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APPROACH TO SUSTAINABILITY REPORTING

Reporting against GRI Standards

ABB seeks to provide clear and transparent information on how it measures and discloses its environmental, social and governance impacts

ABB's sustainability performance reporting is guided by the Global Reporting Initiative (GRI) Standards, which enable us to present what is material to our business. In this report, our overarching objective is to transparently explain how we address ABB's most prominent economic, environmental and social impacts. Omission from the material issues covered in our report does not mean that the issue is not managed by ABB.

Reporting boundaries

We cover all ABB Group companies in our formal sustainability reporting system, including wholly owned subsidiaries and majority-owned joint ventures worldwide. A full list of direct and indirect subsidiaries is shown in ABB's 2017 Annual Report.

Changes in 2017

Entities acquired during 2017 (B&R and Keymile) are not integrated into ABB's environmental and social reporting for the year. In Q1 2017, ABB divested its subsea cable business.

Data collection processes

We use two online data reporting systems to measure and collect performance data throughout the Group. One system collects monthly health and safety data from all entities in every country, while the other collects annual social data from every country and annual environmental data from every production and service site, as well as the majority of our office locations.

Data in this report relating to health and safety and our social performance covers 99 percent of all ABB employees, whereas data relating to our environmental performance was sourced from 580 ABB sites and offices, covering approximately 93 percent of our employees. Data on the environmental performance of all remaining employees, who are located at non-manufacturing sites with insignificant impacts, is provided by estimating energy, water and waste parameters pro rata.

Calculation of energy and greenhouse gas data

ABB uses a market-based method to calculate and report scope 2 greenhouse gas (GHG) emissions. For purchased electricity and district heat, we have obtained local emission factors from suppliers. For data prior to 2017, where necessary, we have sourced factors from the Institute for Environmental Analytics' CO₂ Emissions from Fuel Combustion 2013 databases or from national or regional inventories. Emission factors for fuel used at ABB sites are sourced from the GHG Protocol's Emission Factors from Cross-Sector Tools (April 2014). From 2017, emissions from ABB's vehicle fleet are based on lease contract distances and CO₂ per kilometer factors per vehicle.

Scope 2 GHG emissions for electricity have also been calculated using the location-based method and are provided for comparison below.

Scope 2 GHG emissions from electricity	Kilotons CO ₂ e
Market-based:	606
Location-based:	639

GHG emissions from air travel are calculated using the emission factors published by the UK Department for Business, Energy & Industrial Strategy (BEIS) in its "2017 Government GHG Conversion Factors for Company Reporting – Methodology Paper for Emission Factors – Final Report."

Report review panel

For the past three years, we have invited a stakeholder panel to participate in ABB's sustainability reporting process. The panel members represent key stakeholders of the company and are selected for their level of know-how and skills relevant to ABB. The panel is designed to provide us with an external forum to discuss ABB's sustainability approach, give material feedback on our progress, identify ways to help us achieve our 2020 ambitions, and agree upon a panel statement to be published as part of ABB's annual Sustainability Report. The panel statement is published on the [ABB website](#).

Independent assurance summary

ABB commissioned DNV GL to undertake independent assurance of this Sustainability Report. The assurance was completed using DNV GL's assurance methodology, VeriSustain™, and the report was evaluated for adherence to the principles of stakeholder inclusiveness, materiality, sustainability context, completeness and reliability. Performance data in scope was evaluated against the reliability principle. DNV GL's full Assurance Statement including their "Opinion," "Observations" and "Basis of opinion" is published on [ABB's website](#).

