

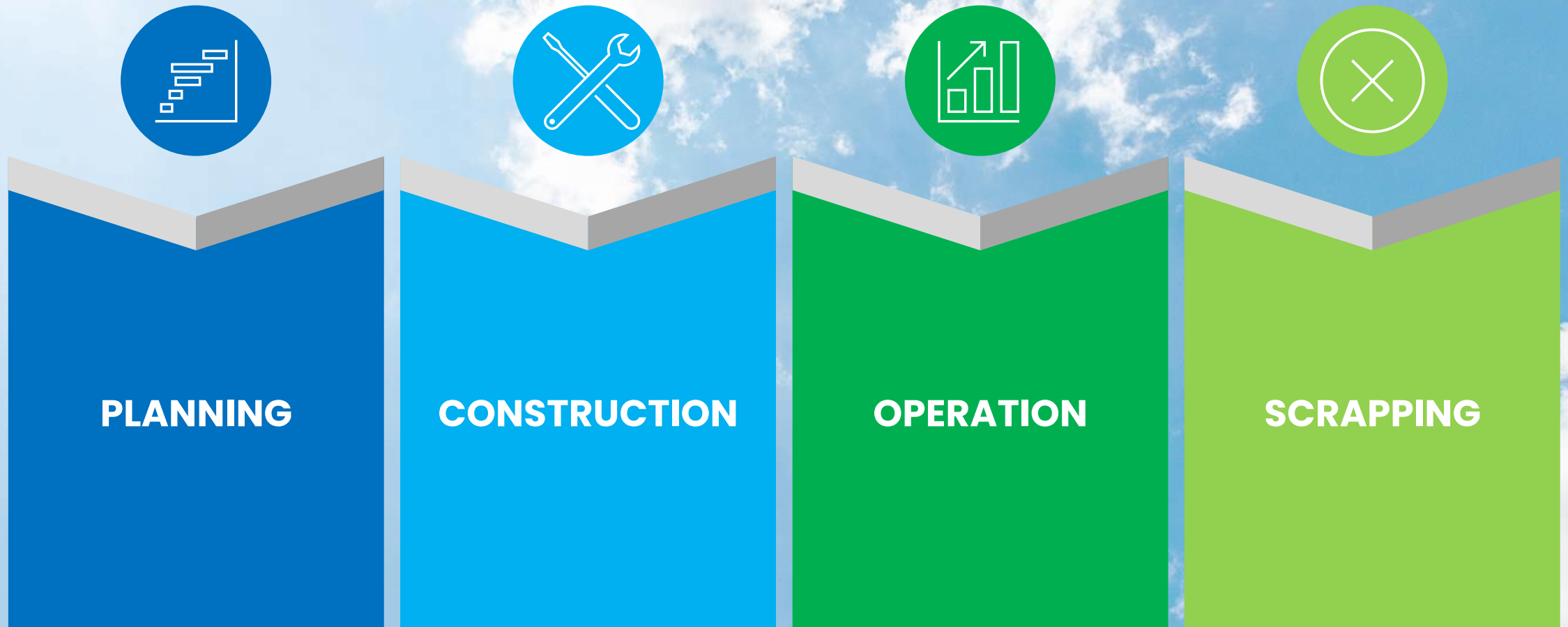


20TH MEETING OF THE COMCEC TRANSPORT AND COMMUNICATIONS WORKING GROUP

**Measuring the Environmental Impacts of Transport
Infrastructures: Private Sector Perspective**

Dr. Cem Karabal
Cem.karabal@besenve.com

PROJECT LIFE CYCLE



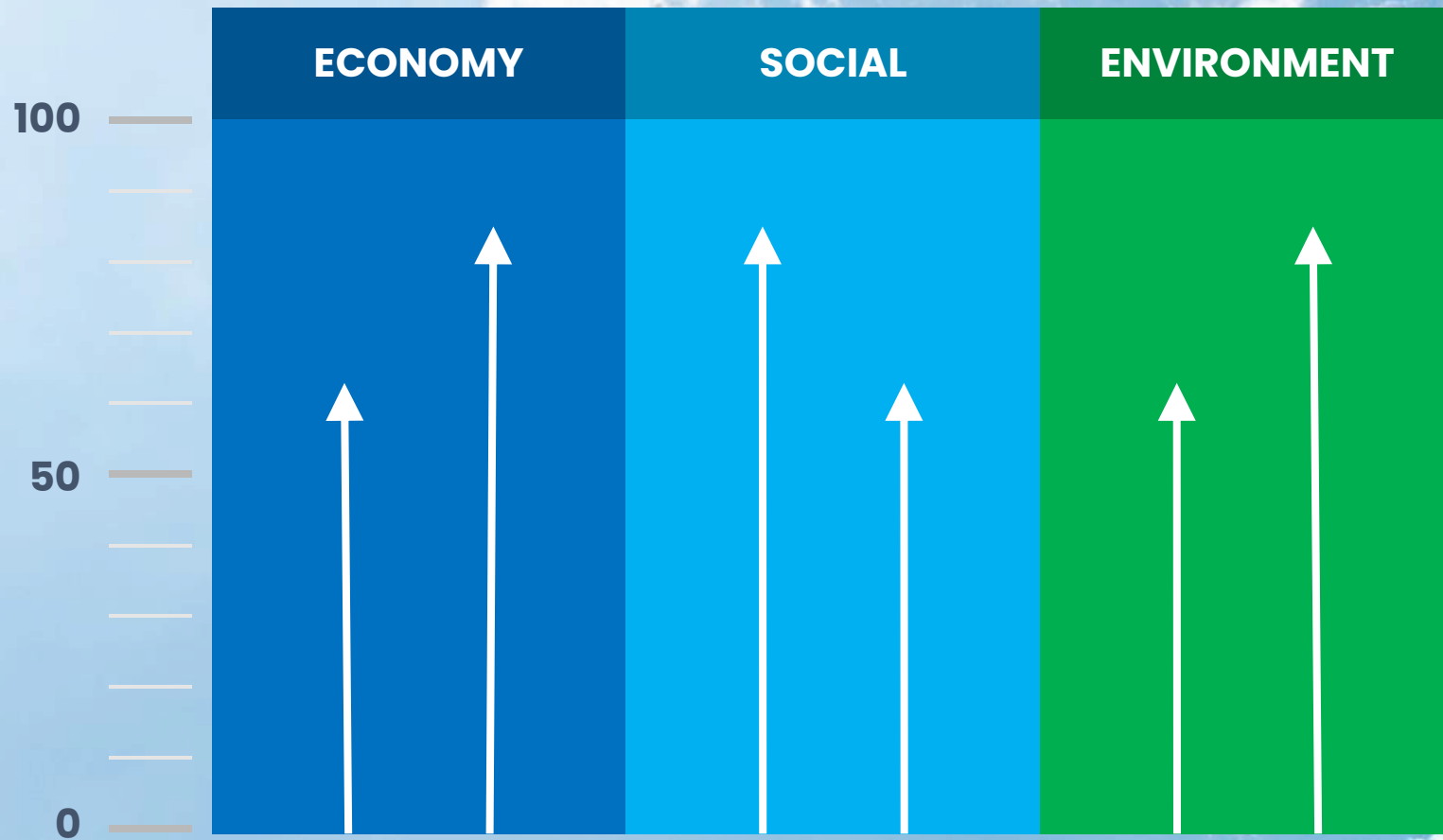
MACRO EFFECTS

PLANNING

CONSTRUCTION

OPERATION

