

Sustainable Development Methodology

PART II : DEFINING THE ASSESSMENT



Introductory Guide

Impact Assessment Methodologies

Greenhouse gas impacts



Renewable
Energy



Buildings
Efficiency



Transport
Pricing



Agriculture



Forestry



Sustainable
Development



Transformational
Change



Non-State and
Subnational
Action

Process Guidance Documents



Stakeholder
Participation



Technical
Review

Overview of the SD methodology

Part I: Introduction, objectives and key concepts

Understand the purpose and applicability of the methodology (Chapter 1)
Determine the objectives of the assessment (Chapter 2)
Understand key concepts and steps, and plan the assessment (Chapter 3)



Part II: Defining the assessment

Clearly define the policy to be assessed (Chapter 4)
Choose which impact categories and indicators to assess (Chapter 5)



Part III: Qualitative approach to impact assessment

Identify specific impacts of the policy within chosen impact categories (Chapter 6)
Qualitatively assess each specific impact (Chapter 7)



Part IV: Quantitative approach to impact assessment

Estimate baseline values for impacts included in the quantitative assessment boundary (Chapter 8)
Estimate policy scenario values for the same impacts (ex-ante) (Chapter 9)
Estimate policy scenario values for the same impacts (ex-post) (Chapter 10)
Assess uncertainty (Chapter 11)



Part V: Monitoring and reporting

Monitor the performance of indicators over time (Chapter 12)
Report the results and methodology used (Chapter 13)



Part VI: Decision-making and using results

Evaluate synergies and trade-offs, and decide which policies to implement (Chapter 14)

Steps overview

Part II: Defining the assessment

Clearly describe the policy to be assessed (Chapter 4)

Choose which impact categories and indicators to assess (Chapter 5)

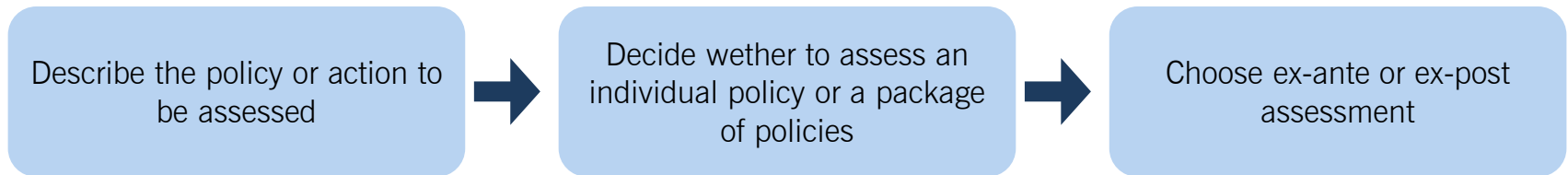


This button indicates a
key recommendation

This is an interactive panel: navigate
by clicking on a particular step

Chapter 4. Clearly describe the policy to be assessed

Describing the policy or action and deciding whether to perform an ex-ante or ex-post impact assessment of a policy or package of policies.



4.1 Describe the policy to be assessed

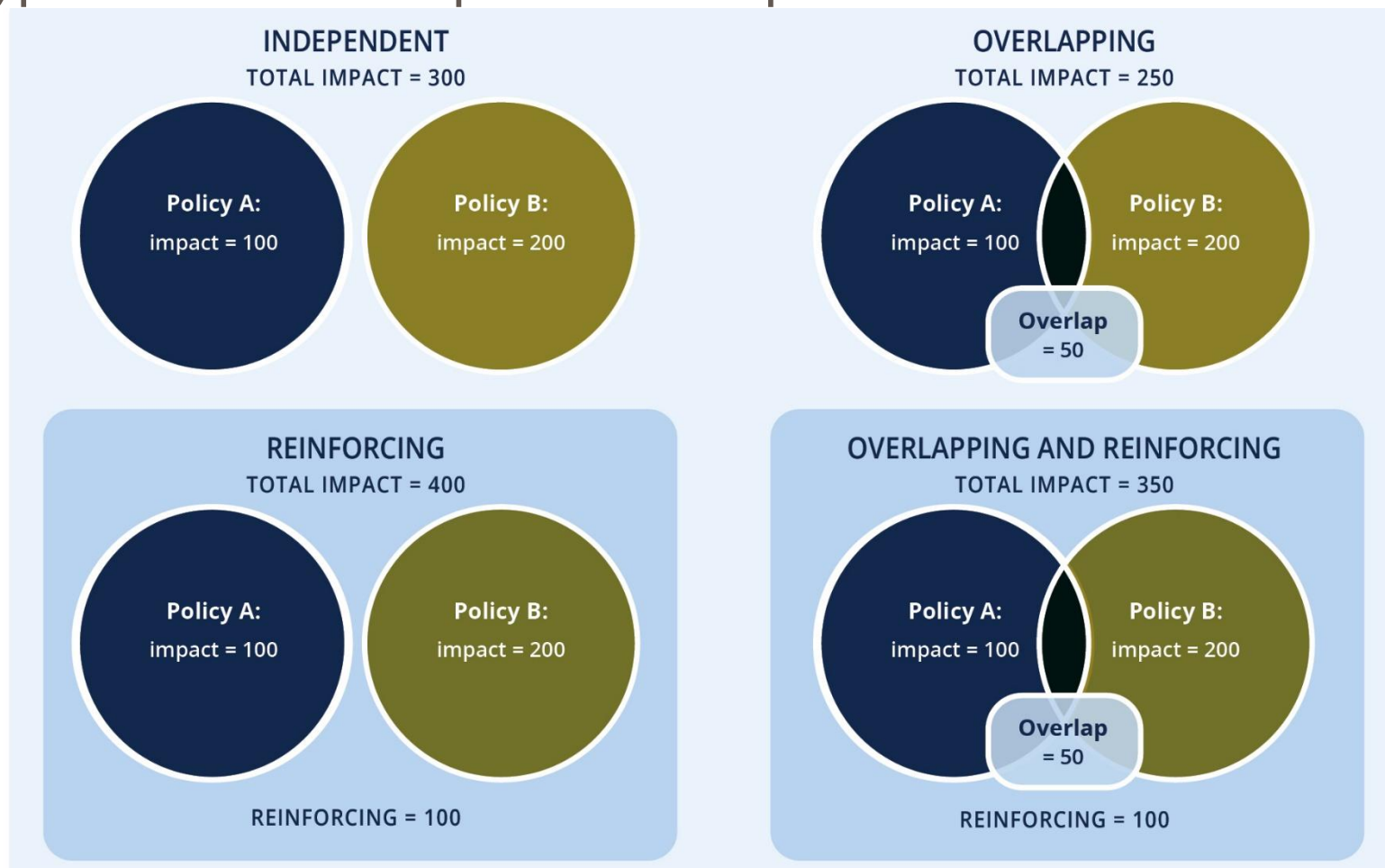
TITLE OF THE POLICY			
Type of policy	Description of specific intervention	Status of the policy	Date of implementation
Date of completion	Implementing entities	Objectives and intended impacts	Level of the policy
Geographic coverage	Sectors targeted	Other related policies	Reference

Clearly describe the policy or action (or package of policies/actions) being assessed.



