

Environment impact indicators

SOP IEC

1) EMISSIONS OF NOX (MG/NM3)

Relevance	++	<p>Having in view the main sources of NOx emissions (e.g fuel combustion, biomass burning and some production processes) and their negative effects on air quality, this indicator is relevant for KAI 1.1 (operation 1.1.1), KAI 1.3 and KAI 4.1 (operations a and c). Under KAI 1.1 and KAI 1.3, the effect of the eligible interventions could be:</p> <ul style="list-style-type: none"> • negative by increasing the quantity of NOx emissions in case of setting up a new establishment (production unit/ plant) or extending an existing establishment • positive by reducing the quantity of NOx emissions in case of investments in BAT technologies which are eco-friendly. <p>Under KAI 4.1, operations a and c, the effect of the eligible interventions is positive by reducing the quantity of NOx emissions through financing investments in burners with reduced NOx and filters on refurbished/upgraded groups of large combustion plants as well as investments in installations/equipment with lower energy consumption and investments in high efficiency co-generation for industrial users of power.</p>
Sensitivity	++	<p>The variable to be measured by this indicator is “emissions of NOx” expressed in mg/Nm3.</p> <p>The indicator immediately (in time) registers the changes occurred to the quantity of NOx emissions in the financed interventions.</p>
Availability	+	<p>Data not available at project level. Data collection will be outsourced by the MA. This process will be carried out by an external team, using mobile measurement devices provided by authorised agents (e.g. www.icia.ro).</p>
Cost	+	<p>An indicative cost/sample: 20-50 RON. A homogenous data collection methodology will be set up for the process (number of samples, collection frequency and location, etc.)</p>

2) EMISSIONS OF SO2 (MG/NM3)

Relevance	++	<p>Having in view the main sources of SO2 emissions (e.g burning of fossil fuels, power stations, oil refineries and other large industrial plants) and their negative effects on air quality, this indicator is relevant for KAI 1.1 (operation 1.1.1), KAI 1.3 and KAI 4.1 (operations a and c). Under KAI 1.1 and KAI 1.3, the effect of the eligible interventions could be:</p> <ul style="list-style-type: none"> • negative by increasing the quantity of SO2 emissions in case of setting up a new establishment (production unit/ plant) or extending an existing establishment • positive by reducing the quantity of SO2 emissions in case of investments in BAT technologies which are eco-friendly. <p>Under KAI 4.1 operations a and c, the effect of the eligible interventions is positive by reducing the quantity of SO2 emissions through financing investments in flue gas de-sulphurization installations, investments in installations/equipment with lower energy consumption and investments in high efficiency co-generation for industrial users of power.</p>
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Sensitivity	++	The variable to be measured by this indicator is “emissions of SO ₂ ” expressed in mg/Nm ³ . The indicator immediately (in time) registers the changes occurred to the quantity of SO ₂ emissions in the financed interventions.
Availability	+	Data not available at project level. Data collection will be outsourced by the MA. This process will be carried out by an external team, using mobile measurement devices provided by authorised agents (e.g. www.icia.ro).
Cost	+	An indicative cost/sample: 20-50 RON. A homogenous data collection methodology will be set up for the process (number of samples, collection frequency and location, etc.)

3) EMISSIONS OF DUST (MG/NM³)

Relevance	++	Having in view the main sources of dust emissions (e.g. combustion processes like coal burning, road transport, waste incineration and cement & lime, iron and steel sectors, coal-fired power plants) and their negative effects on air quality, this indicator is relevant for KAI 1.1(operation 1.1.1), KAI 1.3 and KAI 4.1 (operations a and c). Under KAI 1.1 and KAI 1.3, the effect of the eligible interventions could be: <ul style="list-style-type: none"> • negative by increasing the quantity of PM emissions in case of setting up a new establishment (production unit/ plant) or extending an existing establishment • positive by reducing the quantity of PM emissions in case of investments in BAT technologies which are eco-friendly. Under KAI 4.1 operations a and c, the effect of the eligible interventions is positive by reducing the quantity of SO ₂ emissions through financing investments in filters for reduction of dust emissions and investments in installations, equipment for industrial operators.
Sensitivity	++	The variable to be measured by this indicator is “emissions of dust” expressed in mg/Nm ³ . The indicator immediately (in time) registers the changes occurred to the quantity of PM emissions in the financed interventions.
Availability	+	Data not available at project level. Data collection will be outsourced by the MA. This process will be carried out by an external team, using mobile measurement devices provided by authorised agents (e.g. www.icia.ro).
Cost	+	An indicative cost/sample: 20-50 RON. A homogenous data collection methodology will be set up for the process (number of samples, collection frequency and location, etc.)

