

INFORMAL SUPPLEMENTARY DOCUMENT ON SUSTAINABLE TAXONOMY

THIS IS AN INFORMAL SUPPLEMENT TO KEY RECOMMENDATION NO. 1 PROVIDING FURTHER TECHNICAL INFORMATION REGARDING THE DEVELOPMENT OF A SUSTAINABLE TAXONOMY– IT IS NOT AN OFFICIAL HLEG DOCUMENT

Introduction

The HLEG recommended that the Commission establish and maintain a common Sustainable Taxonomy at the EU level. As part of this recommendation, it recommended to adopt the following roadmap:

“Adopt the following roadmap to develop a fully-fledged sustainability taxonomy by 2020. The roadmap would start with activities linked with the EU’s environmental (‘green’) policy goals, such as combating climate change, biodiversity loss and natural resource depletion, as well as pollution prevention and control. The climate mitigation element of the taxonomy could be delivered in early 2018, with climate adaptation and other environmental elements to follow. Work on the social dimensions of sustainable development, such as access to basic infrastructure and services for education and healthcare, could commence in 2019.”

This document contains the following supplementary technical information:

1. The Draft Sustainable Taxonomy proposed to the European Commission;
2. Mapping of the United Nations Sustainable Development Goals (SDGs) against this framework Sustainable Taxonomy;
3. Draft detailed Climate Mitigation element of the Sustainability Taxonomy for review by the proposed Technical Working Committee which should recommend to the Commission to endorse successively developed components of the taxonomy;
4. Asset Owner led Taxonomy on investing into the SDGs, supported by Dutch, Swedish and Australian Asset Owners, which serves as a reference point for developing the Sustainable Taxonomy further.

1. Draft Sustainable Taxonomy

Important notes when reading the draft Sustainable Taxonomy (next page):

Different types of finance are 1) used to finance different stages of a project or asset development (e.g. acquisition/ development, operation, refinancing) and 2) used to match varying levels of inherent risks in any investment, as this can affect ability to access different types of finance. Regardless, from a climate and sustainable development perspective, these sources of finance collectively are aimed at supporting the same underlying assets and activities, as identified as contributing to sustainable development goals. Therefore, in the taxonomy, where assets or activities are listed, it should be read that the associated finance may be either financing the acquisition, manufacture, development, distribution, operation and/ or refinancing of such assets, or any business stream or company built around those.

The Sustainability Taxonomy provides a framework for classifying all potential assets or activities against a comprehensive set of sustainability goals – from climate change to broader environmental and social goals, including the Sustainable Development Goals.

At this stage, the Sustainability Taxonomy is populated with the draft Mitigation Criteria as described in more detail in Appendix 3, agreed by HLEG, and limited examples of potentially eligible assets and activities across the fuller range of sustainability goals. These examples have been taken from the Asset Owner Led Taxonomy on investing into the SDGs as described in Appendix 4 and have not been agreed upon as constituents of do not represent actual elements of the taxonomy.

2. Mapping of the Sustainable Taxonomy against the SDGs

NB: The number in the cell references the specific SDG sub-goal. The colour intensity of the cell denotes the strength of focus of that SDG on that Sustainability Theme

THEME IN SUSTAINABILITY TAXONOMY	SUSTAINABLE DEVELOPMENT GOALS																
	1. No poverty	2. Zero Hunger	3. Good health & well being	4. Quality Education	5. Gender equality	6. Clean Water and Sanitation	7. Affordable & Clean Energy	8. Decent Work & Economic Growth	9. Industry, Innovation & Infrastructure	10. Reduced Inequalities	11. Sustainable Cities & Communities	12. Responsible Consumption & Production	13. Climate Action	14. Life Below Water	15. Life on Land	16. Peace & Justice Strong Institutions	17. Partnerships for the goals
Climate change mitigation (reductions in GHG emissions and/ or increases in GHG sequestration)	1.5	2.4					7.2-7.3		9.4								
Climate adaptation (reduced disruption and damage arising from acute or chronic effects of climate change)									9.1				13.1, 13.3				
Healthy natural habitats (land & marine), including protected & enhanced biodiversity (relates to sustainable management & enhancement of ecosystems)												12.2, 12.4		14.1	15.2-15.5		
Water resource management & conservation (efficiency and sustainable management and withdrawals)						6.3-6.4						12.2					
Waste minimisation (reuse of waste and circular economy)		2.4						8.4	9.1, 9.4			11.6	12.5				
Pollution prevention and control (pollutants to and in air, land, water and sea)						6.3					11.6	12.4		14.1			
Agricultural & fisheries productivity (sustainable production and intensification)		2.1-2.5										12.3		14.1, 14.2	15.2, 15.3		
Access to food (nutritional needs being met)		2.1, 2.2, 2.5															
Access to basic infrastructure (access to water, energy, transport, housing, waste management infrastructure)	1.4		3.9			6.1, 6.2, 6.4			9.1		11.1, 11.2						
Access to essential services (access to health, education, IT and financial services)	1.4	2.3	3.1-3.4, 3.7-3.9	4.1-4.6	5.6	6.2			9.1, 9.3		11.1, 11.2, 11.5		13.1		15.4, 15.5		