4.2 Assess a policy or package of policies

Types of relationships between policies and actions



4.2 Assess a policy or package of policies

Step 1

- Characterization of the type and degree of interaction between policies under consideration

Step 2

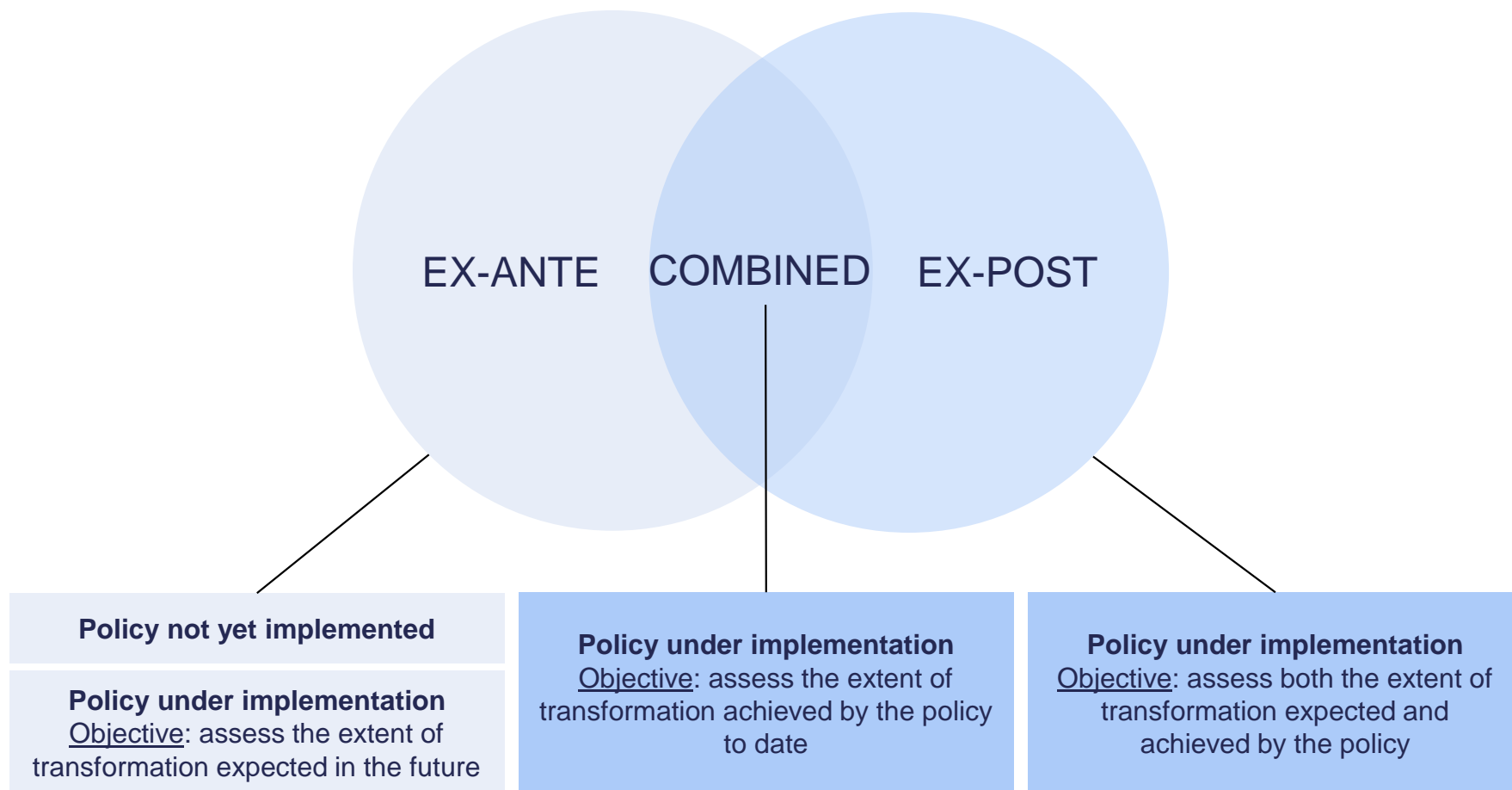
- Apply criteria to determine whether to assess a single policy or a package of policies

Preliminary qualitative assessment

- **Relationship:** Independent, overlapping, reinforcing
- **Degree of interaction:** Major, moderate, minor

Criteria	Questions	Recommendation
Objectives and use of results	Do the end users of the assessment results want to know the impact of individual policies or actions?	If “Yes”, individual assessment
Significant interactions	Are there significant (major or moderate) interactions between the identified policies or actions, either overlapping or reinforcing, that will be difficult to estimate if policies or actions are assessed individually?	If “Yes”, Assessment of a package of policies
Feasibility	Is it possible (e.g., is data available) to assess a package of policies or actions?	If “No”, individual assessment
	For ex-post assessments, is it possible to disaggregate the observed impacts of interacting policies or actions?	If “No”, Assessment of a package of policies

4.3 Choose ex-ante or ex-post assessment



Chapter 5. Choosing which impact categories and indicators to assess

Determining which impact categories to assess and which indicators to use for each included impact category.

Choose which impact categories to include in the assessment



Identify indicators for each included impacts category

5.1 Examples of impact categories

Dimension	Group of impact categories	Impact categories
Environmental impacts	Air	Air quality and health impacts
	Land	Biodiversity of terrestrial ecosystems
	Waste	Waste generation and disposal
	Other/cross-cutting	Depletion of non-renewable resources
Social impacts	Health and well-being	Hunger, nutrition and food security
	Welfare and equality	Freedom of expression
	Labour conditions	Quality of jobs
	Communities	Accessibility and quality of housing
Economic impacts	Overall economic activity	Decoupling economic growth from environmental degradation
	Employment	Wages
	Income, prices and costs	Inflation

5.1 Which impact categories to include

Principled, transparent and participatory choice, in the context of the user's objectives and the needs of stakeholders.