SCRAPPING





BESERVE

ENERGY EFFICIENCY

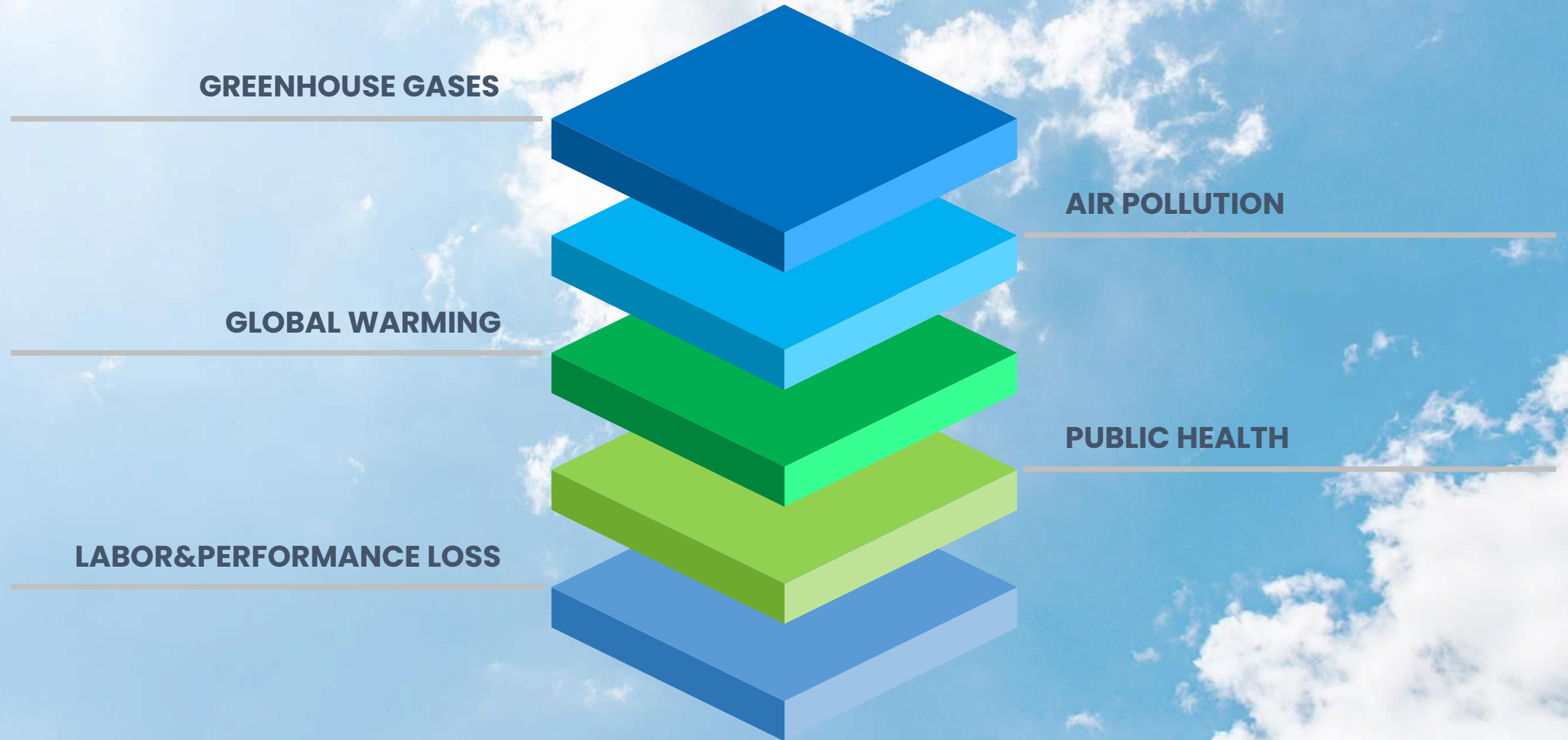
DECARBONIZATION

EPC

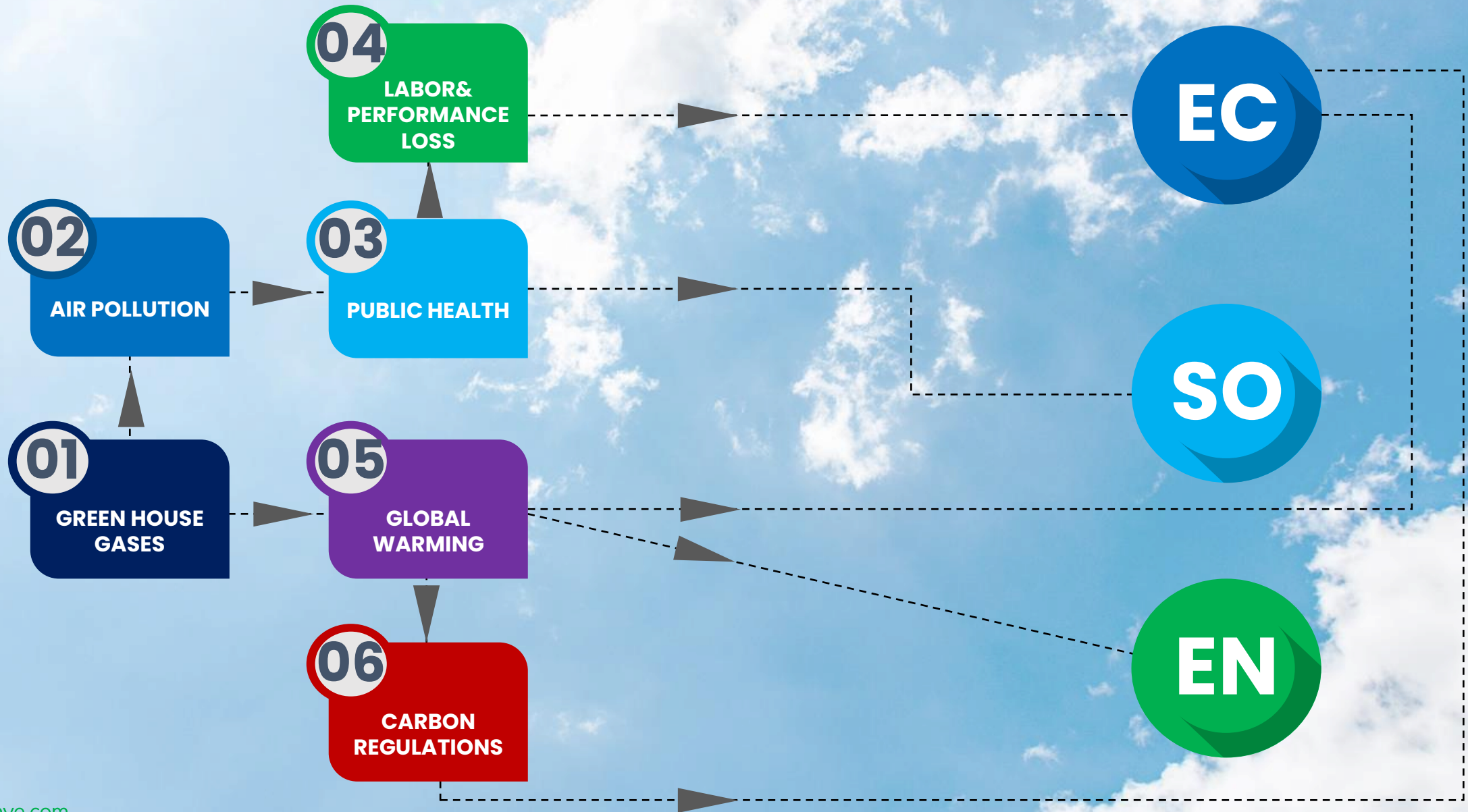
M&V



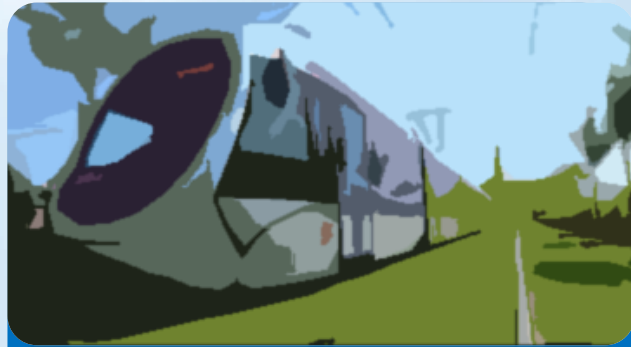
ENVIRONMENTAL EFFECTS



ENVIRONMENTAL EFFECTS



CASE STUDIES



01

TRAM

LINE LENGTH
34 km



02

UNDERGROUND METRO

LINE LENGTH
24 km



03

CITY BUS

CITY BUS
132 Pcs.