SUMMARY OF GRI INDICATORS

ABB Group Sustainability Indicators 2017

Environmental

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
	Hazardous materials						
	Phthalates (tons)	✓	106	191	878	258	21
	Brominated flame retardants (tons)	✓	0.0	0.0	0.0	1.9	2.9
	Lead in submarine cables (tons)	✓	0.017	8,246	8,376	7,842	7,236
	Organic lead in polymers (tons)	✓	0.29	1.0	1.4	0.1	0.6
	Lead in other products (tons), e.g., backup batteries and counterweights in robots	✓	2,548	3,321	1,684	1,884	2,601
	Cadmium in industrial batteries (tons)	✓	31.1	26.4	0.8	4.4	4.4
	Cadmium in rechargeable batteries (tons)	✓	40.2	45.7	97.5	75.1	67.6
	Cadmium in lead alloy and other uses (tons)	✓	0.4	7.3	6.4	6.0	5.7
	Mercury in products (tons)	✓	0.001	0.002	0.007	0.071	0.012
	SF ₆ insulation gas (inflow to ABB facilities) (tons)	✓	1,722	1,653	1,658	1,483	1,438
	SF ₆ insulation gas (outflow to customers) (tons)	✓	1,714	1,644	1,648	1,466	1,425
	No. of transformers with PCB oil in ABB facilities	✓	0	0	0	0	1
	No. of capacitors with PCB oil in ABB facilities	✓	0	0	0	0	60
	Mercury in instruments in ABB facilities (tons)	✓	0.215	0.238	0.225	0.320	0.371
302-1	Energy consumption (gigawatt-hours – GWh)						
	Biofuels ^a	✓	64.4	52	46	44	27
	Oil (11.63 MWh/ton)	✓	58.5	71	79	85	94
	Diesel (11.75 MWh/ton) ^b	✓	5.8	9	8	11	0
	Coal (7.56 MWh/ton)	✓	0	0	0	0	4
	Gas ^{c,d}	✓	684	696	777	749	788
	District heat consumption ^{c,e}	✓	209	198	181	198	251
	Electricity consumption ^{c,d,e}	✓	1,561	1,620	1,608	1,628	1,705
	Total energy used	✓	2,582	2,646	2,699	2,716	2,869
	Electricity sold ^f	✓	4.8	2	1	2	n.a.
302-3	Energy intensity (MWh/million \$ sales)	✓	75.26	78.21	75.07	67.11	67.74
302-4	Reduction of energy consumption (GWh)^a		59	53	17	153	n.a.

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
303-1	Water withdrawal (kilotons)						
	Purchased from water companies ^e	✓	3,678	3,800	4,000	4,200	4,400
	Groundwater extracted by ABB	✓	2,726	2,300	3,200	3,100	3,200
	Surface water extracted by ABB	✓	2,849	3,000	2,400	2,800	2,700
	Collection of rainwater	✓	<100	<100	<100	<100	<100
	Waste water from external source	✓	<100	<100	<100	<100	<100
	Total water withdrawal	✓	9,280	9,100	9,700	10,100	10,300
303-3	Water recycled and reused						
	Volume of water reused and recycled (kilotons)		7,807	10,600	5,200	5,200	5,900
	As percentage of total water withdrawal (%)		84	116	54	51	57
Greenhouse gas (GHG) emissions^h (kilotons CO₂ equivalent)							
305-1	Scope 1						
	CO ₂ from the use of energy ^d	✓	156	163	181	178	187
	SF ₆ (in CO ₂ equivalents) ⁱ	✓	175	221	237	382	288
	CO ₂ from transport by own fleet ^l	✓	63	350	350	350	350
305-2	Scope 2						
	District heat consumption	✓	28	31	29	35	45
	Electricity consumption ^d	✓	606	614	684	682	680
	Total scope 1 and 2 GHG emissions	✓	1,028	1,379	1,481	1,627	1,550
305-3	Scope 3						
	Air travel ^{k,l}	✓	150	164	158	171	134
305-4	GHG emissions intensity (tons CO₂ equivalents/million \$)						
	Tons CO ₂ equivalents per million \$ sales ^l	✓	34	46	46	45	40
305-7	Emissions of volatile organic compounds (tons)						
	Volatile organic compounds (VOC)	✓	987	1,105	1,223	1,291	1,210
	Chlorinated volatile organic compounds (VOC-Cl)	✓	3	6	13	20	20
	Emissions of NO_x and SO_x (tons SO₂ and NO₂)						
	SO _x from burning coal		0	0	0	0	3
	SO _x from burning oil and biofuels		89	82	97	97	89
	NO _x from burning coal		0	0	0	0	2
	NO _x from burning oil and biofuels		67	72	73	73	67
	NO _x from burning gas		148	150	168	162	170

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
306-1	Water discharge by quality and destination (kilotons)						
	Public sewer		3,039	4,200	3,100	3,000	3,600
	treated (percentage)		38%	21%	28%	30%	31%
	untreated (percentage)		62%	79%	72%	70%	69%
	Recipient ^m		444	4,500	2,600	2,900	2,300
	treated (percentage)		81%	15%	90%	90%	87%
	untreated (percentage)		19%	85%	10%	10%	13%
	Hazardous treatment company		45	300	360	400	500
	treated (percentage)		13%	71%	90%	75%	60%
	untreated (percentage)		87%	29%	10%	25%	40%
	External use		0	0	<100	<100	<100
	treated (percentage)		-	-	63%	50%	50%
	untreated (percentage)		-	-	37%	50%	50%
306-2	Waste (kilotons)						
	Scrap metal recycled	✓	153	148	158	162	185
	Non-hazardous waste recycled ^d	✓	61	53	53	49	52
	Non-hazardous waste sent for disposal ^e	✓	36	37	44	44	50
	Hazardous waste recycled ^g	✓	5	7	5	5	5
	Hazardous waste sent for disposal ^h	✓	8	8	10	13	9
	Total waste (generated)	✓	263	254	270	273	301
306-3	Numbers of significant spills^o						
	Oil spills		19	17	11	7	13
	Chemical spills		10	6	1	0	0
	Emissions to air		3	6	11	3	3
	Others		12	9	0	0	4
	Total number of significant spills		44	38	23	10	20

