

Environment impact indicators

REGIONAL OPERATIONAL PROGRAMME

1) NO_x EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	During the combustion processes, automotive engines emit several types of pollutants, including nitrogen oxides (NO _x). Thus, the indicator is suitable to measure the impact on environment of modernisation and development of county roads, the construction/rehabilitation of ring roads (KAI 2.1) and urban streets network (KAI 1.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly)
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

2) SO₂ EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	During the combustion processes, automotive engines emit several types of pollutants, including sulphur dioxide (SO _x). Thus, the indicator is suitable to measure the impact on environment of modernisation and development of county roads, the construction/rehabilitation of ring roads (KAI 2.1) and urban streets network (KAI 1.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

3) VOLATILE ORGANIC COMPOUNDS - VOCs (KILOTONNES/ YEAR)

Relevance	++	During the combustion processes, automotive engines emit several types of pollutants, including volatile organic compounds (VOCs). Thus, the indicator is suitable to measure the impact on environment of modernisation and development of county roads, the rehabilitation of ring roads (KAI 2.1) and urban streets network (KAI 1.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly)
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

4) PARTICULATE MATTER EMISSIONS – PM₁₀ (KILOTONNES/ YEAR)

Relevance	++	The dust generated from travel on roads contributes to the total suspended particulate in the air, the PM 10 emissions. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of county roads, the rehabilitation of ring roads (KAI 2.1) and urban streets network (KAI 1.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

5) GHG EMISSIONS: CO2 EQUIVALENT (KILOTONNES/ YEAR)

Relevance	++	The modernisation/ rehabilitation of existent transport infrastructure is expected to increase traffic and fuel consumption therefore fuel consumption emissions, including GHG emissions. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of county roads (KAI 2.1) and the urban streets network (KAI 1.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	-	Data collection involves higher costs of authorised services for measurement of emissions level on site.

6) DESIGNATED AREAS AFFECTED (HA)

Relevance	++	The construction of new transport infrastructure elements (ring roads - KAI 2.1), as well as the development of the cultural and tourism infrastructure (KAI 5.1 and 5.2) requires the use of land. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of infrastructure.
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the project level and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

7) REDUCTION OF ENERGY CONSUMPTION IN SUPPORTED UNITS (MWH/YEAR AND %)

Relevance	++	The rehabilitation of the public/social services infrastructure (PA 3, KAI 1.1 as well as KAI 5.2) will enhance building insulation and therefore further decrease the energy consumption. Thus the indicator is suitable to measure the impact on environment of rehabilitation of public services infrastructure.
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Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the project level (based on monthly invoices issued by the local energy provider) and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS

8) REDUCTION OF WATER CONSUMPTION IN SUPPORTED UNITS (M3 AND %)

Relevance	++	The development of the new businesses (PA 4) will increase the use of the natural resources (e.g. water). Thus the indicator is suitable to measure the impact on environment of the development
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the project level (based on monthly invoices issued by the local provider) and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS

9) GREEN AREAS AFFECTED (SQM)

Relevance	++	The construction of new urban infrastructure elements (ring roads – KAI 2.1, business structures – PA 4 or tourism infrastructure – KAI 5.1) may require the extension of the current areas allocated and therefore affect the green areas. Thus the indicator is suitable to measure the impact on environment of the projects that are implying current area expansion.
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at project level, as provided by the local authorities for the construction authorisation. Also, data could be benchmarked against Green Areas Register, managed by local City Halls.
Cost	++	No additional resources are needed, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS

10) CONTAMINATED SITES REHABILITATED (HA)

Relevance	++	The specific target of the KAI 4.2 but also of an eligible activity financed under KAI 1.1 is the decontamination of the fields previously held by the state-owned industrial giants. The contaminated sites will be returned to the economic/public use and therefore having a positive impact on the environment.
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data available in the SMIS, as the indicator is also an output indicator for KAI 1.1 and 4.2.
Cost	++	No additional resources are needed, except for the operational costs resulting from reporting requirements at project level and for

OP monitoring, at the level of the MA/ACIS

1) TOTAL INDUSTRIAL WASTE RECYCLED (COLLECTED AS T, CALCULATED AS % FROM PRODUCED)

Relevance	+	The indicator is relevant for ROP, to the extent the beneficiary falls under the incidence of GEO 16/2001 that obliges all economic actors producing industrial waste to recycle this (and from here the lower relevance).
Sensitivity	+	The variable to be measured by this indicator is the quantity of "industrial waste recycled", expressed in mil. tons (-measured). The indicator should also be calculated as % out of industrial waste recycled. The indicator rapidly (in time) registers the changes occurred to the quantity of industrial waste recycled in the financed interventions.
Availability	++	Data should be easily obtained from the beneficiary that reports the level of industrial waste recycled to the Environmental Agency; this should be reported by beneficiaries to the IB/MA through the regular project progress reports (PPRs). The beneficiaries not falling under the incidence of GEO 16/2001 will not have relevant data available.
Cost	++	No additional cost for collecting the data related to this indicator is necessary. The data reported by beneficiaries through PPRs should be taken up in the SMIS for further processing.