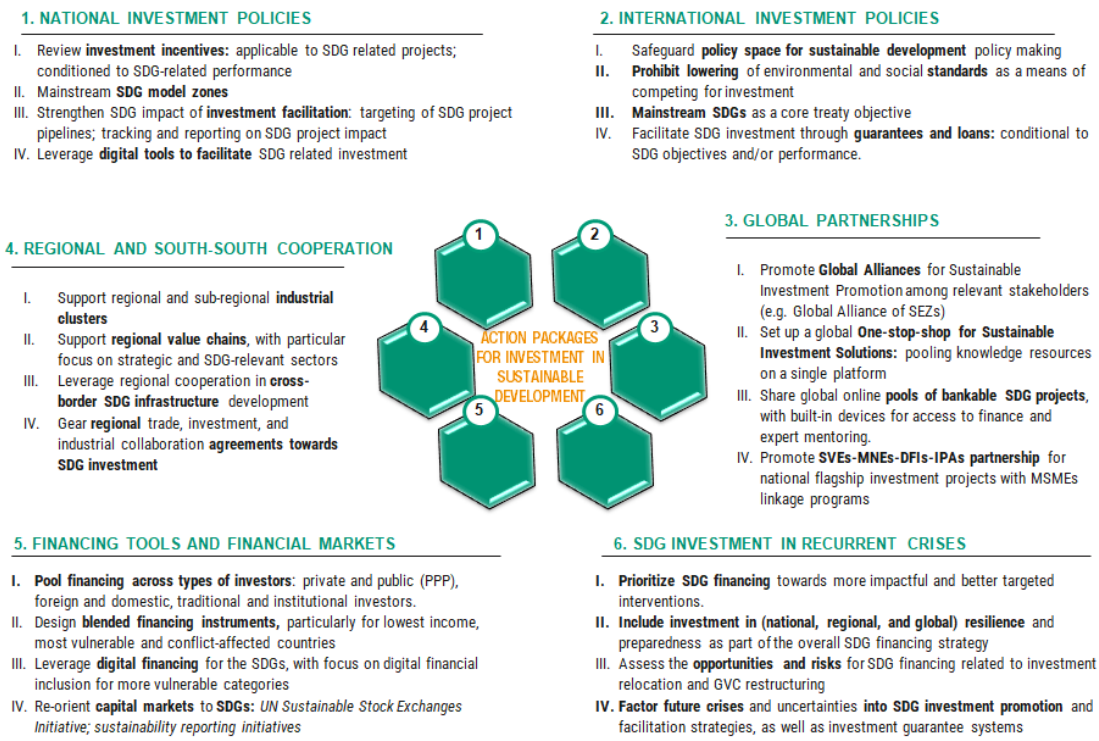
Figure 5. Six action packages and five guiding principles

Source: UNCTAD.

Note: The action packages outlined in this issue of the SDG Investment Trends Monitor and elaborated below build on UNCTAD's Investment Policy Framework for Sustainable Development, The Action Menu for Investment in the SDGs (various editions) and policy recommendations in recent issues of UNCTAD's World Investment Report and other publications.

Each of the six packages contains a menu of priority actions to accelerate investment towards the SDGs (see figure 6 and online appendix 2 for further details). These actions draw on UNCTAD's long-standing research and policy analysis and technical assistance activity at the forefront of investment in sustainable development (UNCTAD, 2015).

Figure 6. Priority actions to accelerate SDG investment



Source: UNCTAD. See (online) appendix 2 for further details.

Note: The action packages outlined in this issue of the SDG Investment Trends Monitor and elaborated below build on UNCTAD's Investment Policy Framework for Sustainable Development, The Action Menu for Investment in the SDGs (various editions) and policy recommendations in recent issues of UNCTAD's World Investment Report and other publications.

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