Social

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
401-1	Total number and rates of new employee hires and employee turnover						
	Total workforce by region (ABB employees)						
	Europe		63,000	61,400	61,600	63,000	65,000
	The Americas		28,800	29,000	30,900	32,200	34,400
	Asia, Middle East and Africa		43,000	41,900	43,300	45,200	48,300
	Total		134,800	132,300	135,800	140,400	147,700
	Employee turnover						
	Turnover of all employees^p						
	Europe		7,105 11%	6,063 10%	5,891 9%	5,877 9%	5,387 9%
	The Americas		3,148 11%	5,338 17%	5,409 17%	5,379 17%	4,760 14%
	Asia, Middle East and Africa		3,749 9%	4,430 11%	4,946 12%	5,701 13%	5,534 13%
	Total employee turnover: ABB Group		14,002 10%	15,831 12%	16,246 12%	16,957 12%	15,681 11%
	Turnover of all female employees^p						
	Europe		2,097 3%	1,571 2%	1,498 2%	1,370 2%	1,217 2%
	The Americas		940 3%	1,265 4%	1,418 5%	1,307 4%	1,026 3%
	Asia, Middle East and Africa		855 2%	882 2%	1,093 3%	1,311 6%	1,358 3%
	Total female employee turnover: ABB Group		3,892 3%	3,718 3%	4,009 3%	3,882 3%	3,601 3%
	Employee hires						
	Hires of all employees^p						
	Europe		6,888 11%	5,656 9%	5,672 9%	6,195 10%	6,086 10%
	The Americas		3,905 13%	3,354 11%	3,573 11%	4,142 13%	4,246 12%
	Asia, Middle East and Africa		4,403 11%	2,920 7%	3,777 9%	5,493 13%	5,219 10%
	Total employee hires: ABB Group		15,196 11%	11,930 9%	13,022 10%	15,830 12%	15,551 11%
	Hires of all female employees^p						
	Europe		2,161 3%	1,681 3%	1,520 2%	1,597 3%	1,453 2%
	The Americas		1,030 3%	937 3%	769 2%	1,010 3%	971 3%
	Asia, Middle East and Africa		900 2%	586 1%	761 2%	1,308 3%	1,467 3%
	Total female employee hires: ABB Group		4,091 3%	3,204 2%	3,050 2%	3,915 3%	3,891 3%

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013 ^a
403-2	Occupational health and safety: Injuries, lost days, diseases and fatalities						
	Employee work-related fatalities ^t	✓	1	0	0	1	0
	Incident rate ^s	✓	0.00	0.00	0.00	0.00	0.00
	Employee business travel fatalities ^{t,u}	✓	1	1	0	0	0
	Incident rate ^s	✓	0.00	0.00	0.00	0.00	0.00
	Contractor work-related fatalities ^t	✓	2	5	2	2	7
	Contractor business travel fatalities ^{t,u}	✓	0	2	0	0	0
	Members of the public fatalities ^f	✓	0	0	1	0	1
	Employee total recordable incident number ^{t,v}	✓	1,049	1,140	1,310	1,500	1,664
	Incident rate ^s	✓	0.73	0.79	0.87	0.99	1.09
	Contractor total recordable incident number ^{t,v}	✓	205	277	343	333	310
	Incident rate ^s	✓	0.52	0.70	0.80	0.78	0.75
	Employee lost time incident number ^z	✓	472	441	531	652	686
	Incident rate ^s	✓	0.33	0.30	0.36	0.43	0.47
	Contractor lost time incident number ^z	✓	95	118	163	200	158
	Incident rate ^s	✓	0.24	0.30	0.38	0.47	0.38
	Employee lost days due to industrial incidents ^w		7,331	6,905	7,831	8,415	10,591
	Days lost rate ^s		5.11	4.78	5.26	5.52	7.75
	Employee occupational health diseases	✓	35	65	46	17	10
	Employee occupational health disease rate ^s	✓	0.02	0.05	0.03	0.01	0.01
	Safety Observation Tours (SOT) conducted ^t	✓	182,265	178,473	139,124	–	–
	SOT rate ^s	✓	1.27	1.24	0.92	–	–
	Hazards reported ^t	✓	585,627	621,849	520,942	–	–
	Hazards reporting rate ^s	✓	4.08	4.31	3.51	–	–
	Data by region						
	Employee work-related fatalities: ABB Group	✓	1	0	0	1	–
	Europe	✓	0	0	0	0	–
	The Americas	✓	1	0	0	0	–
	Asia, Middle East and Africa	✓	0	0	0	1	–
	Employee business travel fatalities: ABB Group	✓	1	1	0	0	–
	Europe	✓	0	0	0	0	–
	The Americas	✓	0	1	0	0	–
	Asia, Middle East and Africa	✓	1	0	0	0	–

