

MATERIAL TOPIC: WATER, INCLUDING PRODUCED WATER	2018	2019	2020	2021	2022	CONTEXT	GRI/SASB
Annual Production - Annual Report figure, financial control: boe	31,853,185	36,630,232	34,839,540	31,173,190	31,093,255		
Annual Production - Annual Report minus non-operated volumes (CDP): boe	28,712,829	36,604,811	34,723,518	31,154,575	31,058,580	2015-2016: excludes non-op volumes from GBU & IBU; 2017: excludes non-op from IBU; 2018: excludes ~11 months non-op from IBU	
Annual Production - Operated facility throughput including third-party volumes: boe	29,440,819	44,708,966	42,202,207	36,865,352	35,634,107	Use for water intensity calculations to ensure numerator/denominator alignment	
WATER WITHDRAWALS	2018	2019	2020	2021	2022		
Total water withdrawal including produced water: ML	43,041	70,158	67,202	65,605	62,602	Until 2018, the production and re-use of produced water was reported separately from water withdrawn from other sources. For 2019+, reporting aligned with CDP's definitions & informed by GRI 303 (2018) and SASB EM-EP-140a.1 and 2; included conversion from m3 to ML (ML = m3/1000)	EM-EP-140a.1 303-3
Canada	17,833	39,234	34,852	31,638	30,580		
France	15,730	14,863	13,903	13,709	12,982		
Netherlands	46	25	25	15	13		
Australia	8,795	15,270	17,386	18,912	17,500		
United States	108	326	384	302	393		
Germany	526	397	628	1,005	1,109		
Central and Eastern Europe - Hungary and Croatia	1.1	3.9	1.6	0.9	2.5		
Ireland	2	36	24	24	23.1		
Total water withdrawal excluding produced water: ML	767	7,009	8,248	9,590	9,763	Approximately 85% of water withdrawal is produced water	303-3
Canada	113	187	141	154	334		
France	625	494	581	420	420		
Netherlands	27	11	5	5	7		
Australia	0	6,189	7,398	8,949	8,992		
United States	0	106	109	51	0.32		
Germany	0	3	1.7	0.7	1.0		
Central and Eastern Europe - Hungary and Croatia	1.1	3.9	1.6	0.9	2.5		
Ireland	2	16	12	9	7.8		
Total Water Withdrawal including produced water, by source							
Surface/Freshwater, including rainwater, wetlands, rivers, lakes: ML	16	44	12	124	312	Total dissolved solids <10,000mg/L	EM-EP-140a.1
Canada	16	40	12	124	312	2021 increase offset by reduction in renewable groundwater; 2022 increase due to new Mica operations	
France	0	0	0	0	0		
Netherlands	0	4	0	0	0		
Australia	0	0	0	0	0		
United States	0	0	0	0	0		
Germany	0	0	0	0	0		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	-	0	0	0	0		
Surface/Brackish water, including oceans: ML	213	198	7,398	8,949	8,992	Total dissolved solids >10,000mg/L	
Australia	213	6,189	7,398	8,949	8,992	Only applicable in Australia	
Groundwater - renewable: ML	700	622	691	436	425	Generally shallower groundwater resources that can be replenished/recharged within ~50 years	EM-EP-140a.1
Canada	82	128	116	22	13		
France	618	494	575	414	412		
Netherlands	1	0	0	0	0		
Australia	0	0	0	0	0		
United States	0	0	0	0	0		
Germany	0	0	0	0	0		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	0	0	0	0	0		
Groundwater - non-renewable, excluding produced water: ML	47	106	109	50	0	Generally deeper groundwater resources that have negligible recharge within ~50 years	

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United States	47	106	109	50	0		
Groundwater - non-renewable, produced water: ML	42,274	63,148	58,955	56,016	52,838	Includes formation water, flow-back water and condensation water	
Canada	17,720	39,047	34,711	31,484	30,246		
France	15,105	14,370	13,322	13,289	12,562		
Netherlands	20	14	20	9	7		
Australia	8,795	9,082	9,988	9,963	8,508		
United States	108	221	275	251	393	2022 includes third-party produced water volumes (East Finn, Kissack, Tall Grass)	
Germany	526	395	626	1,004	1,108		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	0	20	12	15	15.3		
Third-party sources - Municipal water supplies or utilities: ML	51	49	38	29	35		EM-EP-140a.1
Canada	15	19	13	7	9		
France	7	0	6	6	8		
Netherlands	26	8	5	5	7		
Australia	0	0	0	0	0		
United States	0	0	0	0	0		
Germany	0.1	2.2	1.2	0.7	1.0		
Central and Eastern Europe - Hungary and Croatia	1.1	3.9	1.6	0.9	2.5		
Ireland	2	16	12	9	7.8		
Total Freshwater Withdrawal = renewable groundwater + surface water + third party potable sources: ML	767	715	741	590	772		EM-EP-140a.1 303-3
Total freshwater intensity: ML/operated boe	0.000026	0.000016	0.000018	0.000016	0.000022	Freshwater defined as surface/freshwater + groundwater renewable + third-party sources	
Water sources significantly affected by water withdrawal: #	0	0	0	0	0	Sustained inability to meet human &/or ecological requirements of availability, quality or accessibility	303-1
Water recycled and reused = reduction in water use: ML	0	0	0	0	0		303-1
Water recycled and reused: %	0%	0%	0%	0%	0%	Based on water withdrawals excluding produced water	303-3
WATER DISCHARGE	2018	2019	2020	2021	2022	Effective 2019, water discharge is reported in alignment with CDP definitions for destinations	303-4
Total water discharge all destinations, including produced water: ML		70,158	67,203	65,603	62,599		
Canada		39,234	34,847	31,638	30,580		
France		14,863	13,903	13,709	12,982		
Netherlands		25	25	13	10		
Australia		15,270	17,386	18,912	17,500		
United States		326	384	302	393	2022 includes third-party produced water volumes (East Finn, Kissack, Tall Grass)	
Germany		397	630	1,005	1,109		
Central and Eastern Europe - Hungary and Croatia		3.9	3.9	0.9	2.5		
Ireland		36	24	24	23.1		
Total water discharge excluding produced water: ML	8,896	6,484	8,248	9,168	9,760		
Canada	15	181	136	154	334		
France	0	0	581	420	420		
Netherlands	58	20	5	3	4		
Australia	8,795	6,189	7,398	8,949	8,992		
United States	0	51	109	51	0.3		
Germany	0	2.6	4.0	0.7	1.0		
Central and Eastern Europe - Hungary and Croatia	0	3.9	3.9	0.9	2.5		