Include all sustainable development impact categories, expected to be relevant and significantly affected

Significance

Based on evidence, impact categories significantly affected, including impacts that are:

- positive and negative
- intended and unintended
- short-term and long-term
- In-jurisdiction and out-of-jurisdiction

Relevance

Understood from the users', decision makers' and stakeholders perspective.

Subjective criterion that should be determined based on the objectives of the assessment, national or local policy objectives and stakeholder priorities.

Comprehensiveness

Include possible adverse impacts from impact categories to others.

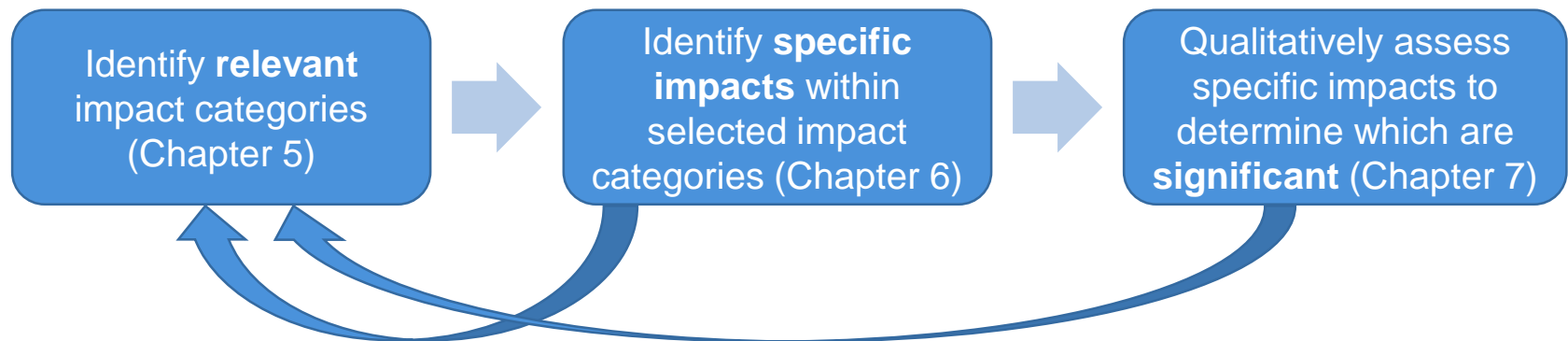
Include in a balanced way impact categories from all three dimensions of sustainability (environmental, social, economic).

Consulting stakeholders to choose impact categories meeting the criteria
How to: Refer to the ICAT *Stakeholders Participation Guidance*



5.1 Iterative process for impact categories selection

Stepwise and iterative prioritization process for identifying impact categories and specific impacts



Beware of interlinkages and interrelations between impact categories.

5.1 Reporting the selection choice

- Reporting to ensure **transparency** and increase **legitimacy**, **usefulness** and **replicability** of the assessment.
 - Reporting template to justify the choice of which impact categories are included in the assessment.
 - Justification for exclusions of impact categories that may be relevant, significant, or identified by stakeholders.

Dimension	Impact category	Relevant (Yes/No)	Significant (Yes/No)	Included in the assessment boundary?	Brief description or rationale for the determination of relevance and significance
Environmental impacts					The policy is expected to....
Social impacts					
Economic impacts					



5.2 Identify indicators for each impact category

SCOPE

RANGE OF DIMENSIONS

IMPACT CATEGORIES

Indicator(s) and needed parameters

Significant impact

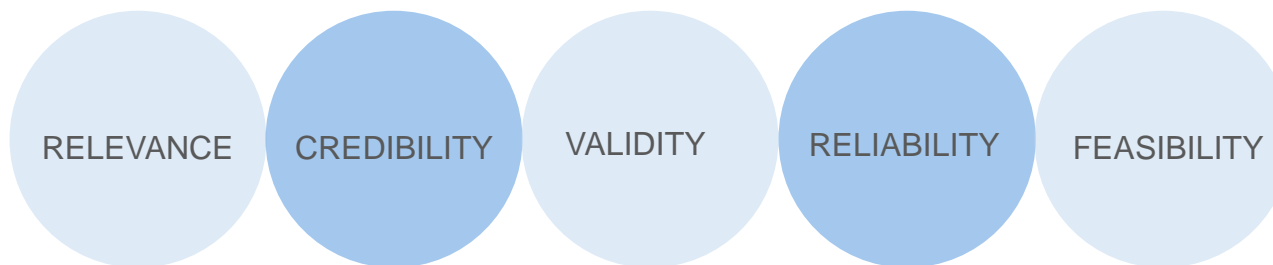
Significant impact

Significant impact

Indicators should:

- Enable users to adequately assess if a policy or action affects a given impact category and how.
- Be defined in a way that avoids duplication and overlap

5 criteria for choosing indicators



Case Studies using this Methodology

- Sustainable Development Impact of the Cities Footprint Project on the Sustainable Development Goals in Five Cities of Bolivia
- An Assessment of the Sustainable Development Impact of Biodiversity Policy in South Africa through the ICAT SD Guidance

Thank You

The background of the slide is a photograph showing several pairs of hands, likely belonging to people of African descent, working together to plant young green seedlings into small, light-colored plastic bags filled with reddish-brown soil. The hands are positioned over rows of these bags, which are laid out on a flat surface. The lighting is bright, suggesting an outdoor or well-lit indoor environment. The overall tone is one of active participation and environmental care.

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Checklist of key recommendations

Chapter	Key recommendation
Chapter 4. Defining the assessment	Clearly describe the policy or action (or package of policies or actions) that is being assessed.
Chapter 5. Choosing which impact categories and indicators to assess	<p>Include all sustainable development impact categories in the assessment that are expected to be:</p> <ul style="list-style-type: none">(1) relevant (based on the objectives of the assessment, national or local policy objectives, sustainable development goals and priorities, local circumstances, and stakeholder priorities)(2) significantly affected by the policy or action (either positively or negatively) <p>Consult stakeholders when choosing which impact categories to assess</p> <p>Consult stakeholders when choosing which impact categories to assess.</p>



4.1 Example: Describe the Solar PV incentive policy (1/2)

"Grid-connected Solar Rooftop Programme" referred to as "Solar PV incentive policy"

Type of policy Financial incentive policy	Description of specific intervention See next slide	Status of the policy Implemented and currently in effect	Date of implementation 1 January 2016
Date of completion The provision of financial incentives ends on 31 December 2022	Implementing entities India's Ministry of New and Renewable Energy (MNRE) implements the policy. Government funds are disbursed by the ministry to state agencies, financial institutions, implementing agencies and other government approved channel partners that includes renewable energy service providers, system integrators, manufacturers, vendors and NGOs.	Objectives and intended impacts Increase deployment of solar energy, increase access to clean energy, increase energy independence, create jobs, reduce greenhouse gas emissions, and create an enabling environment for investment, installation, capacity building, research and development in the solar energy sector	Level of the policy National
Geographic coverage India	Sectors targeted Energy supply (grid-connected solar PV)	Other related policies The Government of India targets installation of 100,000 MW of solar power by 2022 of which 40,000 MW is to be achieved through rooftop solar power plants through the solar PV incentive policy.	Reference

