

### Energy management plan 2022

site	scope	topic	detail	target value (related to site)	unit	value (tons CO <sub>2</sub> )	responsible	result	value	unit'	value (tons CO2)'	annotation
G	3	ECO Design	reduction of needed amount of steel and paint or substitution of aluminium	750	tons	1500	engineering manager					
IEM	2 / 3	electricity: wind turbine	placing of Eneco wind turbine	yes			director IEM	yes				Study completed. Permit OK december 2019 > appeal december 2020 > appeal december 2021 > still no decision Remark: Switch from purchase to own production, no CO2 savings as the switch is from solar to wind. But this means the total production of green energy enlarges, and thus is available for other consumers.
WIL	1	heating: geothermal energy	study geothermal energy Balen	under investigation			director WIL	ongoing				* GEBO + 3 andere: prijsvraag ondiepe geothermie (100-ish)
SPB	2 / 3	electricity: wind turbine	study wind turbine Hoboken	under investigation			director SPB	ongoing				investigation ongoing by Eneco
SPB	2 / 3	electricity: solar panels	study solar panels Hoboken	under investigation			director SPB	yes				2020: investigation ongoing. Not on roof as structure is not suited. Currently investigating wall mounted panels 2021: revamp initiative, part of SMU overall PV investigation
SPO	2	electricity: measuring is knowing	detailed study of energy use	yes			technician electrical automation	yes				Study with Siemens devices ongoing Order placed, delivery time October 2022
G	3	transport of employees: electric cars	add to car policy: charge point squating	yes			Financial director	ongoing				
SPO	1 + 2	various	renovation plan Niemodlin: lighting, heating, insulation (wall panels, skylights)	yes			director SPO	ongoing				As there is no historic data available, it is not possible to calculate savings from these actions. 2021: offices coal heating replaced by heat pump 2022: social areas coal heating to be replaced by green label pellets
G	1 + 2	CO <sub>2</sub> neutral plan	draft an energy transition plan to achieve CO <sub>2</sub> neutrality by 2035	31/12/2022			senior MT member	ongoing				
G	3	sustainable purchasing	sustainable purchasing policy	31/12/2022			director PPL	2023				
SPB	2 / 3	electricity: efficient use	replace air compressors				director SPB	yes				2021: investment request ongoing, to be replaced before end of 2022 incl. heat recovery postponed to 2024 hall D in 2022 hall A + C in 2023
WIL	1	heating: insulation	Asbestos removal and roof insulation hall E	yes			director WIL	2024				
new	IEM	2 / 3	electricity: solar panels	study solar panels Arendonk	under investigation		director IEM	yes				
new	WIL	2 / 3	electricity: solar panels	study solar panels Balen	under investigation		director WIL	yes				
new	SPO	2 / 3	electricity: solar panels	study solar panels Zary	under investigation		director SPO	ongoing				
new	SPO	2 / 3	electricity: solar panels	study solar panels Niemodlin	under investigation		director SPO	ongoing				
new	SPO	2 / 3	electricity: solar panels	study solar panels Leknica	under investigation		director SPO	ongoing				
new	SPU	2 / 3	electricity: solar panels	study solar panels Newcastle	under investigation		director SPU	ongoing				
new	WIL	2 / 3	electricity: solar panels	study solar panels Bleukens Balen	500	MWp	director WIL	ongoing				
new	IEM	1	heating: insulation	new offices / storage / lab painting: low-energy label			director IEM	no go				according to legislation, no extra demands focus on expansion main office building
new	WIL	1	electricity: efficient use	replace air compressors: energy reduction / energy monitoring			director WIL	yes				done
new	WIL	1	electricity: efficient use	new automated blasting machine: energy efficiency / energy monitoring			director WIL	2024				postponed to 2024 (hall E)
new	WIL	1	heating: insulation	Asbestos removal and roof & wall Insulation hall D	yes		director WIL	yes				
new	SPB	2 / 3	electricity: efficient use	applying lessons learned from monitoring to new ventilation system blasting and painting Albert hall	yes		technician electrical automation	ongoing				
new	SPU	2 / 3	electricity: efficient use	applying lessons learned from monitoring to new ventilation system blasting and painting hall	yes		technician electrical automation	ongoing				
new	SPO	2	electricity: green electricity	green contract Leknica	500.000	kWh	285	director SPO	236,57	tons		493892kWh biomass x (0,523-0,044)kg CO2 / kWh = 236,57 tons CO2 20% per year = 10% reduction year average
new	GR	1	transport of employees: electric cars	replacement of combustion engine vehicles with electric cars	25.000	L	75	director PPL	114,84	tons		yearly estimated consumption due to charging, based on data March-April 2023: 255189 kWh/y / 20kWh/100km = 1275947 km x 0,180 kg CO2/km = 229,67 ton CO2 As we evolved from 0 to 100% over the year, tons saved in 2022 is half = 114,84 tons
new	GR	1	compensation	compensating welding gasses, in anticipation of synth gasses	333	trees	4,24	director QHSE	4,24	tons		5000€ budget for 2022 Ecotree: 15€ per boom, 700kg CO2, 55 jaar > 4,24 ton/; 233 ton totaal BOS+: 15€ per boom, gift = 45% fiscaal aftrekbaar, bedrijfsbos = 7500€/ha, 24kg/; > 8 ton/; Natuurpunt, 5000€, 15€/boom = 333 boompjes
new	GR	3	product development	solar carport					yes			
new	GR	3	product development	Act&Sorb activated carbon filter					ongoing			
new	GR	3	product development	agrisolar SolTree								
new	GR	1	transport of employees: electric cars	placement of 100 charging points	yes				yes			
<b>Reduction target scope 1/2 :</b>				360	ton CO <sub>2</sub> / year			<b>Realized reduction:</b>	355,65	ton CO <sub>2</sub> / year		
				3,75%	% of 2021				3,70%	% of 2021		
<b>Reduction target scope 3 :</b>				1500	ton CO <sub>2</sub> / year							