3. Draft detailed Climate Mitigation Taxonomy

Sectors	Subsectors	Climate Change Mitigation Activities (considering relevant "climate screening criteria" and applying appropriate "primary screening metrics")	EIB Proposal for the EU's Climate Change Mitigation Screening Criteria (possible examples highlighted in orange)	FURTHER ISSUES RAISED BY STAKEHOLDERS, NOTES AND REMAINING CHALLENGES
	General Notes	<p>Definition: Climate change mitigation activities are defined as those that result in substantial GHG emissions savings from the use of renewable energy, improvements in energy efficiency, avoided GHG emissions from sources of CO₂, methane and other gases, increased carbon sequestration, or improvements in resource efficiency that avoid GHG emissions associated with the production and supply of the resource, compatible with low-emissions pathways - ref Paris Agreement, December (2015 FCCCPD2:15L3RRev.1, Article 2c). As a consequence, not all activities that reduce GHGs in the short term are counted as Climate Change Mitigation Activities. Activities considered as climate change mitigation may result in direct impacts on emissions or sequestration (e.g. energy efficiency or forestry projects), or have indirect benefits (e.g. transmission projects enabling connection of renewable energy to the grid).</p> <p>Counting of climate change mitigation activities can only occur in the context of necessary climate resilience of the investments and good environmental, social and governance in investment planning, project preparation, implementation and operation.</p> <p>Principles: The following principles apply generally to the definition of climate change mitigation activities and are the basis for the screening criteria below:</p> <ol style="list-style-type: none"> Conservative estimates of GHG emissions savings - This is an important principle needed to sustain the credibility of the agency defining climate change mitigation activities and to address the risk of "greenwashing" activities that are perceived as "business as usual". With respect to energy efficiency, old technologies must be replaced well before the end of their lifetime with new technologies that are substantially more efficient. New technologies or processes must be substantially more efficient than those typically used in greenfield projects. Demonstrate GHG emissions savings - This principle is needed to avoid the selection of activities that are justified as contributing to climate change mitigation, but for which there is little or no proof of impact. Demonstration would typically be addressed by providing an estimate of avoided/increased sequestration of tonnes CO₂e or by confirming a direct link between the proposed activity and other climate change mitigation activities that unambiguously demonstrate GHG emissions savings. For research and development projects or similar where GHG estimates may not be available due to the uncertainty of research outcomes, a clear expectation of mitigation results should be nevertheless demonstrated. Substantial GHG emissions reductions - This principle is needed to distinguish activities that make a significant contribution to climate change mitigation from those that make small incremental improvements, typically associated with technological progress. Note that "substantial" typically refers to the volume of GHG emissions savings with respect to the proposed investment, rather than the percent of improvement. To avoid activities with a significant percentage improvement in GHG emissions savings but a relatively low total volume of avoided emissions, or to assess investment programmes with diverse components or components with multiple benefits, a general screening indicator is proposed that compares the estimated monetary value of avoided GHG emissions over the economic life of the asset (calculated using a shadow price of CO₂) to the investment cost. Other sector specific indicators are proposed, where relevant. In most sectors, several indicators are proposed for consideration. Granularity of investments - The granularity of investments is needed to avoid including a significant share of investment activities that are unrelated to climate change mitigation. This is particularly important when identifying investment activities that are part of a broadly defined investment programme or when distinguishing a share of a specific investment activity that partially contributes to climate change mitigation. Either 100% or a significant share of the investment cost should consist of climate change mitigation activities. Exclusions - Investment in climate change mitigation activities associated with energy intensive industries or industries associated with negative social or environmental impacts may be excluded from investment by specific agencies. The sub-sectors most commonly exposed to these exclusions are indicated. 		
Electricity production	Biomass, Biogas and Bioliq uid Power Plants	<p>Screening Criteria: Demonstrate substantial GHG emissions savings. Use sustainable biofuel feedstock, with a clear definition of "sustainable" that covers the environmental impacts of changes in land use. Avoid life-cycle GHG emissions from cultivation, harvesting, processing and transportation. Avoid substantial GHG emissions from co-combustion with fossil fuels. Peat is not eligible.</p> <p>Primary Screening Metric: Life-cycle GHG emissions < XX gCO₂e/kWh</p> <p>Secondary Screening Metric: Maximum share of fossil fuel generation < XX%; GHG emissions from the biofuel production, processing and transport < XX% of CO₂ emissions from alternative fossil fuels; Certification that the biomass, biogas or bioliq uid fuel is eligible taking into consideration the climate screening criteria indicated above.</p>	Biomass, biogas and bioliq uid fuelled power plants from eligible sustainable feedstock, as defined by the EU. GHG emissions from cultivation, harvesting and transport of biofuels < XX gCO ₂ e/kWh, taking into consideration GHG savings of at least XX% compared to fossil fuels.	
	Geothermal Power Plants	<p>Screening Criteria: Demonstrate substantial GHG emissions savings, e.g. by avoiding the substantial release of CO₂ and other non-condensable GHGs to the atmosphere.</p> <p>Primary Screening Metric: Release of GHG emissions < XX gCO₂e/kWh</p> <p>Secondary Screening Metric: Reinjection of liq uid and fugitive emissions</p>	Geothermal: release of GHGs < XX gCO ₂ e/kWh.	
	Hydropower Plants	<p>Screening Criteria: Demonstrate substantial GHG emissions savings, e.g. by avoiding substantial methane emissions from the anaerobic decomposition of biomass in reservoirs.</p> <p>Primary Screening Metric: Release of GHG emissions < XX gCO₂e/kWh</p> <p>Secondary Screening Metric: Power density > XX W/m³</p>	Hydropower: release of GHGs from reservoirs over the economic life of the asset < XX gCO ₂ e/kWh, or power density > XX W/m ³ .	
	Solar Concentrated Power (CSP) Plants	<p>Screening Criteria: Demonstrate substantial GHG emissions savings, e.g. by avoiding the substantial combustion of fossil fuels for preheating or increasing electricity production.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/kWh</p> <p>Secondary Screening Metric: XX% of the electricity generation from fossil fuel</p>	Solar CSP: GHG emissions < XX gCO ₂ e/kWh, or co-combustion with fossil fuels limited to less than XX % of the electricity generation	
	Solar Photovoltaic (PV), Wind, Marine and Tidal Power Plants	<p>Screening Criteria: Automatically eligible.</p> <p>Primary Screening Metric: n.a.</p>	Solar photovoltaic, wind, marine and tidal are automatically eligible.	