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013 ^a
	Contractor work-related fatalities: ABB Group	✓	2	5	2	2	–
	Europe	✓	0	0	0	0	–
	The Americas	✓	1	0	0	0	–
	Asia, Middle East and Africa	✓	1	5	2	2	–
	Contractor business travel fatalities: ABB Group	✓	0	2	0	0	–
	Europe	✓	0	0	0	0	–
	The Americas	✓	0	2	0	0	–
	Asia, Middle East and Africa	✓	0	0	0	0	–
	Employee total recordable incident rate: ABB Group	✓	0.73	0.79	0.88	0.10	–
	Europe	✓	0.86	0.96	1.02	1.16	–
	The Americas	✓	1.17	1.18	1.40	1.57	–
	Asia, Middle East and Africa	✓	0.24	0.27	0.31	0.39	–
	Contractor total recordable incident rate: ABB Group	✓	0.52	0.70	0.80	0.78	–
	Europe	✓	1.38	1.69	1.88	1.97	–
	The Americas	✓	0.96	1.47	1.54	1.40	–
	Asia, Middle East and Africa	✓	0.24	0.35	0.37	0.35	–
	Employee lost time incident rate: ABB Group	✓	0.33	0.30	0.36	0.43	–
	Europe	✓	0.48	0.47	0.56	0.66	–
	The Americas	✓	0.34	0.29	0.33	0.40	–
	Asia, Middle East and Africa	✓	0.09	0.08	0.08	0.12	–
	Contractor lost time incident rate: ABB Group	✓	0.24	0.30	0.38	0.47	–
	Europe	✓	0.73	0.93	1.03	1.38	–
	The Americas	✓	0.35	0.81	0.84	0.86	–
	Asia, Middle East and Africa	✓	0.10	0.07	0.12	0.15	–
	Employee days lost rate: ABB Group		5.11	4.78	5.26	5.52	–
	Europe		6.95	5.98	7.32	8.25	–
	The Americas		6.43	7.81	6.02	8.28	–
	Asia, Middle East and Africa		1.49	0.99	1.74	1.72	–
	Employee occupational health disease rate: ABB Group	✓	0.02	0.05	0.03	0.01	–
	Europe	✓	0.05	0.09	0.06	0.02	–
	The Americas	✓	0.00	0.02	0.02	0.03	–
	Asia, Middle East and Africa	✓	0.00	0.05	0.00	0.00	–

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013 ^a
	SOT rate: ABB Group	✓	1.27	1.24	0.92	–	–
	Europe	✓	0.84	0.76	0.51	–	–
	The Americas	✓	1.71	1.87	1.41	–	–
	Asia, Middle East and Africa	✓	1.61	1.53	1.17	–	–
	Hazard rate: ABB Group	✓	4.08	4.31	3.51	–	–
	Europe	✓	3.37	3.65	2.67	–	–
	The Americas	✓	4.81	4.78	4.25	–	–
	Asia, Middle East and Africa	✓	4.64	5.03	4.19	–	–
406-1	Non-discrimination						
	Total number of incidents of discrimination		0	0	0	1	1
	Total number of incidents of harassment		9	5	8	10	10
415-1	Public policy						
	Financial and in-kind political contributions		\$300	\$10,400	\$12,600	\$13,000	0
404-1	Training and education						
	Training per year per employee (average hours)						
	Canada		19	18	30	20	18
	China		17	25	22	26	27
	Finland		13	15	17	19	18
	Germany		18	18	18	18	16
	India		5	3	2	12	12
	Italy		12	10	12	12	19
	Poland		20	12	10	11	12
	Sweden		12	10	10	12	12
	Switzerland		14	15	14	16	20
	US		24	24	27	32	28