CASE STUDIES

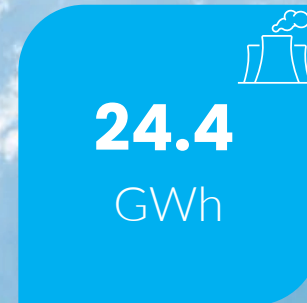
ENERGY CONSUMPTION PER KM



ENERGY CONSUMPTION PER PASSENGER



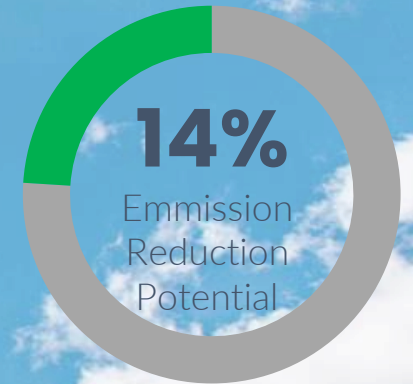
ENERGY CONSUMPTION



SAVINGS POTENTIAL



CO₂ EMISSIONS



TRAM



1

UNDERGROUND METRO



2

CITY BUS



3

34 km
100%



POPULATION
1M

CASE STUDIES

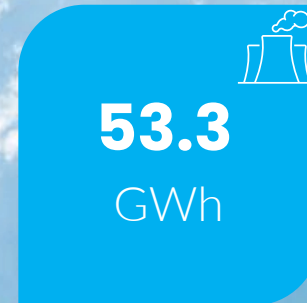
ENERGY CONSUMPTION PER KM



ENERGY CONSUMPTION PER PASSENGER



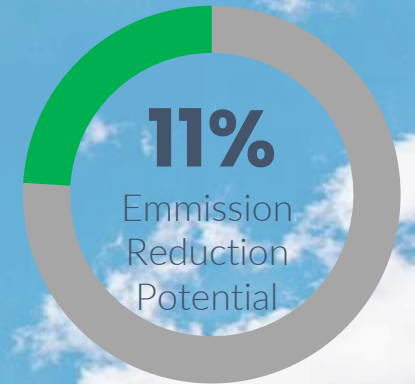
ENERGY CONSUMPTION



SAVINGS POTENTIAL



CO₂ EMISSIONS



TRAM



1

UNDERGROUND METRO



2

24 km
8%

CITY BUS



3



CASE STUDIES

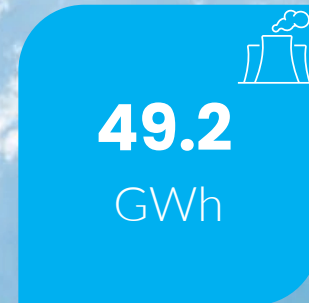
ENERGY CONSUMPTION PER KM



ENERGY CONSUMPTION PER PASSENGER



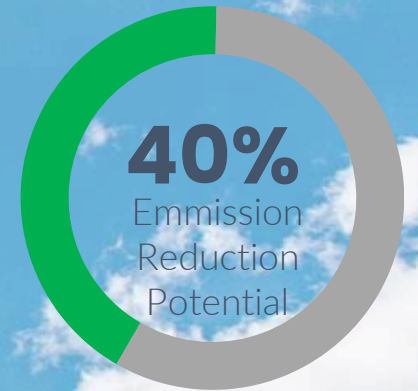
ENERGY CONSUMPTION



SAVINGS POTENTIAL



CO₂ EMISSIONS



TRAM



UNDERGROUND METRO



CITY BUS



1

2

3

CNG
62 Buses

DIESEL
70 Buses

POPULATION
1M

MEASURING of ENVIRONMENTAL EFFECTS



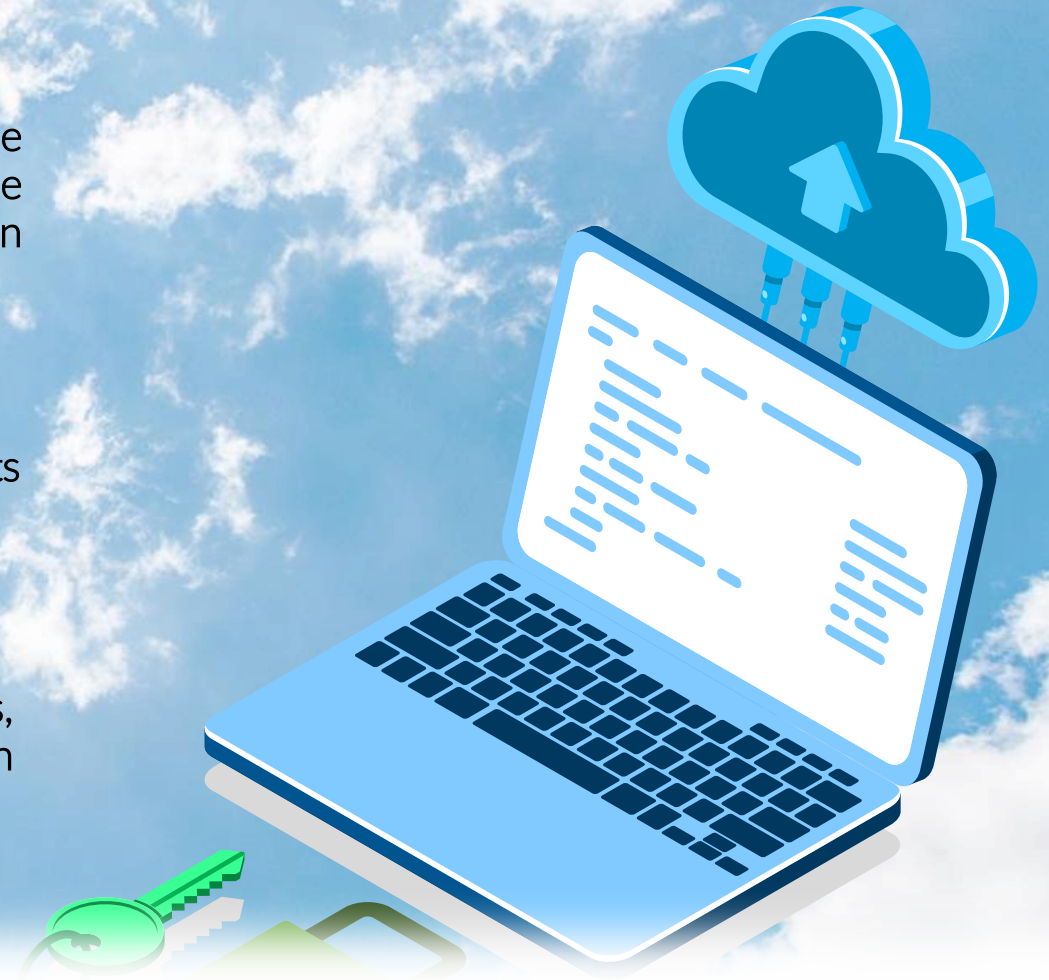
Increased awareness of Global Warming has led to the need for corporations to calculate and report greenhouse gas emissions. In many countries there are carbon emission limits and mandatory reduction targets.