4) CO₂ EQUIVALENT RELEASE INTO THE ATMOSPHERE (KTONS OF CO₂ EQUIVALENT)

Relevance	++	Having in view the main sources of dust emissions (e.g. energy, industrial processes, solvents, agriculture, land use, land use change and forestry) and their negative effects on air quality, this indicator is relevant for KAI 1.1 (operation 1.1.1), KAI 1.3 and KAI 4.1. Under KAI 1.1 and KAI 1.3, the effect of the eligible interventions could be: <ul style="list-style-type: none"> • negative by increasing the quantity of CO₂ emissions in case of setting up a new establishment (production unit/ plant) or extending an existing establishment • positive by reducing the quantity of CO₂ emissions in case of
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		<p>investments in BAT technologies which are eco-friendly.</p> <p>Under KAI 4.1, the effect of all three operations is positive by reducing the quantity of CO2 emissions through:</p> <p><i>a) Supporting investment in installations, equipment for industrial operators, in order to improve energy efficiency leading to energy savings.</i></p> <p><i>b) Supporting investments in expanding and upgrading electricity, natural gas and oil transportation grids and electricity and natural gas distribution grids, in order to reduce losses and secure the continuity and safety of transport and distribution services.</i></p> <p><i>c) Investments in flue gas de-sulphurization installations, burners with reduced NO_x and filters on refurbished/upgraded groups of large combustion plants</i></p>
Sensitivity	++	<p>The variable to be measured by this indicator is “CO2 equivalent release into the atmosphere” expressed in KTONs.</p> <p>The indicator immediately (in time) registers the changes occurred to the quantity of CO2 emissions in the financed interventions.</p>
Availability	+	Data not available at project level. Data calculation of CO2 equivalent will be outsourced to an external team.
Cost	+	A specific model will be created for this purpose.

5) TOTAL HAZARDOUS PRODUCTION WASTE RECYCLED (COLLECTED AS T, CALCULATED AS % FROM PRODUCED)

Relevance	+	<p>This indicator is relevant for KAI 1.1 (operation 1.1.1), KAI 2.1, KAI 2.2, KAI 2.3, KAI 4.1 and KAI 4.2.</p> <p>The quantity of hazardous waste could increase in case the activity financed through KAI 1.1 (operation 1.1.1) generates hazardous waste (and from here the lower relevance). Therefore, a higher quantity of generated hazardous waste should lead to a higher quantity of hazardous waste recycled. Although the SOP IEC does not finance production activities considered as major sources for hazardous waste, it seems that some SOPIEC beneficiaries do produce this type of waste (e.g. certain equipments etc.).</p> <p>The same situation is for projects financed under PA2 (all KAIs). The indicator is relevant only if the R&D activities financed under this KAI generate hazardous production waste (and from here the lower relevance).</p> <p>With respect to KAI 4.1 and KAI 4.2, the energy sector does produce hazardous waste. An increase in activity level will potentially lead to a growth in the hazardous production waste.</p>
Sensitivity	+	<p>The variable to be measured by this indicator is the quantity of “hazardous production waste recycled’ (in tons) and calculated as % out of hazardous production waste produced.</p> <p>The indicator responds rapidly (in time) to changes occurred to the quantity of hazardous production waste depending on the activity financed.</p>
Availability	++	<p>Data on production waste recycled is available at the level of project, as data needs to be reported to the environmental authority monthly/yearly; however, the beneficiary should calculate the % of production waste recycled from production waste produced.</p> <p>Data should be reported by beneficiaries to the IB/MA through the</p>

		regular project progress reports (PPRs).
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.

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

Relevance	+	This indicator is relevant for KAI 1.1 (operation 1.1.1), KAI 1.3, KAI 2.1, KAI 2.2, KAI 2.3, KAI 4.1, KAI 4.2 and KAI 4.3. The indicator is relevant for the above KAIs, 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); however, the beneficiary should also calculate this indicator as % out of industrial waste recycled. 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.