GRI ref.	Indicator description	Data assured	2017	2016	2015	2014	2013
405-1	Diversity and equal opportunity						
	Composition of governance bodies						
	Board of Directors						
	Women in Board (percentage)		10%	18%	13%	13%	13%
	Age group diversity (percentage)						
	<30 years old		0%	0%	0%	0%	0%
	30–50 years old		0%	0%	0%	0%	0%
	>50 years old		100%	100%	100%	100%	100%
	Number of nationalities		8	10	8	7	7
	Executive Committee						
	Women in Executive Committee (percentage)		9%	9%	9%	9%	9%
	Age group diversity total (percentage)						
	<30 years old		0%	0%	0%	0%	0%
	30–50 years old		27%	18%	27%	36%	45%
	>50 years old		73%	82%	73%	64%	55%
	Number of nationalities		8	7	8	8	8
	Employees in senior and middle management						
	Women in senior and middle management		16%	18%	17%	15%	15%
	Men in senior and middle management		84%	82%	83%	85%	85%
	Total workforce (ABB employees)						
	Women in total workforce		23%	23%	23%	22%	22%
	Men in total workforce		77%	77%	77%	78%	78%

- a Biofuels were reported as a separate category in 2017. Biofuel consumption, total energy used, and energy intensity have been restated for 2013–2016, since the use of biofuels was previously not reported at one of our large facilities.
- b Diesel consumption was reported separately for the first time in 2014.
- c Results for these indicators are based on reported data covering 93% of employees in 2017, 97% in 2016, 95% in 2015, 93% in 2014 and 88% in 2013, plus energy use per employee for the remaining employees pro rata. See the Approach to reporting section for more details.
- d Gas and electricity consumption and the associated greenhouse gas (GHG) emissions have been restated for 2013–2015, due to the correction of earlier conversion factor errors at one of our large facilities.
- e ABB Sustainability Performance Reports prior to 2014 included calculated "losses at utilities" for district heat and purchased electricity consumption in total energy consumption. Those loss calculations have been removed.
- f Data for electricity sold was reported for the first time in 2014.
- g Data for reduction of energy consumption was reported for the first time in 2014.
- h See Approach to reporting chapter for more details on GHG emission calculation.
- i In 2015, we updated the factor used to convert SF₆ emissions to CO₂ equivalents to 22,800 kg CO₂e/kg SF₆, as recommended by the UK Department of Energy & Climate

- Change in July 2014, and have applied that factor to SF₆ data reported for all years.
- j 2017 data see Approach to reporting; 2013–2016 data was estimated.
- k The air travel indicator included data from ABB Bulgaria, Croatia, Greece, Kazakhstan and Romania for the first time in 2016 and from ABB China and Thomas & Betts for the first time in 2014.
- l Data for air travel is calculated using the emission factors published by the UK Department for Business, Energy & Industrial Strategy in its "2017 Government GHG Conversion Factors for Company Reporting – Methodology Paper for Emission Factors – Final Report."
- m Cooling water quality remains unchanged by its use at ABB and is discharged without treatment. Data for 2016 exceptionally included discharge of cooling water to recipient.
- n Hazardous waste as classified in the country where it is generated.
- o An environmental incident is regarded as significant if at least one of the following criteria applies to the incident: obligation to inform local authorities or a governmental agency about the incident and/or regulatory violation; inspection by an environmental agency results in a formal complaint; environmental Notice of Violation, a Consent Order or a Potential Responsible Party (PRP) notification; imposition of a penalty or fine; significant impact on an ecosystem; costs related to the incident exceed, or may exceed, \$10,000.

- p Includes part-time employees. Turnover rate calculated as number of ABB employees (full- and part-time) leaving during the year/total number of ABB employees (full- and part-time) as at 31 December. For the purpose of this calculation, employees who leave the organization voluntarily or involuntarily whether due to dismissal, retirement, or death in service or any other reason, are included. However, involuntary turnover arising out of divestments is excluded from the definition.
- q 2013 safety data from Thomas & Betts, a company acquired by ABB during 2012, does not include contractors.
- r Fatalities also include deaths occurring within one year as a result of injuries sustained and commuting is excluded.
- s The number of recorded incidents multiplied by 200,000/total hours worked.
- t Data covers incidents that happened at workplace (ABB facility, customer site, project site).
- u Incidents during air travel on business trips are excluded.
- v Total recordable incidents include fatal, lost-time injuries, serious injuries, medical treatment injuries, occupational diseases and restricted workday cases.
- w Days lost are calendar days and are counted from the day after the incident.
- x Rate is calculated per employee.