4.1 Example: Description of specific interventions for the solar PV incentive policy (2/2)

- **Description of financial incentives**

The policy provides a financial subsidy up to 30% of project/benchmark cost for rooftop solar projects in the residential/institutional and social sectors. It also provides concessional loans to solar rooftop project developers

- **Description of eligible technology**

Grid-connected rooftop and small solar power plants with installed capacity ranging from 1 to 500 kW

- **Description of eligible sectors**

Residential (all types of residential buildings), institutional (schools, health institutions), social sectors (community centres, welfare homes, old age homes, orphanages, common service centres), commercial and industrial facilities.

- **Description of contract and payment duration**

Up to 30% of the eligible financial assistance and services charges at the time of sanction of the proposal. The remaining 70% after successful commissioning of the projects after sample verification on submission of requisite claims.

- **Description of national budget allocated to the policy**

Approximately USD 750 million.

- **Other enabling actions under the policy**

Training and capacity building of various stakeholders involved in the programme such as government staff, utilities, regulatory commissions, banks and workers

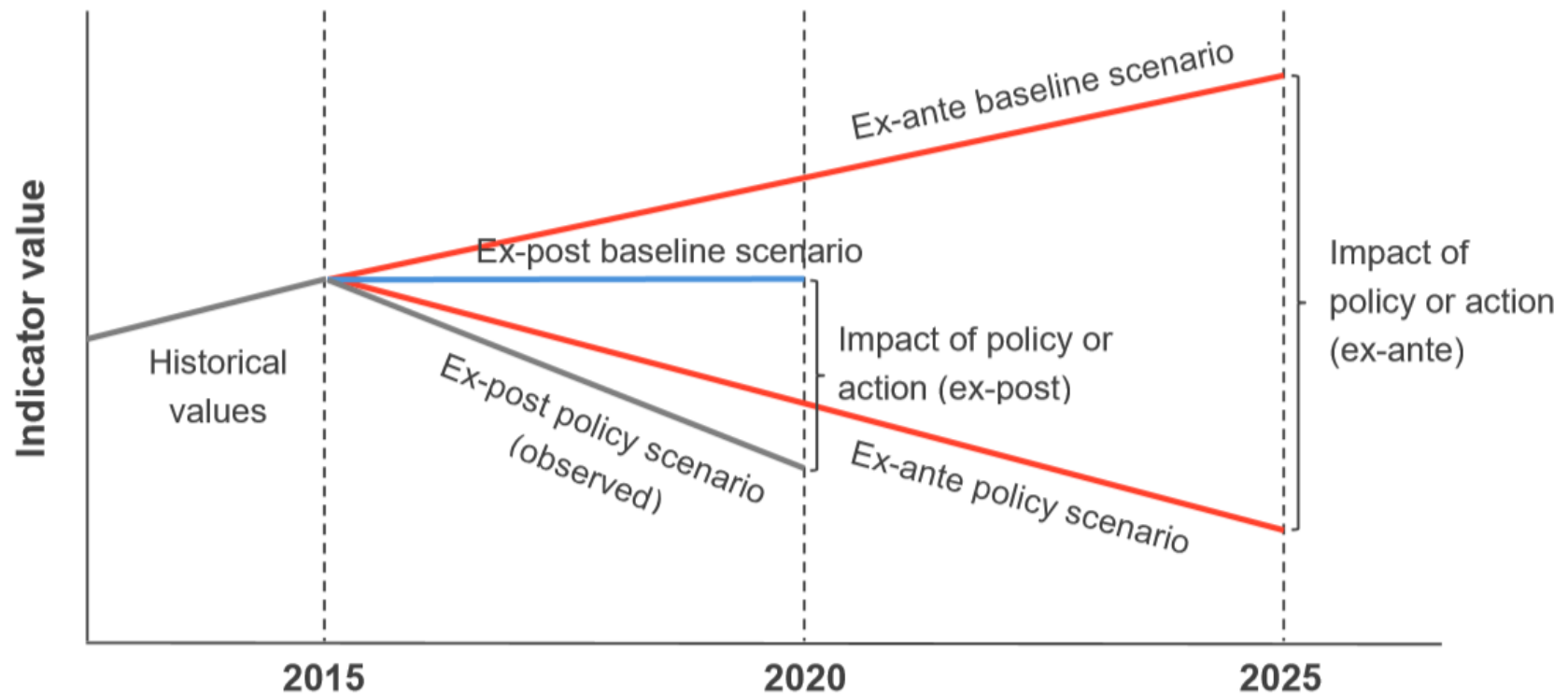
Development of online portal for rooftop solar systems development programme and registration of partners, approvals and project monitoring

4.1 Exercise: Describe the policy XXX

"Grid-connected Solar Rooftop Programme" referred to as "Solar PV incentive policy"

Type of policy	Description of specific intervention	Status of the policy	Date of implementation
Date of completion	Implementing entities	Objectives and intended impacts	Level of the policy
Geographic coverage	Sectors targeted	Other related policies	Reference

4.3 Relationship between ex-ante and ex-post



Insights from South Africa

- Impact categories were chosen on the basis of

Relevance	Significance	Comprehensiveness
<i>for three overriding country priorities (that inform the policy itself):</i> <ul style="list-style-type: none">• eradication of poverty;• sustainable development of its economy; and• the social development of its people	<i>those categories significantly affected by the policy</i>	<i>categories should include both positive and negative effects and from all the three dimensions of sustainability</i>

- Choice was further informed by South Africa's biodiversity policy and strategy
- Stakeholder consultations were held to refine the choice

See Section 1.4 in: An Assessment of the Sustainable Development Impact of Biodiversity Policy in South Africa through the ICAT SD Guidance (Keen 2019)