7) PROPERLY FUNCTIONING INDUSTRIAL WASTE WATER TREATMENT FACILITIES (COLLECTED AS NUMBER, CALCULATED AS % FROM TOTAL FINANCED BENEFICIARIES)

Relevance	+	Having in view the main sources of waste water (e.g productive systems, electricity and heat), this indicator is relevant for KAI 1.1 (operation 1.1.1), KAI 1.3, KAI 4.1, and KAI 4.2. The Environmental Authorisation (i.e. autorizatia de mediu) specifies if the beneficiary should have an individual industrial waste water treatment facility depending on the economic activity it carries out (and from here the lower relevance, i.e. for some beneficiaries, without an individual facility, this indicator is not relevant). The Environmental Guard is responsible for verifying the properly functioning of the waste water treatment facilities.
Sensitivity	+	The variable to be measured by this indicator is "Number of properly functioning industrial waste water treatment facilities". The indicator responds rapidly (in time) to changes depending on the activity financed.
Availability	+	Data are difficult to calculate/collect. The indicator requires definition and measurement clarification. The MA/IB could ask the MoE for the data relevant for this indicator (i.e. the list of facilities

		functioning properly or not, 1363 in total in 2009, please see the Water quality annual report 2009, point 4.8.1). The list of these facilities could be cross-checked by the MA-IB, which could identify to which extent the programme beneficiaries are in one category or another. However, data might be also outdated, depending on when the list for one year is issued (e.g. the 2009 annual report was made available early 2011).
Cost	+	Data should be collected from project beneficiary or Ministry of Environment. Subsequently, the MA should calculate the indicator as % from total financed beneficiaries.

8) REDUCTION IN WATER CONSUMPTION IN PRODUCTION PROCESSES (MILLION M3 AND %).

Relevance	++	This indicator has the role of monitoring the reduction in water consumption used in production processes due to the fact that water is a limited natural resource. Therefore, it is relevant for KAI 1.1 (operation 1.1.1) and KAI 1.3.
Sensitivity	++	The variable to be measured by this indicator is “reduction in water consumption in production processes, expressed both in “genuine increase” (%) (-calculated), as well as in million m3 (-measured). The indicator immediately (in time) registers the changes occurred to the quantity of water consumption in the financed interventions.
Availability	+	Data is available at the level of project financed; this should be reported by beneficiaries to the IB/MA through the regular project progress reports (PPRs). However, data at beneficiary level expressed in % cannot be aggregated at programme level; a reduction at programme level could be calculated starting also from the absolute reduction per beneficiary. At the same time, the exclusive causality between OP grant and reduction cannot be guaranteed. Also, the increase/reduction of water consumption should be analysed in the context of the increase/decrease of production. In this latter case, adequate data might not be 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.

9) REDUCTION OF PRIMARY ENERGY INTENSITY IN ASSISTED BENEFICIARIES (COLLECTED AS TOE AND CALCULATED AS %)

Relevance	++	This indicator is relevant for KAI 1.1 (operation 1.1.1), KAI 1.3 and KAI 4.1. For projects financed under KAI 1.1 and KAI 1.3, although the usage of BAT technologies could reduce the level of primary energy in the production process, increasing productivity capacity and developing new business structures might increase it. The effect of KAI 4.1, Operation a) Supporting investment in installations, equipment for industrial operators, in order to improve energy efficiency leading to energy savings and Operation b) Supporting investments in expanding and upgrading electricity, natural gas and oil transportation grids and electricity and natural gas distribution grids, in order to reduce losses and secure the continuity and safety of transport and distribution services <i>is a reduction of primary energy intensity.</i>
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Sensitivity	+	The variable to be measured by this indicator is the “reduction of primary energy intensity”, expressed in “genuine reduction” (-calculated). The indicator rapidly (in time) registers the changes occurred to the intensity of primary energy in the financed interventions.
Availability	++	Data is available at the level of project financed; this should be reported by beneficiaries to the IB/MA through the regular project progress reports (PPRs).
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.

