# **GUIDE TO GREENHOUSE GASES**

The industrial sector accounts for more than 1/3 of global greenhouse gas emissions. Not only are governments, global consortia, and regulatory agencies pushing for the industrial sector to achieve net zero operations to slow climate change, but consumers are also demanding greater sustainability from the companies from which they purchase. In response, companies are making environmental initiatives a top priority.

## **TYPES OF EMISSIONS & HOW THEY ARE CALCULATED**

Emissions are divided into 3 different types. Scope 1 & 2 are largely controllable at a Plant level and Scope 3 are largely outside of Plant control. They can be summarized as follows:

SCOPE	MEANING	ABILITY TO CONTROL	
SCOPE 1	Gas used in facilities for heating, cooling, forklifts, processes and fuels used in fleet vehicles	Gas production is not within your control but the amount of gas used is within your control and ensuring harmful gases are not released into the atmosphere during production is also within your control	
SCOPE 2	The impact of fuels used to produce Electricity	Electricity production is not within your control but the amount of electricity used is within your control	
SCOPE 3	Anything that does not fall into Scope 1 & 2	Impact is largely outside your control	

# HOW TO REDUCE THE GHG EMISSIONS IN A PLANT

REDUCE THE QUANTITIES OF ELECTRICITY, GAS AND OIL USED

ELIMINATE LEAKS IN AIR CON SYSTEMS ELIMINATE LEAKS OF METHANE AND NITROUS OXIDE IN PRODUCTION PROCESS

### Dialight

The main ways to reduce the electricity usage are as follows:

	IMPACT			
ACTION	PRODUCTION CAPACITY	TIMESCALE OF EMISSIONS REDUCTIONS	SAFETY	SCALE OF EMISSION REDUCTIONS
Reduce the amount of time that machinery is in use	Likely to be reduced	Immediate	Unaffected	10 – 15%
Reduce the amount of time that lights are on	Likely to be reduced	Immediate	Likely to make Plant less safe	10 – 15%
Replace older machinery with more power efficient machinery	Impacted during changeover of machinery	Likely to have delays in capex approval and then machinery lead times	Unaffected	20 - 30%
Replace existing lights with more efficient LED lights	No impact	Within 2 to 3 weeks	Improved due to better quality of light, fewer lighting changes and no mercury in LED lights	60 – 70%



#### CARBON IMPACT OF LEGACY LIGHTING USAGE VS. DIALIGHT LED

If the customers that bought Dialight LED lighting in 2020 had retained their legacy lights the total carbon emissions would have been 2,400k tonnes\*. As a comparison, highly efficient, long-lasting Dialight LED lighting that they have purchased uses 900k tonnes. That is a savings of 1,500k tonnes, which translates to a carbon payback of 10 months and a lifetime benefit of 12x. Despite this significant improvement, we continue to push boundaries by re-evaluating the materials used in our products to minimise carbon impact and continue to maximize energy efficiency and usable lifespan.

\*Based on internal calculations of the impact of lighting products sold in 2020 and the estimated impact of the fixtures they replaced.

To calculate the reduction in emissions and electricity costs by changing to high quality Dialight LED lighting, go to:

www.dialight.com/resources/roi-tco-calculator



www.dialight.com