	Conventional Fossil Fuel Power Plants (e.g. coal, natural gas, oil)	<p>Screening Criteria: Demonstrate substantial GHG savings for repowering and rehabilitation of existing fossil fuel power plants, e.g. by improving energy efficiency, fuel switching to natural gas only, or fuel switching partially to biomass. Existing assets should have substantial remaining economic life. Rehabilitation should not substantially increase generation capacity or utilisation of the power plant. Avoid lock-in of high carbon technology. Coal plants are not eligible. New conventional fossil fuel power plants are not eligible.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/kWh</p> <p>Secondary Screening Metric: GHG savings > XX gCO₂e/kWh</p>	Only retrofitting of fossil fuel power plants for biomass/biogas or rehabilitation of natural gas power plants with at least 5 years remaining economic life, resulting in substantial GHG emissions reductions from energy efficiency. Exclude the rehabilitation of coal power plants. Exclude all new fossil fuel power plants. GHG emissions - Emissions Performance Standard (EPS) (XX gCO ₂ e/kWh)	
	Advanced Alternative Fuel Power Plants	<p>Screening Criteria: Demonstrate substantial GHG emissions savings, e.g. avoiding emissions from the production, processing and transport of fuel.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/kWh</p>	GHG emissions < XX gCO ₂ e/kWh (technology based)	
	Nuclear Power Plants	<p>Screening Criteria: Automatically eligible, but not universally acceptable because of other environmental and social risks.</p> <p>Primary Screening Metric: n.a.</p>		
	Heat Production and Supply	Cogeneration / Combined Heat and Power Production	<p>Screening Criteria: Demonstrate substantial GHG emissions savings compared to the separate production of heat and electricity. For renewable energy, see screening criteria for the relevant sector. Avoid lock-in of high carbon technology.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/kWh;</p> <p>Secondary Screening Metric: Maximum share of fossil fuel generation < XX%; GHG savings > XX gCO₂e/kWh (rehabilitation)</p>	Renewable CHP is eligible (see criteria for renewable energy). Limit the share of co-combustion of fossil fuels with renewable energy. Fossil fuel CHP demonstrates energy efficiency or GHG savings of at least 10% compared to separate electricity and heat production using available low carbon options. Exclude coal. GHG emissions < XX gCO ₂ e/kWh-electricity (technology-fuel based); GHG emissions < Emissions Performance Standard (XX gCO ₂ e/kWh-electricity)
Heat-only Production		<p>Screening Criteria: For fossil fuel boilers, demonstrate substantial GHG emissions savings. Renewable energy production that meets the screening criteria for the relevant sector is automatically eligible, e.g. biofuels, heat pumps using soil, air or marine thermal gradients, solar thermal and geothermal heat systems. Avoid lock-in of high carbon technology. Exclude coal.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/kWh or gCO₂e/GJ</p> <p>Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>	Renewable heat-only boilers are eligible (see criteria for renewable energy). Limit the share of co-combustion of fossil fuels with renewable energy. Rehabilitation or replacement of fossil fuel heat-only boilers demonstrates GHG savings of at least 10% compared to available low carbon options. Exclude coal. GHG emissions < XX gCO ₂ e/kWh or gCO ₂ e/GJ (technology-fuel based)	
District Heating / Cooling Systems		<p>Screening Criteria: Demonstrate substantial GHG emissions savings compared to individual heating/cooling systems, e.g. by using waste heat from solid waste incineration, efficient cogeneration of heat and electricity, reduction of energy losses in distribution networks, etc.</p> <p>Primary Screening Metric: GHG emissions of energy supplied to the final consumer < XX gCO₂e/GJ</p> <p>Secondary Screening Metric: GHG emissions reduction > XX %</p>	Rehabilitations and new installations demonstrate GHG savings of at least 5% compared to individual heating/cooling units. GHG emissions of energy supplied to the final consumer < XX gCO ₂ e/GJ (all) GHG emissions reduction > XX %	
Electricity Transmission, Distribution and Storage	Electricity Transmission	<p>Screening Criteria: Demonstrate substantial GHG emission savings, e.g. by connecting to new renewable energy sources, improving the dispatch of electricity from low carbon generation and reduce curtailment of renewable energy through an interconnection, or reducing losses and improving energy efficiency through ultra-high voltage transmission lines. Transmission investments primarily needed to meet demand growth are not eligible. Avoid investments that increase GHG emissions by facilitating the dispatch of low cost, high carbon generation plants.</p> <p>Primary Screening Metric: Investments 100% dedicated to connection of eligible renewables</p> <p>Secondary Screening Metric: For investments not 100% dedicated to renewable energy. Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>	Infrastructure dedicated to connection of renewable energy. General efficiencies in Transmission systems not included unless substantial impact demonstrated, and no additional capacity of fossil fuel power supported. Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost.	Further work to define primary screening metrics when not 100% dedicated to eligible renewables.
	Electricity Distribution	<p>Screening Criteria: Demonstrate substantial GHG emissions savings, e.g. by connecting to rooftop and distributed renewable energy sources, reducing energy losses, improving energy demand management through smart grid technologies, batteries and automated smart meters. Distribution investments primarily needed to meet demand growth are not eligible. Consider the GHG emissions impacts of the co-use of infrastructure for fossil fuel based electricity generation and supply. For mini-grids, demonstrate substantial GHG emissions reductions compared to alternative sources of energy supply, e.g. individual diesel generators or kerosene lamps.</p> <p>Primary Screening Metric: Investment is 100% dedicated to the connection of eligible renewable energy</p> <p>Secondary Screening Metric: For investments not 100% dedicated to renewable energy. Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>	Infrastructure dedicated to connection of renewable energy, or demonstrates substantial avoided GHG emissions. Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost.	Further work to define primary screening metrics when not 100% dedicated to eligible renewables.
	Electricity Storage (batteries, mechanical storage, heat storage, pumped storage)	<p>Screening Criteria: Demonstrate substantial GHG emissions savings, e.g. by being directly connected to or enabling the connection of eligible renewable energy, reducing the curtailment of renewable energy, or facilitating lower carbon sources of electricity generation during charging/storage compared to alternative fossil fuel options during discharge. Energy storage technologies may include batteries, capacitors, flywheels and thermal energy storage, typically integrated within distribution networks or large scale technologies for generation and transmission applications such as pumped storage. Pumped storage facilities consume significant amounts of electricity for pumping. Avoid investments that increase dispatch of high carbon electricity generation. Avoid investments primarily serving non-climate change purposes.</p> <p>Primary Screening Metric: GHG emissions for charging or storing energy < XX gCO₂e/kWh</p> <p>Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>	Infrastructure dedicated to connection of renewable energy, or demonstrates substantial avoided GHG emissions. Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost.	Further work to define primary screening metrics when not 100% dedicated to eligible renewables. Criteria definition needs cleaning.