## Energy management plan 2023

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G	3	ECO Design	reduction of needed amount of steel and paint or substitution of aluminium	750	tons	1500	engineering manager				
WIL	1	heating: geothermal energy	study geothermal energy Balen	under investigation			director WIL				* GEBO + 3 andere: prijsvraag ondiepe geothermie (100-ish)
SPB	2 / 3	electricity: wind turbine	study wind turbine Hoboken	under investigation			director SPB				investigation ongoing by Eneco
G	3	transport of employees: electric cars	add to car policy: charge point squatting	yes			Financial director				
SPO	1 + 2	various	renovation plan Niemodlin: lighting, heating, insulation (wall panels, skylights)	yes			director SPO				As there is no historic data available, it is not possible to calculate savings from these actions. 2021: offices coal heating replaced by heat pump 2022: social areas coal heating to be replaced by green label pellets
G	1 + 2	CO <sub>2</sub> neutral plan	draft an energy transition plan to achieve CO <sub>2</sub> neutrality by 2035	31/08/2023			senior MT member				
G	3	sustainable purchasing	sustainable purchasing policy	31/12/2023			director PPL				
WIL	1	heating: insulation	Asbestos removal and roof insulation hall E	yes			director WIL	2024			postponed to 2024 hall D in 2022 hall A + C in 2023
SPO	2 / 3	electricity: solar panels	study solar panels Zary	under investigation			director SPO				
SPO	2 / 3	electricity: solar panels	study solar panels Niemodlin	under investigation			director SPO				
SPO	2 / 3	electricity: solar panels	study solar panels Leknica	under investigation			director SPO				
SPU	2 / 3	electricity: solar panels	study solar panels Newcastle	under investigation			director SPU				
WIL	2 / 3	electricity: solar panels	study solar panels Bleukens Balen	500	MWp		director WIL				
WIL	1	electricity: efficient use	new automated blasting machine: energy efficiency / energy monitoring				director WIL	2024			postponed to 2024 (hall E)
SPB	2 / 3	electricity: efficient use	applying lessons learned from monitoring to new ventilation system blasting and painting Albert hall	yes			technician electrical automation				
SPU	2 / 3	electricity: efficient use	applying lessons learned from monitoring to new ventilation system blasting and painting hall	yes			technician electrical automation				
GR	3	product development	Act&Sorb activated carbon filter				director QHSE				
GR	3	product development	agrisolar SolTree				director QHSE				
new	GR	1	transport of employees: electric cars	replacement of combustion engine vehicles with electric cars - additional emissions saved due to 2023 purchases		230	director PPL				yearly estimated consumption due to charging, based on data March-April 2023: 255189 kWh/y / 20kWh/100km = 1275947 km x 0,180 kg CO <sub>2</sub> /km = 229,67 ton CO <sub>2</sub>
new	GR	1	compensation	compensating welding gasses, in anticipation of synth gasses - tree planting action 2023	666	trees	8,48	director QHSE			Ecotree: 15€ per boom, 700kg CO <sub>2</sub> , 55 jaar > 4,24 ton/; 233 ton totaal BOS+: 15€ per boom, gift = 45% fiscaal aftrekbaar, bedrijfsbos = 7500€/ha, 24kg/; > 8 ton/) 2022 - Natuurpunt, 5000€, 15€/boom = 333 boompjes 2023 - 10000€
new	IEM	3	electricity: solar panels	installation	2,75	GWh	1438	energy transition consultant			5,5 GWh x (2,5MWp / (2,5+1+1,5)MWp) = 2,75 GWh x 0,523 kg CO <sub>2</sub> / kWh = 1438 tons CO <sub>2</sub> Us producing more green electricity = less green electricity bought = more green for others = less need for gray
new	WIL	3	electricity: solar panels	installation	1,10	GWh	575	energy transition consultant			5,5 GWh x (1MWp / (2,5+1+1,5)MWp) = 1,1 GWh x 0,523 kg CO <sub>2</sub> / kWh = 575 tons CO <sub>2</sub> Us producing more green electricity = less green electricity bought = more green for others = less need for gray
new	SPB	3	electricity: solar panels	installation	1,65	GWh	863	energy transition consultant			5,5 GWh x (1,5MWp / (2,5+1+1,5)MWp) = 1,65 GWh x 0,523 kg CO <sub>2</sub> / kWh = 863 tons CO <sub>2</sub> Us producing more green electricity = less green electricity bought = more green for others = less need for gray
new	SPB	1	heating: city heating network	under investigation	yes		site manager SPB				
new	GR	3	welding gas	shift to bulk with piping network, multiple locations	yes						This will result in reduced delivery transport. But this is not calculated in CO <sub>2</sub> reduction.
new	SPB	1	Regenerative Thermal Oxidizer	optimization burning chamber + heat recovery	yes						This will result in better heat usage of the installation (less pre-heat gas, more heat recovery). But this is not calculated in CO <sub>2</sub> reduction.
new	GR	1+2+3	stakeholders	update stakeholder analysis towards CSRD	yes						
new	GR	1+2+3	materialiteitsanalyse	update dubbele materiality analysis towards CSRD	yes						
new	GR	1+2+3	carbon footprint	third party certification of footprint, chain analysis and goals (SBTI)	yes						

Reduction target scope 1/2 : 238 ton CO<sub>2</sub> / year  
2,55% % of 2022

Reduction target scope 3 : 4376 ton CO<sub>2</sub> / year

Realized reduction: ton CO<sub>2</sub> / year  
% of 2022

ton CO<sub>2</sub> / year