QuickCarbon integrates into your existing business units with a very user-friendly and easy-to-use structure..



You can easily make your corporate emissions calculations, analyze your emission sources and report them in accordance with international standards.



QUICKCARBON

Control and Manage Your Corporate Carbon Footprint

www.quickcarbon.com

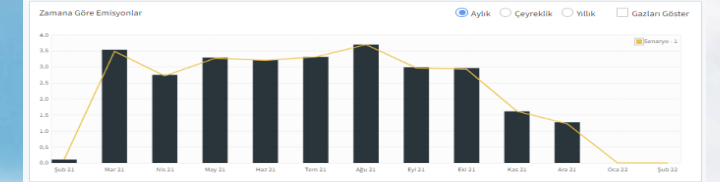
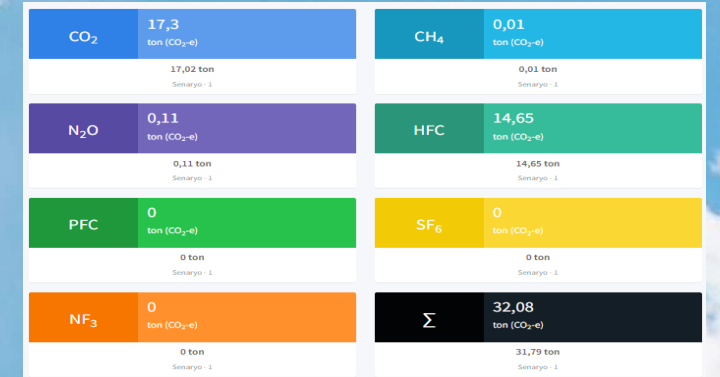
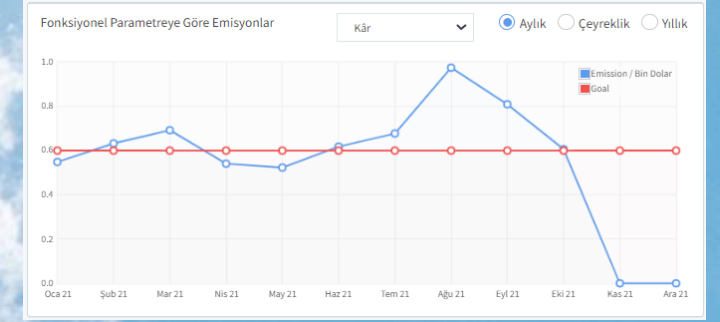
MEASURING of ENVIRONMENTAL EFFECTS



It enables to develop strategies to reduce corporate carbon footprint with scenario analysis.



Thanks to its multi-functional dashboards, it makes progress instantly visible, thus helping to make proactive decisions and evaluate results.



QUICKCARBON

Control and Manage Your Corporate Carbon Footprint

www.quickcarbon.com

MEASURING of OTHER EFFECTS

1

GREENHOUSE GASES → AIR POLLUTION → PUBLIC HEALTH → LABOR&PERFORMANCE LOSS

2

GREENHOUSE GASES → GLOBAL WARMING → CARBON REGULATIONS

3

ECONOMY-SOCIAL-ENVIRONMENTAL EFFECTS

4

CONSISTENT STATISTICAL DATA and MORE ACADEMIC STUDIES are NEEDED to MEASURE THESE EFFECTS.

THANK YOU



B E S E N V E

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