Sectors	Subsectors	Climate Change Mitigation Activities (considering relevant "climate screening criteria" and applying appropriate "primary screening metrics")	EIB Proposal for the EU's Climate Change Mitigation Screening Criteria (possible examples highlighted in orange)	FURTHER ISSUES RAISED BY STAKEHOLDERS, NOTES AND REMAINING CHALLENGES
Industry	Industrial Facilities (cement, iron and steel, aluminium, chemicals, glass, pulp and paper, food, and other production/manufacturing and processing facilities, etc.)	<p>Screening Criteria: Demonstrate substantial GHG emissions reductions for upgrades of existing industrial facilities through improvements in energy efficiency or changes in production processes, e.g. reducing energy losses, reducing fugitive emissions, methane capture, reducing gas flaring, use of waste gas, replacing cooling agents, integrating carbon capture and storage. Avoid upgrades that substantially increase GHG emissions as a result of increased production capacity. Demonstrate the use of transformational, low carbon technology for new industrial facilities that results in substantial GHG emissions savings compared to new facilities normally developed, and only if such technology prevents lock-in to high carbon infrastructure.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/unit of production</p> <p>Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>	<p>Upgrades to existing industrial facilities that demonstrate substantial GHG emissions reductions.</p> <p>GHG emissions < XX gCO₂e/unit of production. Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>	Further work to determine whether, or under what conditions, innovative industrial processes can be considered an eligible climate mitigation activities.
	Biofuel Production Facilities (solid biomass, biogas and biofuels)	<p>Screening Criteria: Demonstrate substantial GHG emissions savings compared to alternative fossil fuels, e.g. chipped, pelletized or torrefaction of solid biomass, direct use of biogas, biogas injection to gas distribution networks, biogas, biodiesel, or other automotive, shipping or aviation biofuel. Avoid substantial GHG emissions from biofuel production, processing and transport. Use sustainable biofuel feedstock, with a clear definition of "sustainable" that covers the environmental impacts of changes in land use.</p> <p>Primary Screening Metric: Life-cycle GHG emissions of the biofuel < XX tCO₂e/tonne or GJ fuel</p> <p>Secondary Screening Metric: Life-cycle GHG emissions of the biofuel < XX% of CO₂ emissions from alternative fossil fuels</p>	<p>Biofuels must achieve greenhouse gas savings of at least 50% in comparison to fossil fuels.</p> <p>GHG emissions < XX gCO₂e/GJ fuel</p>	
	Hydrogen Fuel Production Facilities	<p>Screening Criteria: Demonstrate substantial GHG emissions savings taking into consideration the full production cycle, e.g. hydrogen can be produced from diverse sources primarily fossil fuels, but could be produced from biomass or water electrolysis.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/unit of production</p> <p>Secondary Screening Metric: Life-cycle GHG emissions of the hydrogen fuel < XX% of CO₂ emissions from alternative fossil fuels</p>		
	Carbon Capture and Storage Facilities	<p>Screening Criteria: Demonstrate high carbon capture rates and low CO₂ leakage from storage sites.</p> <p>Primary Screening Metric: CO₂ capture rate > XX%. CO₂ leakage rate for storage < XX%.</p>		
Products and Supply Chain Activities	Products, Equipment and Appliances	<p>Screening Criteria: Products, equipment and appliances needed for the implementation of eligible climate change mitigation activities, e.g. LEDs, wind turbines, solar panels, building insulation materials, electric vehicles, efficient HVAC units, efficient water boilers, home energy management systems, etc.</p> <p>Primary Screening Metric: Energy efficiency rating > XX percentile</p> <p>Secondary Screening Metric: Products, equipment and appliances 100% dedicated to eligible climate mitigation activities</p>		Further work to determine whether, or under what conditions, consumer appliances can be considered an eligible climate mitigation activity.
	Product Manufacturing Facilities	<p>Screening Criteria: Demonstrate dedication or substantial support to the manufacture of eligible products, equipment and appliances that are needed for climate change mitigation activities, as defined above. Avoid GHG intensive manufacturing processes.</p> <p>Primary Screening Metric: Eligible products, equipment and appliances account for > XX% of total production or revenues</p>	Dedicated manufacture of products and equipment for climate change mitigation activities	
	Storage and Distribution	<p>Screening Criteria: Demonstrate substantial GHG emissions reductions, e.g. installation of energy efficient equipment, renewable energy, or the application of technologies that improve resource efficiency, reduce waste. Most investments in the sector are not typically associated with climate change mitigation.</p> <p>Primary Screening Metric: Eligible products, equipment and appliances account for > XX% of total volume or revenues</p>		
	Retail Outlets	<p>Screening Criteria: Demonstrate substantial GHG emissions reductions, e.g. installation of energy efficient equipment, renewable energy or waste reduction, energy efficiency in buildings. Demonstrate dedication or substantial support to the sale or leasing of renewable energy, energy efficiency and low carbon products, e.g. solar lighting systems, energy efficient pumps, biomass cook stoves or low carbon technology products and appliances.</p> <p>Primary Screening Metric: Eligible products, equipment and appliances account for > XX% of total retail volume or revenues</p>		
Buildings	Installation, Operation and Maintenance Services	<p>Screening Criteria: Demonstrate substantial support of climate change mitigation activities, e.g. leasing and installation of renewable energy, energy efficiency and low carbon technologies, maintenance and operation of climate change mitigation assets. Investment in companies substantially dedicated to providing such services.</p> <p>Primary Screening Metric: Retail volume of eligible products, equipment and appliances > XX%</p>		
	Buildings (e.g. offices, retail, leisure, public, residential, health, educational)	<p>Screening Criteria: Demonstrate substantial CO₂ emissions reductions in existing buildings through energy efficiency or renewable energy investments, e.g. energy efficient or renewable heating ventilation and air conditioning systems (HVAC), communal heating/cooling, LED lighting, wall insulation, roof insulation, door and window insulation, energy efficient or renewable water heating systems, energy efficient or renewable swimming pool heating, smart meters for demand management, energy management systems, and renewable electricity generation. Demonstrate top energy efficiency percentiles in new buildings complying with recognised high energy efficiency building standards or rating schemes, e.g. Near Zero Energy Buildings (NZEB), passive energy buildings. Avoid lock-in of low energy efficiency building stock.</p> <p>Primary Screening Metric: GHG savings > XX gCO₂e/m² per year;</p> <p>Secondary Screening Metric: Energy performance of the building net of self production of renewable energy < XX kWh/m² per year (building type and climate region specific).</p>	<p>Rehabilitation that improves energy performance certification by at least 2 levels in Member States (or equivalent outside the EU). Improvement in energy performance > XX kWh/m² per year. Only investment costs related to energy efficiency and renewable energy components.</p> <p>Construction of Nearly Zero Energy Buildings and Passive Buildings. Energy performance of new buildings < XX kWh/m² per year (building type and climate region specific).</p>	Further work needed to define specific screening metrics