10) INVESTMENTS IN GREENFIELDS/BROWNFIELDS (HA)

Relevance	+	This indicator is relevant for KAI 1.1, KAI 1.3, KAI 2.1, KAI 2.2, KAI 4.1 and KAI 4.2. in case projects include setting up/extension of a new establishment (production unit/plant) or investments in building new power production capacity on greenfields/brownfields.
Sensitivity	+	The variable to be measured by this indicator is “number of projects in greenfields/brownfields expressed in ha. The indicator responds rapidly (in time) to changes occurred to the variable depending on the projects financed.
Availability	++	Data should be available and already provided to the MA/IB by the beneficiary in the application file (financing request/ feasibility study).
Cost	++	No additional cost for collecting the data related to this indicator is necessary. Data needs only to be inserted in the SMIS for further processing.

11) NUMBER OF BENEFICIARIES THAT IMPLEMENTED EMAS WITH SOPIEC FINANCIAL SUPPORT (OUTPUT INDICATOR)

Relevance	++	This indicator is relevant for operation 1.1.2 “ <i>Support for the implementation of the international standards</i> ”. Under this operation, applicants do not have a certification of environment management systems and they apply for non-reimbursable funds for implementation of these standards. The effect of the operation is a higher number of beneficiaries that implemented EMAS through this KAI.
Sensitivity	++	The variable to be measured by this indicator is the “number of beneficiaries that implemented EMAS”. The indicator immediately (in time) registers the changes occurred to the beneficiaries financed.
Availability	++	Data will be available when project is finalised.
Cost	++	No additional cost for collecting the data related to this indicator is necessary. The data reported by beneficiaries should be taken up in the SMIS for further processing.

12) NUMBER OF BENEFICIARIES THAT IMPLEMENTED ISO EN 14001 WITH SOPIEC FINANCIAL SUPPORT (OUTPUT INDICATOR)

Relevance	++	This indicator is relevant for operation 1.1.2 <i>“Support for the implementation of the international standards”</i> . Under this operation, applicants do not have a certification of environment management systems and they apply for non-reimbursable funds for implementation of these standards. The effect of the operation is a higher number of beneficiaries that implemented ISO EN 14001 through this KAI.
Sensitivity	++	The variable to be measured by this indicator is the “number of beneficiaries that implemented ISO EN 14001”. The indicator immediately (in time) registers the changes occurred to the beneficiaries financed.
Availability	++	Data will be available when project is finalised.
Cost	++	No additional cost for collecting the data related to this indicator is necessary. The data reported by beneficiaries should be taken up in the SMIS for further processing.

13) ENERGY PRODUCED FROM RENEWABLE RESOURCES IN ASSISTED BENEFICIARIES (MWH/ YEAR)/CO2 SAVINGS EQUIVALENT WITH THE RES PRODUCED

Relevance	++	The indicator refers to energy produced from renewable energy resources (projects financed under KAI 4.2), so called ‘green energy’, which is a non-polluting energy for environment.
Sensitivity	++	The variable to be measured by this indicator is the quantity of “energy produces from renewable resources”, expressed in MWh/year. The indicator immediately (in time) registers the changes occurred to the quantity of energy produced in the financed interventions.
Availability	++	Data is available at the level of project financed under KAI 4.2. Energy (MWh/ year) produced from renewable resources and CO2 savings equivalents with RES produced should be reported by project beneficiaries to the IB/MA through the regular project progress reports (PPRs).
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.

14) NUMBER OF INHABITANTS LIVING IN THE AREAS WITH NOISE LIMITS EXCEEDED

Relevance	+	This indicator is relevant for investments in Hydro power plants and Wind farms (financed under KAI 4.2) which could generate noise pollution (and from here lower relevance).
Sensitivity	+	The variable to be measured by this indicator is the “number of inhabitants living in the areas with noise limits exceeded”. The indicator rapidly (in time) responds to changes occurred to the variable to be measured.
Availability	++	Data should be mentioned in application file, the environmental impact assessment or in the noise maps (not fully available at this stage). Also, the IB/MA could request information from project beneficiary for the second phase of the project – operation, which should be available, again, at beneficiary level, as it is most probable obliged to report it to the environmental authority.