5.1 Examples of environmental impact categories

Dimension	Group of impact categories	Impact categories (non-exhaustive list)
Environmental impacts	Air	Climate change mitigation (SDG 13) Ozone depletion Air quality and health impacts of air pollution Visibility Odors
	Water	Availability of freshwater (SDG 6) Water quality (SDG 6, SDG 14) Biodiversity of freshwater and coastal ecosystems (SDG 6, SDG 14) Fish stocks sustainability (SDG 14)
	Land	Biodiversity of terrestrial ecosystems (SDG 15) Land use change, including deforestation, forest degradation, and desertification (SDG 15) Soil quality (SDG 2)
	Waste	Waste generation and disposal (SDG 12) Treatment of solid waste and wastewater (SDG 6)
	Other/cross-cutting	Resilience of ecosystems to climate change (SDG 13) Adverse effects of climate change Energy (SDG 7) Depletion of non-renewable resources Toxic chemicals released to air, water and soil Genetic diversity and fair use of genetic resources (SDG 2, SDG 15) Terrestrial and water acidification (SDG 14) Infrastructure damage from acid gases and acid deposition Loss of ecosystem services from air pollution Nuclear radiation Noise pollution Aesthetic impacts

5.1 Examples of social impact categories (1)

Dimension	Group of impact categories	Impact categories (non-exhaustive list)
Social impacts	Health and well-being	Accessibility and quality of health care (SDG 3) Hunger, nutrition, and food security (SDG 2) Illness and death (SDG 3) Access to safe drinking water (SDG 6) Access to adequate sanitation (SDG 6) Access to clean, reliable and affordable energy (SDG 7) Access to land (SDG 2) Livability and adequate standard of living Quality of life and well-being (SDG 3)
	Education and culture	Accessibility and quality of education (SDG 4) Capacity, skills, and knowledge development (SDG 4, SDG 12) Climate change education, public awareness, capacity-building and research Preservation of local and indigenous culture and heritage (SDG 11)
	Institutions and laws	Quality of institutions (SDG 10) Corruption, bribery and rule of law (SDG 16) Public participation in policy-making processes Access to information and public awareness (SDG 12) Compensation for victims of pollution Access to administrative and judicial remedies (SDG 16) Protection of environmental defenders Freedom of expression
	Welfare and equity	Poverty reduction (SDG 1) Economic inequality (SDG 8, SDG 10) Equality of opportunities and equality of outcomes (SDG 10) Protection of poor and negatively affected communities (SDG 12) Removal of social disparities Climate justice and distribution of climate impacts on different groups Gender equality and empowerment of women (SDG 5) Racial equality Indigenous rights Youth participation and intergenerational equity Income of small-scale food producers (SDG 2) Migration and mobility of people (SDG 10)

5.1 Examples of social impact categories (2)

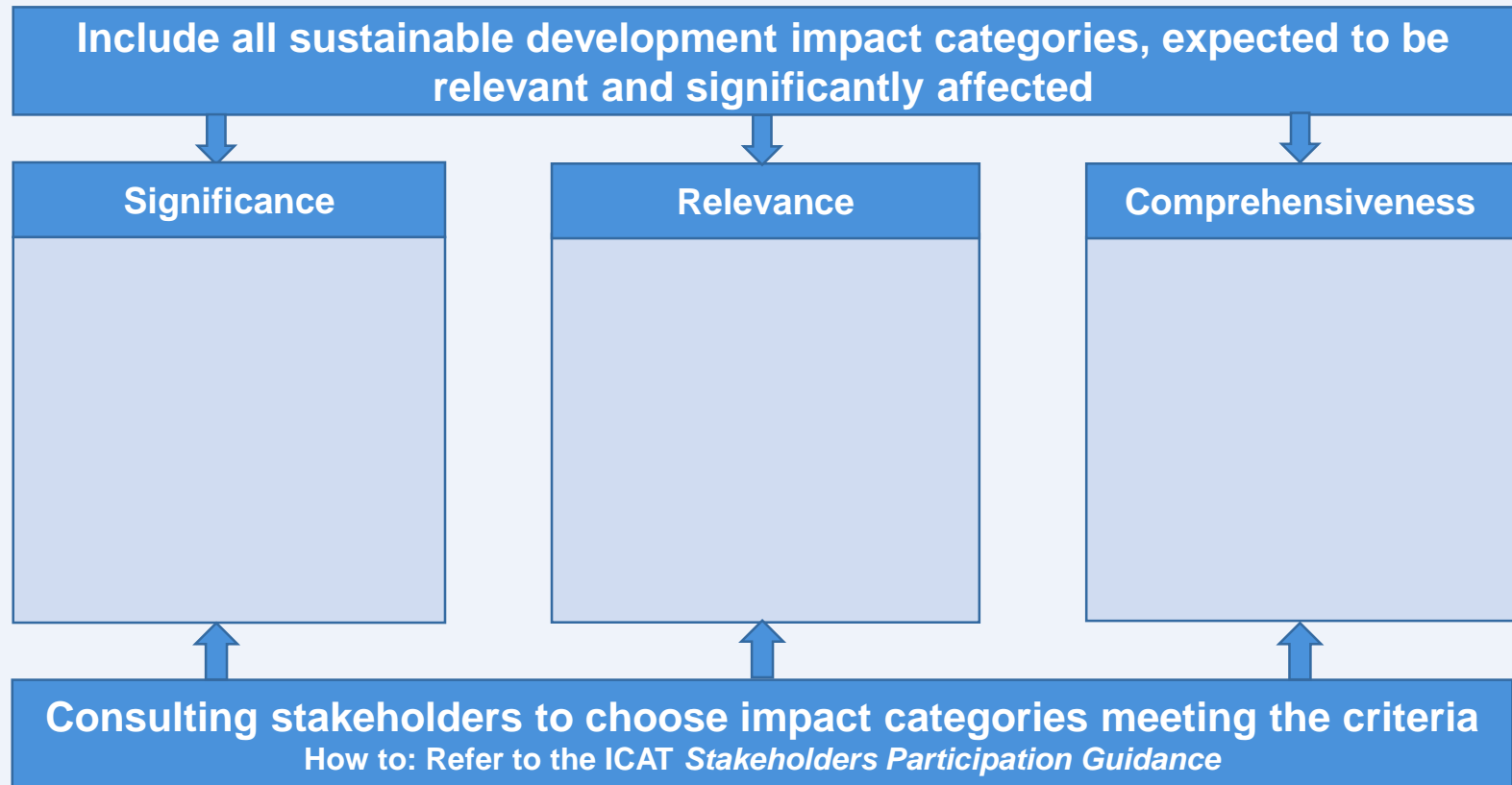
Dimension	Group of impact categories	Impact categories (non-exhaustive list)
Social impacts	Labour conditions	Labour rights (SDG 8) Quality of jobs (SDG 8) Fairness of wages (SDG 8) Quality and safety of working conditions (SDG 8) Freedom of association (SDG 8) Just transition of the workforce (SDG 8) Prevention of child exploitation and child labour (SDG 8, SDG 16) Prevention of forced labour and human trafficking (SDG 8)
	Communities	City and community climate resilience (SDG 11) Mobility (SDG 11) Traffic congestion (SDG 11) Walkability of communities (SDG 11) Road safety (SDG 3, SDG 11) Community/rural development Accessibility and quality of housing (SDG 11)
	Peace and security	Resilience to dangerous climate change and extreme weather events (SDG 13) Security (SDG 16) Maintaining global peace (SDG 16)

5.1 Examples of economic impact categories

Dimension	Group of impact categories	Impact categories (non-exhaustive list)
Economic impacts	Overall economic activity	Economic activity (SDG 8) Economic productivity (SDG 8, SDG 2) Economic diversification (SDG 8) Decoupling economic growth from environmental degradation (SDG 8)
	Employment	Jobs (SDG 8) Wages (SDG 8) Worker productivity
	Business and technology	New business opportunities (SDG 8) Growth of new sustainable industries (SDG 7, SDG 17) Innovation (SDG 8, SDG 9) Competitiveness of domestic industry in global markets Agricultural productivity and sustainability (SDG 2) Economic development from tourism and ecotourism (SDG 8) Transportation supply chains Infrastructure creation, improvement and depreciation
	Income, prices and costs	Income (SDG 10) Prices of goods and services Costs and cost savings Inflation Market distortions (SDG 12) Internalization of environmental costs/externalities Loss and damage associated with environmental impacts (SDG 11) Cost of policy implementation and cost-effectiveness of policies
	Trade and balance of payments	Balance of payments Balance of trade (imports and exports) Foreign exchange Government budget surplus/deficit Energy independence, security or sovereignty Global economic partnership

5.1 Exercise: Choosing the impact categories to assess in the case of the solar PV incentive policy

Principled, transparent and participatory choice, in the context of the user's objectives and the needs of stakeholders.



5.1 Example: Reporting the selected impact categories to assess for a solar PV incentive policy (1/3)

Dimension	Impact category	Relevant (Yes/No)	Significant (Yes/No)	Included in the assessment boundary?	Brief description or rationale. "The policy is..."
E n v i r o n m e n t a l i m p a c t s	Climate change mitigation	Yes	Yes	Yes	The policy is expected to significantly reduce greenhouse gas (GHG) emissions by replacing fossil energy with solar energy
	Air quality/ health impacts of air pollution	Yes	Yes	Yes	The policy is expected to significantly reduce air pollution by replacing fossil energy with solar energy.
	Waste generation and disposal	Yes	Yes	Yes	The policy is expected to have both positive and negative impacts on waste by reducing fossil energy waste and increasing solar energy waste (e.g., replacement of PV panels or batteries).
	Energy	Yes	Yes	Yes	The policy is expected to significantly increase renewable energy generation by replacing fossil energy with solar energy.
	Availability of freshwater	Yes	No	No	The policy is not expected to significantly affect these impact categories.
	Land use change	Yes	No	No	
	Biodiversity of terrestrial ecosystems	Yes	No	No	
	Soil quality	Yes	No	No	
	Nuclear radiation	Yes	No	No	

5.1 Example: Reporting the selected impact categories to assess for a solar PV incentive policy (2/3)

Dimension	Impact category	Relevant (Yes/No)	Significant (Yes/No)	Included in the assessment boundary?	Brief description or rationale. "The policy is..."
S o c i a l i m p a c t s	Access to clean, affordable, and reliable energy	Yes	Yes	Yes	The policy is not expected to increase access to energy, since all eligible households and buildings are already connected to the electric grid, but the policy is expected to significantly improve access to clean, affordable and reliable energy.
	Capacity, skills, and knowledge development	Yes	Yes	Yes	The policy is expected to significantly improve training for skilled workers in the solar manufacturing, installation and maintenance sectors.
	Quality and safety of working conditions	Yes	Yes	Yes	The policy is expected to improve working conditions by having more workers in the solar sector and relatively fewer in the fossil fuel sector.
	Diseases	Yes	No	No	The policy is not expected to significantly affect these impact categories, though reduced energy costs may reduce poverty.
	Freedom of expression	Yes	No	No	
	Access to safe drinking water	Yes	No	No	
	Poverty	Yes	No	No	
	Gender equality	Yes	No	No	Gender equality is a high policy priority and some solar energy policies are expected to increase women's participation in the labour force through new jobs and women's entrepreneurship through new business opportunities, but this specific policy design is not expected to have a significant impact.
	Mobility	No	No	No	This impact category is not relevant to the assessment or policy objectives and was not expressed as a priority of stakeholders.

5.1 Example: Reporting the selected impact categories to assess for a solar PV incentive policy (3/3)

Dimension	Impact category	Relevant (Yes/No)	Significant (Yes/No)	Included in the assessment boundary?	Brief description or rationale. "The policy is..."
Economic impacts	Jobs	Yes	Yes	Yes	The policy is expected to create a significant number of new jobs in the solar manufacturing, installation and maintenance sectors.
	Income	Yes	Yes	Yes	The policy is expected to lead to significant financial savings for households, institutions and other organizations through reduced energy costs.
	Wages	No	Yes	No	The policy is expected to increase wages for workers in the solar sector, but assessing wages is not relevant to the objectives and was not expressed as a priority of stakeholders.
	New business opportunities	Yes	Yes	Yes	The policy is expected to create a significant number of new business opportunities in the solar manufacturing, installation and maintenance sectors.
	Energy independence	Yes	Yes	Yes	The policy is expected to lead to significant improvement in energy independence by reduced energy imports.
	Economic activity	No	No	No	The policy may affect these impact categories, but the impact is not expected to be significant. They are also not relevant to the assessment or policy objectives and were not expressed as a priority of stakeholders.
	Economic productivity	No	No	No	
	Prices of goods and services	No	No	No	
	Balance of payments	No	No	No	

5.2 Criteria for selecting indicators

Criteria	Impact categories (non-exhaustive list)
Relevance	Does the indicator measure what really matters as opposed to what is easiest to measure? Users should avoid measuring what is easy to measure instead of what is needed.
Credibility	How trustworthy or believable are the data collected to the intended audiences of the evaluation report? Stakeholders and experts consulted may help identify credible sources of information. Technical review of data can help improve credibility.
Validity	Will the indicator reflect what the evaluator set out to measure? Validity is the term used to indicate whether a measurement actually measures what it is supposed to measure.
Reliability	If data on the indicator are collected in the same way from the same source using the same decision rules every time, will the same results be obtained? One way of improving reliability is ensuring that monitoring occurs regularly.
Feasibility	Users should avoid trying to measure too much. Users should consider what indicators are already being monitored in order to limit the costs of data collection. Users should also consider whether the indicator can be measured directly or whether (and how many) parameters are needed to calculate the value of the indicator.

5.2 a: Examples of disaggregating indicators by gender

Impact categories	Examples of indicators disaggregated by gender
Access to health-care services	Proportion of women/men, girls/boys with health insurance or access to public health system
Hunger, nutrition and food security	Prevalence rate of undernourished girls/boys, women/men
Illness and death	Life expectancy women/men (years)
Access to safe drinking water	Percentage of population (women/men) with access to safe drinking water
Access to adequate sanitation	Percentage of population (women/men) with access to sanitation facilities
Access to clean, reliable and affordable energy	Percentage of population (women/men) with access to clean, reliable, and affordable energy
Access to land	Percentage of population (women/men) with access to land
Accessibility and quality of education	Proportion of girls/boys getting secondary school education Average years of schooling for girls/boys
Capacity, skills, and knowledge development	Number of women/men, girls/boys that have received training
Climate change education, public awareness, capacity-building and research	Number of women/men, girls/boys that have received training
Economic inequality	Average income for women/men Average wealth for women/men, difference in wealth between women and men Average wages for women/men, gender wage gap
Gender equality and empowerment of women	Average income for women and men Gender wage gap Proportion of girls and women in schools Proportion of women in tertiary education Proportion of women in the labour force Proportion of women in senior management positions Proportion of women in senior government positions
Jobs	

5.2 b: Examples of environmental indicators

Examples of impact categories	Examples of indicators for each impact category	
Environmental impacts		
Climate change mitigation (SDG 13)	<ul style="list-style-type: none">Net emissions of greenhouse gases (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃, and if relevant, other gases identified by the IPCC) (metric tonnes/year) and in carbon dioxide equivalent (CO₂e) using global warming potentialNet emissions of short-lived climate pollutants (SLCPs): black carbon, organic carbon, CO, NMVOCs, sulfates	Land use change, including deforestation, forest degradation, and desertification (SDG 15) <ul style="list-style-type: none">Annual change in degraded or desertified arable land (% or ha)Area of forested land as a percentage of original or potential forest coverProportion of land area covered by forestsArea of forest under sustainable forest managementArable and permanent cropland areaArea under organic farming
Ozone depletion	<ul style="list-style-type: none">Net emissions of ozone depleting substances (such as CFC-11, CFC-113, Halon 1211, Methyl Chloroform) (tonnes/year)Stratospheric ozone concentration (tonnes/m³)	Soil quality (SDG 2) <ul style="list-style-type: none">Net emissions of sulphur dioxide (SO₂), ammonia (NH₃), and nitrogen oxides (NO_x) (t/year)Soil organic matterAcidity (pH)Extent of soil erosion
Air quality and health impacts of air pollution (SDG 3, SDG 11, SDG 12)	<ul style="list-style-type: none">Emissions of air pollutants such as particulate matter (PM2.5, PM10), ammonia, ground-level ozone (resulting from volatile organic compounds (VOCs) and nitrogen oxides (NO_x)), carbon monoxide, sulphur dioxide, nitrogen dioxide, fly ash, dust, lead, mercury, and other toxic pollutants (tonnes/year)Air pollutants concentration (mg/m³)Aerosol particles concentration (mg/m³)Indoor and outdoor air qualityMorbidity (disability-adjusted life years (DALYs), quality-adjusted life year (QALY), and averted disability-adjusted life years (ADALYs))Mortality (avoided premature deaths per year)	Waste generation and disposal (SDG 12) <ul style="list-style-type: none">Solid waste generated (tonnes/year)Wastewater generatedRecycling rate (percentage of waste recycled)Proportion of materials reusedProportion of waste composted
Visibility	<ul style="list-style-type: none">Visual range (in units of distance)Deciview (dv)	Treatment of solid waste and wastewater (SDG 6) <ul style="list-style-type: none">Proportion of wastewater/solid waste safely treated
Availability of freshwater (SDG 6)	<ul style="list-style-type: none">Water consumption (m³) or total amount of water removed from freshwater sources for human useProportion of total water resources used (water scarcity)Water use efficiency or intensityStress-weighted water footprint (liters)	Terrestrial and water acidification (SDG 14) <ul style="list-style-type: none">Proportion of land exceeding critical loads
Water quality (SDG 6, SDG 14)	<ul style="list-style-type: none">Net emissions of sulphur dioxide, nitrogen oxides, phosphorus, nitrogen, toxic pollutants (tonnes/year)Acidity (pH)Accumulated exceedanceEutrophication from nutrient pollution (such as phosphorus and nitrogen compounds)Toxicity from emissions of toxic chemicals (such as metals, PAH)	Energy (SDG 7) <ul style="list-style-type: none">Energy consumptionEnergy efficiencyEnergy generated by sourceRenewable energy generationRenewable energy share of total final energy consumptionPrimary energy intensity of the economy (e.g., tonnes of oil equivalent/GDP)
Biodiversity of freshwater and coastal ecosystems (SDG 6, SDG 14)	<ul style="list-style-type: none">Proportion of marine area protectedProportion of fish stocks within safe biological limitsPercentage of fish tonnage landed with Maximum Sustainable Yield (MSY)Damage on ecosystem (PDF-Potential affected fraction of species)Marine trophic indexExtinction rateBiodiversity intactness index	Material intensity <ul style="list-style-type: none">Quantity of embedded materials in products
Biodiversity of terrestrial ecosystems (SDG 15)	<ul style="list-style-type: none">Species diversity (number of species or species richness)Change in threat status of species (abundance of selected key species, invasive alien species or endangered species)Proportion of terrestrial area protectedDamage on ecosystem (PDF-Potential affected fraction of species)Extinction rateBiodiversity intactness index	Depletion of nonrenewable resources <ul style="list-style-type: none">Consumption of mineral resourcesConsumption of fossil fuelsScarcity of resources
		Toxic chemicals released to air, water, and soil <ul style="list-style-type: none">Emissions (tonnes/year)
		Genetic diversity and fair use of genetic resources (SDG 2, SDG 15) <ul style="list-style-type: none">Genetic diversity of seeds, plants, and animals
		Nuclear radiation <ul style="list-style-type: none">Human exposure efficiency relative to U235Morbidity (DALYs - Disability Adjusted Life Years)
		Noise pollution <ul style="list-style-type: none">Noise level (dB)

5.2 c: Examples of social indicators

Social impacts			
Accessibility and quality of health care (SDG 3)	<ul style="list-style-type: none"> Proportion of people with health insurance or access to public health system 	Climate change education, public awareness, capacity-building and research	<ul style="list-style-type: none"> Extent to which climate change education is mainstreamed in national education policies, curricula, teacher education and student assessment Proportion of population aware of climate change Number of people that have received training
Hunger, nutrition, and food security (SDG 2)	<ul style="list-style-type: none"> Prevalence rate of undernourished people Average share of food expenditures in total household expenditures Per capita total amount of net calories available in a given country Level of nutrition or malnutrition Agricultural crop diversity 	Quality of institutions (SDG 10)	<ul style="list-style-type: none"> Effectiveness of institutions Credibility of institutions Accountability of institutions Legitimacy of institutions
Illness and death (SDG 3)	<ul style="list-style-type: none"> Life expectancy (years) Avoided premature deaths per year Morbidity (Disability-adjusted life years (DALYs), Quality-adjusted life year (QALY), and Averted disability-adjusted life years (ADALYs)) Maternal mortality Infant mortality Prevalence of diseases Proportion of population with diagnosed diseases or hospitalized from specific diseases Illnesses from hazardous chemicals, air pollution, water pollution, and soil pollution Prevalence or reduction in respiratory illnesses Bioaccumulation of POPs and heavy metals 	Poverty (SDG 1)	<ul style="list-style-type: none"> Poverty rate (proportion of population living below national poverty line) Proportion of people living on less than one dollar (or other amount) per day Number of people living in poverty Multidimensional poverty index (see http://hdr.undp.org/sites/default/files/hdr2015_technical_notes.pdf)
		Economic inequality (SDG 8, SDG 10)	<ul style="list-style-type: none"> Income equality/inequality, average income for different groups, share of national income by income quintile Wealth equality/inequality, average wealth for different groups, share of national wealth by wealth quintile Wage equality/inequality, average wages for different groups
		Gender equality and empowerment of women (SDG 5)	<ul style="list-style-type: none"> Average income for women and men Gender wage gap Proportion or number of girls and women in schools Proportion or number of women in tertiary education Proportion or number of women in the labour force Proportion or number of women in senior management positions Proportion or number of women in senior government positions
Access to safe drinking water (SDG 6)	<ul style="list-style-type: none"> Percentage of population with access to safe drinking water 	Racial equality	<ul style="list-style-type: none"> Average income by racial/ethnic group Proportion of people in schools by racial/ethnic group Proportion of people in the labour force by racial/ethnic group Proportion of people in senior management positions by racial/ethnic group
Access to adequate sanitation (SDG 6)	<ul style="list-style-type: none"> Percentage of population with access to sanitation facilities 		
Access to clean, reliable and affordable energy (SDG 7)	<ul style="list-style-type: none"> Percentage of population with access to clean, reliable, and affordable energy Price of energy Emissions per unit of energy Number and length of service interruptions 		
Access to land (SDG 2)	<ul style="list-style-type: none"> Percentage of population with access to land 	Indigenous rights	<ul style="list-style-type: none"> Extent of recognition of ancestral land titles Extent of free, prior and informed consent Extent of protection of Indigenous traditional knowledge Extent of empowerment of Indigenous communities
Livability and adequate standard of living	<ul style="list-style-type: none"> Gross national income per capita (adjusted according to PPP\$) 	Mobility (SDG 11)	<ul style="list-style-type: none"> Number of people or proportion of population with convenient access to employment, schools, healthcare, or recreation, by sex, age, and persons with disabilities
Quality of life and well-being (SDG 3)	<ul style="list-style-type: none"> Gross National Happiness (GNH) 	Traffic congestion	<ul style="list-style-type: none"> Time lost during transportation Economic cost of time lost
Accessibility and quality of education (SDG 4)	<ul style="list-style-type: none"> Proportion of children getting primary and secondary school education Average years of schooling 	Road safety (SDG 3, SDG 11)	<ul style="list-style-type: none"> Number of deaths and injuries from road traffic accidents per year
Capacity, skills, and knowledge development (SDG 4, SDG 12)	<ul style="list-style-type: none"> Proportion of youth and adults with scientific, technological, or other skills, by type of skill Number of people that have received training 	Resilience to dangerous climate change and extreme weather events (SDG 13)	<ul style="list-style-type: none"> Creation and maintenance of climate-resilient infrastructure Reduction of natural disaster risks

5.2 d: Examples of economic indicators

Economic impacts	
Economic activity (SDG 8)	<ul style="list-style-type: none"> Gross domestic product (GDP) Gross national income (GNI) Local or state/provincial GDP Annual growth rate of real GDP per capita
Economic productivity (SDG 8, SDG 2)	<ul style="list-style-type: none"> Agricultural productivity (harvested crop yields per hectare)
Jobs (SDG 8)	<ul style="list-style-type: none"> Number of people employed Number of people unemployed Employment rate Unemployment rate Number of jobs, including short-term jobs and long-term jobs in different sectors Number of new jobs created in different sectors
Wages (SDG 8)	<ul style="list-style-type: none"> Average hourly wage (nationally or in different economic sectors) Average hourly wage for different groups (by gender, income, etc.)

Worker productivity	<ul style="list-style-type: none"> Labour productivity per hour or per unit of labour Total employment or number of hours worked per GDP
New business opportunities (SDG 8)	<ul style="list-style-type: none"> Number of new companies Revenue and profit Amount of new investment Number of active long-term partnerships
Growth of new sustainable industries (SDG 7, SDG 17)	<ul style="list-style-type: none"> Amount of investment in clean tech sector Revenue and profit from clean tech sector Number of projects
Competitiveness of domestic industry in global markets	<ul style="list-style-type: none"> Market share Quantity/value of exports Balance of trade
Economic development from tourism and ecotourism (SDG 8)	<ul style="list-style-type: none"> Revenue from tourism Tourism GDP as a proportion of total GDP Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs (by women/men)
Income (SDG 10)	<ul style="list-style-type: none"> Income per capita Median household income Annual growth in household income
Prices of goods and services	<ul style="list-style-type: none"> Energy prices
Costs and cost savings	<ul style="list-style-type: none"> Fuel costs or cost savings Health care costs or cost savings Economic costs of human health losses from air pollution based on social welfare indicator (ADALYs monetized in terms of social welfare valuation (USD) based on willingness to pay VSL estimates) or national accounts indicator (ADALYs monetized based on foregone output estimates based on productivity/wage approaches)
Inflation	<ul style="list-style-type: none"> Inflation rate
Balance of trade	<ul style="list-style-type: none"> Total imports Total exports Net imports
Government budget surplus/deficit	<ul style="list-style-type: none"> Annual revenue Annual expenditures Annual surplus or deficit
Energy independence	<ul style="list-style-type: none"> Net imports of fossil fuels (coal, oil, natural gas)