Urban Development	Urban Planning and Policies	<p>Screening Criteria: Demonstrate substantial avoidance of CO₂ emissions through support for implementation of urban policies and regulations dedicated to climate change mitigation, e.g. congestion charging or road pricing, parking management, restriction or auctioning of license plates, car-free city areas, low-emission zones.</p> <p>Primary Screening Metric: GHG emissions reductions > XX% of total GHG emissions in the urban planning area</p>		
	Urban Infrastructure (e.g. heating/cooling, public lighting, development and land use, transport infrastructure)	<p>Screening Criteria: Demonstrate substantial avoidance of CO₂ emissions through dedication or substantial support to eligible climate change mitigation activities, e.g. infrastructure for passive heating/cooling, infrastructure to support the installation of eligible renewable energy, energy efficient public lighting - installation of LED, and infrastructure dedicated to reducing GHG emissions from vehicle traffic - investments for dense development, multiple land-use, walking communities, transit connectivity, investments dedicated to bicycle and pedestrian mobility.</p> <p>Primary Screening Metric: (to be determined)</p>		Further work needed to define specific screening metrics
Transport	Inter-urban-Rail Transport	<p>Screening Criteria: Demonstrate substantial avoidance of CO₂ emissions through a modal shift of freight and passengers from road or air transport to rail. Avoid dedicated use of infrastructure for transportation of fossil fuels. Low carbon emissions intensity rail transport should be used (e.g. avoid diesel).</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km and/or tonne-km.</p> <p>Secondary Screening Metric: Shift in traffic volume from higher carbon modes to rail > XX%.</p>		
	Urban Rail Transport (including light rail, monorail, metro, trams, and associated rolling stock)	<p>Screening Criteria: Demonstrate substantial avoidance of CO₂ emissions through a modal shift of freight and passengers from road to rail, e.g. light rail, monorail, metro and trams. Investment should be part of a sustainable urban development plan including journey avoidance. Avoid high carbon emissions rail transport (e.g. avoid diesel). Avoid contributing to urban sprawl.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km.</p> <p>Secondary Screening Metric: Shift in traffic volume from higher carbon modes to rail > XX%.</p>	Electric powered urban rail.	
	Rail Transport Rolling Stock	<p>Screening Criteria: Rolling stock needed to support eligible rail sectors, including light rail, monorail, metro, trams. Avoid high carbon emissions rail transport (e.g. avoid diesel). Low carbon emissions intensity rolling stock that are not dedicated to the transport of fossil fuels.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km</p> <p>Secondary Screening Metric: Shift in traffic volume from higher carbon modes to rail > XX%.</p>	Fossil powered urban rail subject to GHG emissions < XX gCO ₂ e/passenger-km and/or tonne-km	
	Road Transport Infrastructure	<p>Screening Criteria: Demonstrate substantial avoidance of CO₂ emissions, e.g. bus mass transit and rapid transit systems, high occupancy vehicles lanes, electric charging stations, electrified systems for trucks, hydrogen or biofuel fuelling stations. Avoid contribution to urban sprawl.</p> <p>Primary Screening Metric: (to be determined)</p>		Further work needed to define specific screening metrics
	Road Vehicles (buses, trucks and cars)	<p>Screening Criteria: Low carbon emissions intensity vehicles that are not dedicated to the transport of fossil fuels.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km and/or tonne-km.</p>		
	Short Sea Shipping Infrastructure	<p>Screening Criteria: Demonstrate substantial avoidance of CO₂ emissions through a modal shift of freight and passengers from road or air to water transport, e.g. docks and port infrastructure. Avoid dedicated use of infrastructure for transportation of fossil fuels. Avoid cruise ship subsector.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km or tonne-km</p> <p>Secondary Screening Metric: Increased traffic in lower carbon modes > XX%.</p>		
	Inland Waterway Transport Infrastructure	<p>Screening Criteria: Demonstrate substantial avoidance of CO₂ emissions through modal shift from road or air to water transport, e.g. docks and port infrastructure, canals. Avoid dedicated use of infrastructure for transportation of fossil fuels.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km or tonne-km</p> <p>Secondary Screening Metric: Increased traffic in lower carbon modes > XX%.</p>		
Air Transport Infrastructure	Water Transport Fleets	<p>Screening Criteria: Vessels needed to support eligible shipping infrastructure. Low carbon emissions intensity vessels that are not dedicated to the transport of fossil fuels. Avoid cruise ships.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km and/or tonne-km</p>		
	Air Transport Infrastructure	<p>Screening Criteria: Demonstrate substantial GHG emissions reductions in eligible climate change mitigation activities, e.g. in buildings, transport management, built environment, etc. Investments that support increased air traffic or facilitate air traffic where other low carbon emissions intensity transport options are available are not eligible.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km and/or tonne-km</p>	Likely ineligible unless technologies result in substantial reductions in comparison with market standards. OPTION TO EXCLUDE.	
	Aircraft	<p>Screening Criteria: Low carbon emissions intensity airplanes, e.g. using hybrid engines, biofuels, or other technology solutions that result in substantially lower carbon emissions compared to other new airplanes.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km or tonne-km</p>	Likely ineligible unless technologies result in substantial reductions in comparison with market standards. OPTION TO EXCLUDE.	
	Multi-modal Transport Terminals	<p>Screening Criteria: Demonstrate substantial avoidance of CO₂ emissions through a modal shift of freight or passenger traffic from road or air to rail transport, short sea shipping or inland waterways transport. Avoid investments increasing traffic in other modes.</p> <p>Primary Screening Metric: GHG emissions < XX gCO₂e/passenger-km or tonne-km.</p> <p>Secondary Screening Metric: Shift in traffic volume from higher carbon emissions intensity modes to rail, inland waterways or short sea shipping > XX%</p>		
Water Supply and Management	Water Treatment Plants	<p>Screening Criteria: Demonstrate substantial GHG emissions reductions from resource or energy savings or avoided methane emissions. Most investments in this sector are not expected to contribute to climate change mitigation.</p> <p>Primary Screening Metric: GHG emissions intensity < XX gCO₂e/m³</p> <p>Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>		
	Water Supply and Distribution	<p>Screening Criteria: Demonstrate substantial GHG emissions reductions from resource or energy savings, e.g. leakage reduction, metering for demand management. Most investments in this sector are not expected to contribute to climate change mitigation.</p> <p>Primary Screening Metric: GHG emissions intensity < XX gCO₂e/m³</p> <p>Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>		
	Water Storage	<p>Screening Criteria: Demonstrate substantial GHG emissions savings from use of renewable energy, avoided resource and energy consumption, or methane emissions. Most investments in this sector are not expected to contribute to climate change mitigation.</p> <p>Primary Screening Metric: GHG emissions intensity < XX gCO₂e/m³</p> <p>Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>		
	Watershed Management	<p>Screening Criteria: Demonstrate substantial GHG emissions savings from use of renewable energy, avoided resource and energy consumption, or methane emissions. Most investments in this sector are not expected to contribute to climate change mitigation.</p> <p>Primary Screening Metric: GHG emissions intensity < XX gCO₂e/m³; (other metrics to be determined)</p> <p>Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO₂) over the economic life of the asset is worth > XX% of investment cost</p>		Further work needed to define specific screening metrics