Cost	++	No additional cost for collecting the data related to this indicator is necessary. Data needs only to be inserted in the SMIS for further processing.
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15) NUMBER OF BENEFICIARIES WITH EMAS CERTIFICATE

Relevance	++	This indicator is very useful for all KAIs, as it ensures that the applicant: <ul style="list-style-type: none"> - implemented an environmental policy containing commitment both to comply with all relevant environmental legislation and to achieve continuous improvements in environmental performance; - conducts an environmental review considering all environmental aspects of the organisation's activities, products and services; - has an effective environmental management system; - is audited by an accredited EMAS verifier. Except for operation 1.1.2, the effect of the other KAIs is number of beneficiaries that have already implemented EMAS.
Sensitivity	++	The variable to be measured by this indicator is the "number of beneficiaries with EMAS certificate". The indicator immediately (in time) registers the changes occurred to the beneficiaries financed.
Availability	+	Data not available at project level.
Cost	+	Data collection will be outsourced by the MA. The external team will collect this data from the Beneficiary through on-line questionnaire.

16) NUMBER OF BENEFICIARIES WITH ISO EN 14001 CERTIFICATE

Relevance	++	This indicator is very useful for all KAI, as it ensures that applicants receiving finance follow the requirements for an environmental management system and complies with the environmental conditions. Except for operation 1.1.2, the effect of the other KAIs is the number of beneficiaries that have already implemented ISO EN 14001.
Sensitivity	++	The variable to be measured by this indicator is the "number of beneficiaries with ISO EN 14001 certificate". The indicator immediately (in time) registers the changes occurred to the beneficiaries financed.
Availability	+	Data not available at project level.
Cost	+	Data collection will be outsourced by the MA. The external team will collect this data from the Beneficiary through on-line questionnaire.

17) DESIGNATED AREAS AFFECTED (HA)*

Relevance	+	This indicator is relevant for KAI 1.1, KAI 1.3, KAI 2.2, KAI 2.3, KAI 3.1, KAI 3.2, KAI 3.3, KAI 4.1, KAI 4.2 and KAI 4.3 when it is an investment in a new construction affecting areas, such as Natura 2000 sites, archaeological and cultural areas.
Sensitivity	+	The variable to be measured by this indicator is "designated areas affected (ha)". The indicator responds rapidly (in time) to changes occurred to the

		variable depending on the projects financed.
Availability	++	Data should be available and already provided to the MA/IB by the beneficiary in the application file (financing request/ feasibility study, EIA report).
Cost	++	No additional cost for collecting the data related to this indicator is necessary. Data needs only to be inserted in the SMIS for further processing.

18) PROJECTS FINANCING BAT (% OUT OF TOTAL PROJECTS)

Relevance	++	This indicator is relevant for KAI 1.1, KAI 1.3, KAI 2.1, KAI 2.2, KAI 2.3, KAI 3.1, KAI 3.3 and KAI 4.1 as it points out % of projects financing BAT out of total projects. BAT are eco-friendly technologies with positive effects on environment: reduction of polluting emissions, energy savings, etc.
Sensitivity	++	The variable to be measured by this indicator is “projects financing BAT out of total projects (%)”. The indicator responds immediately (in time) to changes occurred to the variable depending on the projects financed.
Availability	+	Data should be available and already provided to the MA/IB by the beneficiary in the application file (financing request/ feasibility study).
Cost	+	The MA should calculate the % of projects financing BAT out of total projects financed.

19) PROJECTS CONTRIBUTING TO THE REDUCTION OF RISKS OF INDUSTRIAL ACCIDENTS

Relevance	+	The indicator is relevant for operation 1.1.1 <i>Support for strengthening and upgrading the productive sector by tangible and intangible investments</i> . This indicator is relevant for investments in new equipment/ installations. By replacing obsolete with new equipment and installations, the risk of industrial accidents is reduced/ eliminated. In this case, the indirect effect of the operations eligible under KAI 1.1 could be a lower number of industrial accidents, without particularly aiming towards this objective (and from here the lower relevance).
Sensitivity	+	The variable to be measured by this indicator under is “number of projects aimed at reduction of risk of industrial accidents”. The indicator responds rapidly (in time) to changes occurred to the variable depending on the projects financed.
Availability	++	The number of “ projects contributing to a reduction of risk of industrial accidents ” would be equal with the number of projects covering investments in new equipments.
Cost	++	No additional cost for collecting the data related to this indicator is necessary. Data needs only to be inserted in the SMIS for further processing.