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Ireland	28	36	12	9	7.8		
Surface/Freshwater, including rainwater, wetlands, rivers, lakes: ML		0	0	0	0		
United States		0	0	0	0.18		
Surface/Brackish water, including oceans: ML		15,272	17,386	18,912	17,500		
Australia		15,270	17,386	18,912	17,500		
Ireland		2	0	0	0	No produced water discharged offshore in 2020, 2021 or 2022	
Groundwater - renewable: ML		3	2	11	65		
Canada		3.3	2.3	11	65		
France		0	0	0	0		
Netherlands		0	0	0	0		
Australia		0	0	0	0		
United States		0	0	0	0		
Germany		0	0	0	0		
Central and Eastern Europe - Hungary and Croatia		0	0	0	0		
Ireland		0	0	0	0		
Groundwater - non-renewable, excluding produced water: ML		0	109	32	0		
United States		0	109	32	0		
Groundwater - non-renewable, produced water: ML		54,592	48,910	46,005	44,275		EM-EP-140a.1
Canada		39,053	34,681	31,442	30,207		
France		14,863	13,322	13,289	12,562		
Netherlands		5	6	0	6		
Australia		0	0	0	0		
United States		276	275	270	393	2022 includes third-party produced water volumes (East Finn, Kissack, Tall Grass)	
Germany		395	626	1,004	1,108		
Central and Eastern Europe - Hungary and Croatia		0	0	0	0		
Ireland		0	0	0	0		
Third-party facilities - Municipal or Private: ML		289	792	643	759		
Canada		178	165	184	308		
France		0	581	420	420		
Netherlands		20	19	13	4		
Australia		0	0	0	0		
United States		51	0.5	0.5	0.3		
Germany		2.2	1.7	0.7	1.0		
Central and Eastern Europe - Hungary and Croatia		3.9	1.6	0.9	2.5		
Ireland		34	24	24	23		
Other - Water still in storage - NL only		0	0	2	3		
Water bodies significantly affected by discharges of water	0	0	0	0	0	Defined as sustained inability to meet human &/or ecological requirements of availability, quality, accessibility	306-5
Volume and % of produced water by disposal method:							
Reused: % and volume	0	0	0	0	0		GRI 11.6.5
Recycled: %	0	0	0	0	0		GRI 11.6.5
Recycled - volume: ML	1	0	0	0	0		GRI 11.6.5
Canada	0	0	0	0	0		
France	0	0	0	0	0		

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Netherlands	0	0	0	0	0		
Australia	0	0	0	0	0		
United States	0	0	0	0	0		
Germany	1	0	0	0	0		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	0	0	0	0	0		
Reinjected: %	79	86	83	82	84		GRI 11.6.5
Reinjected - volume: ML	33,450	54,037	48,840	46,028	44,274		GRI 11.6.5
Canada	17,728	39,047	34,711	31,484	30,207		
France	15,105	14,370	13,222	13,289	12,562		
Netherlands	9	5	6	0	6		
Australia	0	0	0	0	0		
United States	83	221	275	251	393	2022 includes third-party produced water volumes (East Finn, Kissack, Tall Grass)	
Germany	526	395	626	1,004	1,107		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	0	0	0	0	0		
Hydrocarbon discharged within produced water: tonnes	70	73	117	99	68	Refers to discharges to surface water or renewable (shallow) groundwater	EM-EP-140a.3
Canada	0	0	0	0	0		GRI 11.6.5
France	0	0	0	0	0		GRI 11.6.5
Netherlands	0	0	0	0	0		GRI 11.6.5
Australia	70	73	117	99	68.1		GRI 11.6.5
United States	0	0	0	0	0		GRI 11.6.5
Germany	0	0	0	0	0		GRI 11.6.5
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		GRI 11.6.5
Ireland	0	0	0	0	0		GRI 11.6.5
Annual Water Consumption: ML		0	0	0	0	Total water withdrawals - total water discharges	303-5
Percentage of workers with fully-functioning, safely managed WASH (water, sanitation and hygiene facilities)		100	100	100	100	New data reported beginning in 2019 to align with CDP	CDP