Sectors	Subsectors	Climate Change Mitigation Activities (considering relevant "climate screening criteria" and applying appropriate "primary screening metrics")	EIB Proposal for the EU's Climate Change Mitigation Screening Criteria (possible examples highlighted in orange)	FURTHER ISSUES RAISED BY STAKEHOLDERS. NOTES AND REMAINING CHALLENGES
Wastewater Treatment	Wastewater Treatment Plants	Screening Criteria: Demonstrate substantial GHG emissions reductions in existing assets through rehabilitation/upgrade, e.g. energy savings or methane capture. For additional treatment capacity or new wastewater treatment plants, demonstrate GHG emissions savings are associated with avoiding GHG emissions from septic tanks. Primary Screening Metric: GHG emissions intensity < XX gCO ₂ e/m ³ Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		
	Sewer Networks	Screening Criteria: Demonstrate substantial GHG emissions reductions in existing assets through rehabilitation/upgrade, e.g. energy savings. For new sewer networks and extensions, demonstrate substantial GHG emissions reductions are associated with avoiding GHG emissions from septic tanks. Confirm all waste is transported to wastewater treatment plants. Take into consideration GHG emissions from existing wastewater treatment facilities and end treatment of wastewater. Primary Screening Metric: GHG emissions intensity < XX gCO ₂ e/m ³ Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		
Solid Waste Management	Waste Collection, Waste Sorting and Materials Recovery Facilities	Screening Criteria: Demonstrate separate collection of recyclable materials, waste sorting and materials recovery. Demonstrate substantial lifecycle GHG emissions savings of materials recovery through energy savings obtained by avoiding the extraction and processing of natural resources, avoiding waste to landfill or other waste management options with higher GHG emissions, e.g. recovery of steel, aluminium, glass, plastic, paper. Assets not used predominantly for recycling purposes are not eligible. Primary Screening Metric: Recovery rate of materials > XX%		
	Recycling Facilities	Screening Criteria: Demonstrate substantial lifecycle GHG emissions reductions through gains in resource and energy efficiency and by avoiding the GHG emissions associated with the extraction and processing of natural resources, e.g. recycling of steel, aluminium, glass, plastic, paper. Primary Screening Metric: Recovery rate of materials > XX%		
	Mixed Solid Waste Treatment Facilities	Screening Criteria: Demonstrate substantial GHG emissions savings through energy efficiency. Avoid investments that do not employ mechanical or manual pre-sorting for recycling, or do not provide for recovery of materials. Primary Screening Metric: Investments 100% dedicated to eligible solid waste management activities (see other categories for appropriate metrics) Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		
	Biological Treatment Facilities (composting, anaerobic digestion)	Screening Criteria: Demonstrate substantial GHG emissions savings through composting, anaerobic digestion. Primary Screening Metric: GHG emissions intensity < XX kgCO ₂ e/tonne Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		
	Waste-to-Energy Plants (e.g. incineration, gasification, pyrolysis and plasma)	Screening Criteria: Demonstrate substantial GHG emissions savings through combustion of a mixture of organic or biogenic materials such as food scraps, wood and paper, and carbon intensive solid waste derived from fossil fuels, such as rubber and plastics, to produce heat and/or electricity. Avoid combustion of recyclable materials. Primary Screening Metric: GHG emissions < XX gCO ₂ e/kWh or kgCO ₂ e/tonne (taking into account the displaced energy) Secondary Screening Metric: Incineration of organic waste > XX%. Incineration of recyclable materials < XX%		
	Landfill	Screening Criteria: Methane gas capture on existing landfills and its utilisation. Primary Screening Metric: n.a.	Investments for methane gas capture and utilisation in existing landfills only. Consideration of methane capture equipment in new landfills only under certain limited circumstances such as residual landfill after maximising recycling and composting.	
Agriculture, Husbandry, Aquaculture and Fisheries	Land Use and Land Management Activities for agricultural production	Screening Criteria: Demonstrate substantial reduction of GHG emissions from carbon sequestration or preserve and enhance carbon stock or improvements in energy efficiency, use of renewable energy, improvement in resource efficiency and waste reduction in cultivation and harvesting, e.g. land use and land management, inter cropping of diverse crops, agroforestry, biochar, reduced tillage techniques that increase carbon contents of soil, rehabilitation of degraded agricultural lands, collection and use of agriculture waste - bagasse, rice husks, other agricultural waste, dedicated biofuel crops. Adherence to approved best practice standards or certification schemes. No conversion of natural ecosystems or high carbon stock land after specific dates (to be specified). Primary Screening Metric: gCO ₂ e emissions per tonne of output Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		
	Livestock Management	Screening Criteria: Demonstrate substantial reduction of GHG emissions, e.g. manure management, biogas, improved feeding practices to reduce methane emissions. Introduction of new processes and technologies to improve energy efficiency, resource efficiency and reduce waste. Avoid increase in livestock. Adherence to approved best practice standards or certification schemes. Primary Screening Metric: gCO ₂ e emissions per tonne of output Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the life of the asset is worth > XX% of investment cost	Most investments likely ineligible. Specific GHG reduction focussed activities ONLY. Substantial GHG savings to be demonstrated.	
	Aquaculture and Fisheries Management	Screening Criteria: Demonstrate substantial reduction of GHG emissions from energy and/or resource efficiency compared to existing practices - equipment and vehicle replacement, resource efficiency in processing, storage and reducing spoilage; reduction of embedded emissions for feed in fish farms. Adherence to approved best practice standards or certification schemes. Primary Screening Metric: gCO ₂ e emissions per tonne of output Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost	Most investments likely ineligible. Specific GHG reduction focussed activities ONLY. Substantial GHG savings to be demonstrated.	
Forestry	Plantations, Reforestation and Afforestation	Screening Criteria: Demonstrate substantial carbon sequestration, e.g. through sustainable forest management, afforestation plantations, reforestation, rehabilitation/restoration of degraded forest. Consider the permanence of sequestration. Adherence to approved best practice standards or certification schemes. No conversion of natural ecosystems or high carbon stock land after specific dates (to be specified). Primary Screening Metric: n.a. Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		
	Natural Ecosystems	Screening Criteria: Demonstrate substantial GHG emissions reductions and/or increased sequestration, e.g. biosphere conservation and restoration, protection through payments for ecosystem services, protection against deforestation or degradation of ecosystems. Adherence to best practice standards. Primary Screening Metric: n.a. Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		
Education	Education Facilities	Screening Criteria: Demonstrate contribution to eligible climate change mitigation activities under other categories, e.g. renewable energy and energy efficiency in buildings. Primary Screening Metric: (see other categories for appropriate metrics)	Facilities focussed on CC Mitigation education activities (EE is covered under buildings)	
	Education Services	Screening Criteria: Delivering education, training, capacity-building and awareness-raising for climate change, climate change mitigation, sustainable energy, sustainable transport; sustainable agriculture, climate change mitigation research. This is covered under other sectors, e.g. Cross Cutting Activities - Technical Support Services, please see criteria for the appropriate category. Primary Screening Metric: (see other categories for appropriate metrics)	Education services with components for climate change mitigation activities >XX% of total investment cost	
Health	Healthcare Facilities	Screening Criteria: Demonstrate contribution to eligible climate change mitigation activities under other categories, e.g. renewable energy and energy efficiency in buildings. Primary Screening Metric: (see other categories for appropriate metrics)		
	Healthcare Services	Screening Criteria: Healthcare services do not typically contribute to GHG emissions reductions. Primary Screening Metric: n.a.		
Communications and Information Technology	Networks and Communications Facilities	Screening Criteria: Demonstrate substantial GHG emissions reductions, e.g. energy efficiency in data centres, energy efficiency in broadband networks, roll out of video conference facilities that displace travel, etc. Primary Screening Metric: (to be determined) Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		Further work needed to define specific screening metrics
	Information Management Systems	Screening Criteria: Demonstrate substantial GHG emissions reductions, e.g. transport management systems dedicated to reducing GHG emissions, energy management systems that improve energy efficiency or increase the utilisation of low carbon electricity or heat generation, resource management systems that improve resource efficiency or reduce waste. Primary Screening Metric: (to be determined) Secondary Screening Metric: Monetary value of GHG savings (calculated using a shadow price of CO ₂) over the economic life of the asset is worth > XX% of investment cost		Further work needed to define specific screening metrics
Cross Cutting Activities	Technical Support Services	Screening Criteria: Activities dedicated to climate change mitigation, covering a broad range of advisory, capacity building and training across any sector, e.g. energy efficiency audits, resource efficiency audits, renewable energy resource assessments, low carbon technologies under recognised standards for end-users, industries, buildings, and transport systems. Technical support for national, sectoral or territorial policies/action plans and institutions dedicated to climate mitigation - such as NDCs, NAMAs and plans for scaling up renewable energy. Primary Screening Metric: n.a.	Enables a recognised mitigation asset or activity as identified elsewhere in this taxonomy. Investment components for climate change mitigation activities > XX% of total investment cost; For service companies, revenues from climate change mitigation activities > XX% of total revenues.	
	Research and Development	Screening Criteria: Demonstrate targets for substantial GHG emissions reductions in any sector, e.g. renewable energy, energy efficiency, resource efficiency or other low carbon technologies. Primary Screening Metric: n.a.	Research and development towards a clear mitigation activity as identified elsewhere in this taxonomy. Investment components for climate change mitigation activities > XX% of total investment cost;	
	Public Policy and Regulatory Activities	Screening Criteria: Activities dedicated to substantial GHG emissions reductions in any sector, e.g. monitoring the emissions of greenhouse gases, or mainstreaming of climate action, establishment of energy efficiency standards or certification schemes; energy efficiency procurement schemes; renewable energy policies, power market reform to facilitate renewable energy, efficient pricing of fuels and electricity, subsidy rationalisation, efficient end-user tariffs, efficient regulations on electricity generation, transmission or distribution and carbon pricing, fiscal incentives for low-carbon vehicles, sustainable afforestation standards. Primary Screening Metric: n.a.	Policy and planning specifically for a recognised mitigation asset or activity as identified elsewhere in this taxonomy. Investment components for climate change mitigation activities > XX% of total investment cost.	
Finance	Financial Products and Services	Screening Criteria: Development of carbon market products and instruments and financial services dedicated to climate mitigation activities, e.g. climate insurance, voluntary carbon trading schemes, etc. Primary Screening Metric: n.a.	Investment components for climate change mitigation activities > XX% of total investment cost	
	Financial Instruments	Screening Criteria: Purchase, sale, trading and financing of portfolios of assets and activities, e.g. bonds, loans, funds, equity, and other financial instruments, dedicated to the eligible climate change mitigation activities. Primary Screening Metric: Value of financing for climate change mitigation activities > XX% of total value of the instrument Secondary Screening Metric: Company revenues from climate change mitigation activities > XX% of total revenues.		

4. Asset Owner led Taxonomy on investing into the SDGs

Important notes when reading the Asset Owner led Taxonomy on investing into the SDGs (next page):

This taxonomy on Sustainable Development Investments (SDIs), translates the SDGs into investable opportunities from the perspective of Asset Owners. It is supported by further detail by how to identify qualifying investments and can serve as a reference for developing the Sustainable Taxonomy. Examples for all SDGs can be found here:

<http://www.apg.nl/en/publication/SDI%20Taxonomies/918>.



SDG 2: Zero Hunger

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Investable sub-goals

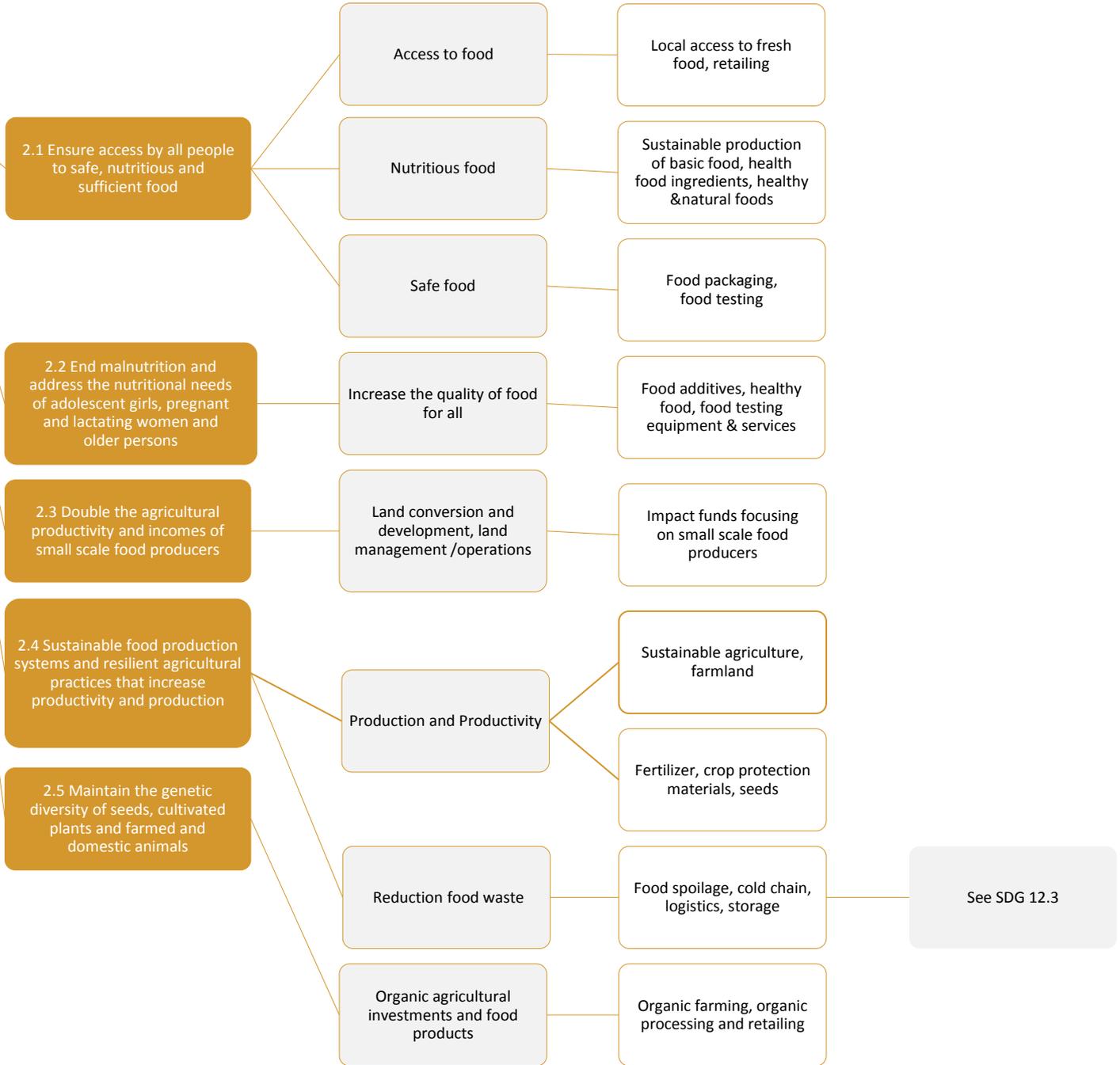
2.1: Ensure access by all people to safe, nutritious and sufficient food all year round

2.2: End all forms of malnutrition and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons

2.3: Double the agricultural productivity and incomes of small-scale food producers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

2.4: Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production

2.5: Maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge



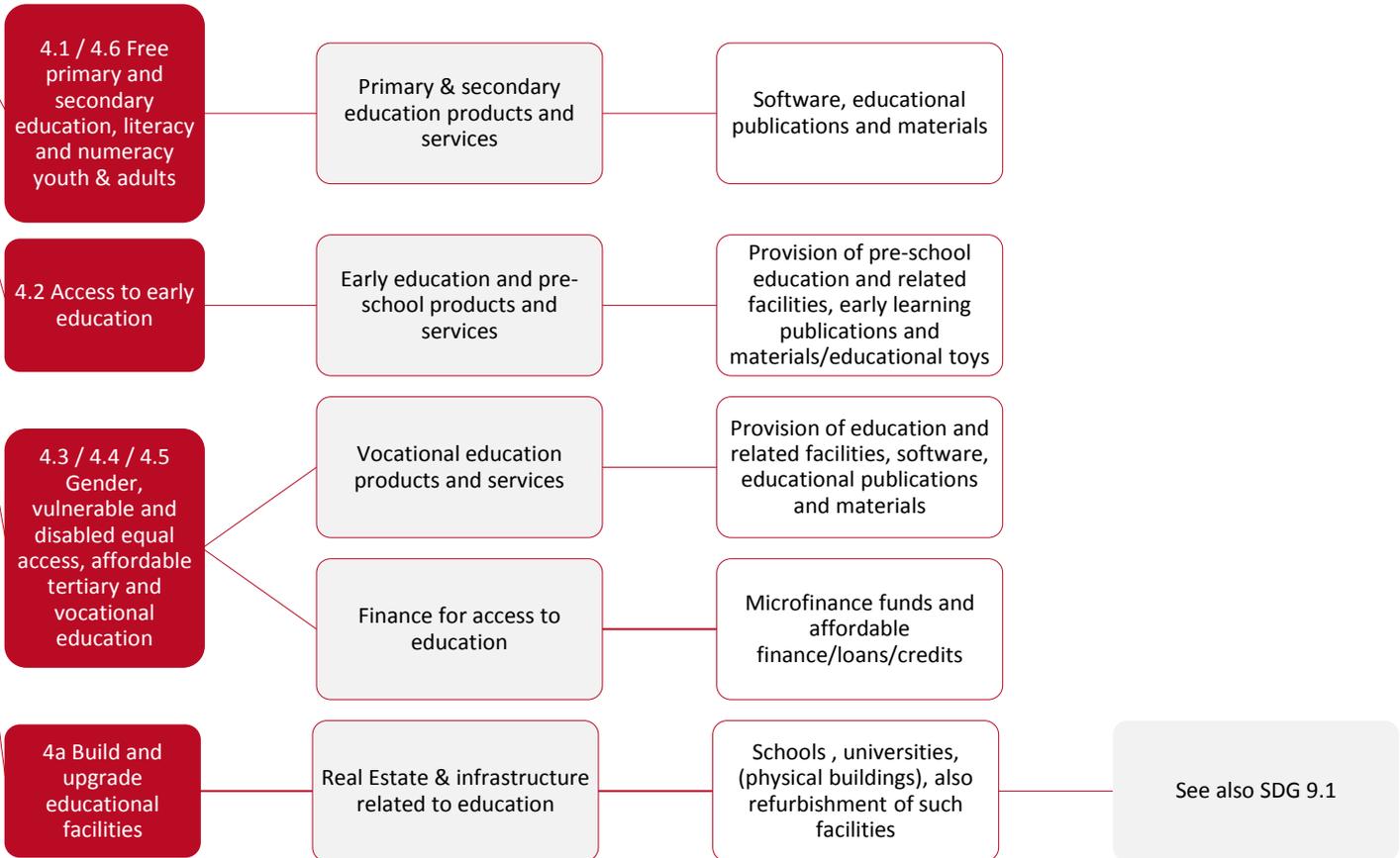


SDG 4: Quality education

Ensure inclusive and equitable quality education and promote lifelong learning opportunities

Investable sub-goals

- 4.1:** Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
- 4.2:** Ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education
- 4.3:** Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
- 4.4:** Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
- 4.5:** Eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations
- 4.6:** Ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy
- 4.a:** Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all





SDG 9: industry, innovation and infrastructure

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Investable sub-goals

9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.3: Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets

9.4: Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes

