meetPASS: meeting the Paris Agreement and Supporting Sustainability

Online Consultation

Background

The Sustainable Europe Research Institute (SERI) and the Institute of Economic Structures Research (GWS) are analysing in ACRP project meetPASS how the achievement of the Paris Climate Agreement affects the Sustainable Development Goals (SDGs). By conducting an integrated model-based scenario analysis including stakeholders and experts, the economic, environmental but foremost social and equality impacts of a transition to a low-carbon-society will be analysed from a global as well as Austrian perspective.

The project also includes an online consultation to **assess the relationship between climate change mitigation policies and selected SDG targets**. The assessment is primarily targeted at the Austrian perspective, but that does not imply a lack of global relevance. It helps to show where particularly notable effects can be expected and whether the relationship is positive or negative. It supports the selection of SDG indicators that should/could be integrated in the model e3.at to analyse the most important linkages between mitigation policies and SDG aspects.

From the overall 17 SDGs and 169 targets those relevant for Austria and able to be analysed with the sustainability model e3.at, are considered in meetPASS. For the remaining 13 SDGs a total of 30 SDG targets were finally identified as being influenced by climate action.

We would ask you to fill in the corresponding survey we have devised and thus support us to choose appropriate SDG indicators. With your involvement you will make an important contribution to the research into the interrelation of climate change mitigation and SDGs.

Score Card

The assessment is based on a seven-point scale:

+3 Indivisible: One objective is inextricably linked to the achievement of another
+2 Reinforcing: One objective directly creates conditions that lead to the achievement of the other
+1 Enabling: Pursuit of one objective enables the achievement of another
0 Consistent: neutral relationship
-1 Constraining: mild negative interaction, pursuit of one objective sets a slight constraint on the achievement of another
-2 Counteracting: Pursuit of one objective counteracts another
-3 Cancelling: Progress in one goal makes it impossible to reach another

Considered Interactions

In the following tables alle interactions between climate mitigation and the different SDG targets considered in the survey are listed.

SDG 1 - No Poverty

Targets to be of relevance for the analysis in meetPASS:

1,2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

Targets	Key Interactions	Score
13,2 → 1,2	Taxing fossil fuels (without compensation measures or redistribution of tax revenues) may increase poverty by reducing access to employment and other services for those who cannot afford individual transport.	
13,2 → 1,2	Taxing fossil fuels (without compensation measures or redistribution of tax revenues) may increase poverty by augmenting expenditures for heating, electricity, and mobility.	
13,2 → 1,2	Climate change measures focusing on more local provisioning of food and materials can have local impacts on the local economy and employment and thus affect poverty.	
13,2 → 1,2	Measures focusing on the retrofitting of homes can reduce energy costs for poor families	
13,2 → 1,2	A carbon tax may increase energy poverty in Austria.	
13,2 → 1,2	A carbon tax will displace energy-intensive production; low wage-workers will be impacted through a further shift to a service economy	
13,2 → 1,2	The expansion of public transportation in Austria enables progress in poverty alleviation, as more people will have access to affordable transportation allowing for increased employment for marginalised communities.	
13,2 → 1,2	Support of local renewable energy sources through subsidies can bypass the price increases of a carbon tax.	
13,2 → 1,2	Personal carbon allowances (tradable permits) have positive distributional effects, since low income households use less energy than average income households.	
13,2 → 1,2	The removal of environmental harmful subsidies will affect low income households more than average income households.	

SDG 2 – Zero Hunger

Targets to be of relevance for the analysis in meetPASS:

2,1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

2,3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, 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 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

Targets	Key Interactions	Score
13,2 → 2,1	The expansion of agrofuels to reduce greenhouse gas emissions can create competition between human food sources.	
13,2 → 2,3	A balanced use of agrofuels can improve the food supply and mitigate climate change.	
13,2 → 2,3	Increasing agricultural productivity may influence the health of terrestrial ecosystems through expanded farm lands	
13,2 → 2,3	Innovation into new technological practices, for example permaculture and aquaculture, can enable increased productivity with a reduced environmental/climate impact.	
2,4 → 13,2	Increasing productivity by implementing more small-scale and diverse agriculture with thoughtful integration of agroforestry and crop rotation can serve as a mitigation measure, reducing greenhouse gas emissions from agriculture and restoring agricultural lands as a carbon sink.	
13,2 → 2,4	Taxes on meat and animal products can reduce their consumption and associated GHG emissions.	
2,4 → 13,2	Sustainable intensification (through a higher share of organic farming, nutrient recycling or using a higher variety on species) could outweigh negative environmental impacts.	
2,4 → 13,2	Policies aiming at increasing supply chain efficiency to reduce food waste, and those aiming at higher value uses of the biogenic waste, can be a means to achieve national greenhouse gas reductions.	

SDG 3 - Good Health and Well-Being

None of the targets under SDG 3 are directly affected by climate mitigation, but there are many indirect relationships that are important.

Targets to be of indirect relevance for the analysis in meetPASS:

3,4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

3,6 By 2020, halve the number of global deaths and injuries from road traffic accidents

3,8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

3,9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Targets	Key Interactions	Score
13,2 → 3,9	Integrating climate change measures into national policies will support improvements in air quality	
13,2 → 3,8	The failure to act on climate change will increase health care costs.	
13,2 → 3,4, 3,8	Reducing emissions may lead to job losses in some industries, which could indirectly constrain health care	
13,2 → 3,6	Mitigation measures that are directed to the transport sector have positive effects on health and well-being	

13,2 → 3,9	Measures to stabilize the temperature increase will result in immediate gains in health and well-being.	
13,2 → 3,9	Measures to stabilize the temperature increase will result in major and long-lasting health and developmental improvements.	

SDG 4 - Quality Education

None of the targets under SDG 4 are directly affected by climate mitigation, but there are many indirect relationships that are important.

Targets to be of indirect relevance for the analysis in meetPASS:

4,1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

Targets	Key Interactions	Score
13,2 → 4,1	Climate mitigation measures lead to structural shifts, which alters the demand on the qualification of workers.	
13,2 → 4,1	The increase in resource and energy efficiency activities induces the relocation of employees from non-green jobs to green jobs.	
4,1 → 13,2	Coherent education and training focusing on short and long run strategies are essential to avert skill bottlenecks that may delay the development of new value chains or the deployment of new technologies	
4,1 → 13,2	Education is important for awareness raising with respect to sustainable consumption (avoiding food waste, buying regional and seasonal products, saving energy, etc.)	
4,1 → 13,2	Education is important for awareness raising with respect to climate friendly housing, mobility, leisure etc.	

SDG 5 – Gender Equality

Targets to be of relevance for the analysis in meetPASS:

5,5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

Targets	Key Interactions	Score
13,2 → 5,5	Climate measures focusing on mobility reduce gender inequality, since the carbon footprint of men is higher than that of women.	
5,5 → 13,2	In societies with a high degree of equality the carbon footprint is lower.	
13,2 → 5,5	Given disproportionate occurrence of energy poverty in female headed households, measures to reduce energy poverty may affect the situation of women.	

SDG 6 – Clean Water and Sanitation

Targets to be of relevance for the analysis in meetPASS:

6,3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6,6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

Targets	Key Interactions	Score
13,2 → 6,6	Climate change measures may be used to justify further expansion of hydroelectric power which endangers freshwater and river ecosystems.	
6,3 → 13,2	Increasing the price for groundwater extraction of industry may reduce water consumption and thus also the energy required for water treatment.	
6,6 → 13,2	Most of Austria's moors and peatlands are drained. The protection of freshwater ecosystems, the introduction of renaturation areas and new protection areas may reduce this risk providing opportunities to act as a climate buffer, sequestering carbon from the atmosphere.	
13,2 → 6,6	A change in the current Austrian diet to more cereals, rice and potatoes, vegetables and fruit, may reduce the Austrian water footprint of consumption.	

SDG 7- Affordable and Clean Energy

Targets to be of relevance for the analysis in meetPASS:

7,1 By 2030, ensure universal access to affordable, reliable and modern energy services

7,2 By 2030, increase substantially the share of renewable energy in the global energy mix

7,3 By 2030, double the global rate of improvement in energy efficiency

Targets	Key Interactions	Score
13,2 → 7,1, 7,2	Investments in renewable energy and the provision of necessary infrastructure are essential for Austria in order to reduce the import dependency of fossil fuels and to increase the domestic value added by domestic production.	
13,2 → 7,1	New infrastructure will be necessary to accommodate new energy supply patterns.	
13,2 → 7,1	Climate change measures may impose a constraint on the energy supply by raising initial costs, yet in the long run energy costs will be less expensive.	
7,2, 7,3, → 13,2	Increasing the share of renewable energy can be a way to incorporate climate change measures into energy policy. Increasing renewables is vital in order to move away from fossil fuels.	
7,3 → 13, 2	Increased energy efficiency combined with saving energy is necessary to reduce total energy requirements.	

13,2 → 7,2, 7,3	Pricing GHG emissions (e.g. through a carbon tax) may increase the share of renewable energy and increase energy efficiency.	

SDG 8 - Decent Work and Economic Growth

Targets to be of relevance for the analysis in meetPASS:

8,1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries

8,2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

8,3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

8,4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead

8,5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

Targets	Key Interactions	Score
13,2 → 8,4	The internalisation of external costs reduces emissions and environmental degradation.	
13,2 → 8,4	Climate change mitigation enables decoupling of economic growth from environmental degradation.	
8,2, 8,3 → 13,2	Investments in innovation are necessary to ensure that economic growth does not create further environmental degradation.	
8,2, 8,3 → 13,2	Economic diversifications can increase the resilience and capacity of local, regional and national economies by reducing the dependence on single resources.	
13,2 → 8,2	Investment into eco innovation can increase economic productivity and reduce GHG emissions.	
13,2 → 8,2, 8,1, 8,5	Climate change measures steering innovation and production patterns, can impact the labour market and increase GDP.	
13,2 → 8,2, 8,3, 8,5	The increased focus towards recycling and circular economies can provide employment in new and growing sectors.	
13,2 → 8,2	A push towards a circular economy can spur innovation into alternative, more climate-friendly technologies.	
13,2 → 8,5	Climate mitigation measures may increase employment in repair businesses, but decrease jobs in polluting fabrication.	

SDG 9 - Industry, Innovation and Infrastructure

Targets to be of relevance for the analysis in meetPASS:

9,1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9,2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

9,4 By 2030, 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, with all countries taking action in accordance with their respective capabilities

Targets	Key Interactions	Score
9,1 → 13,2	The provision of sustainable infrastructure is crucial to enable the expansion of renewable energy resources and a decrease in emissions.	
13,2 → 9,2	Extension of infrastructure for public transport can reduce car use and thus CO_2 emissions.	
9,2 → 13,2	Initially the building of infrastructure can cause an increase in emissions but enable long term reductions.	
13,2 → 9,1	Climate change mitigation measures can restrict the building of new, unsustainable infrastructure to protect habitats, creation of natural parks, green zones.	
9,2 → 13,2	The improvement of energy and resource efficiency is necessary to ensure sustainable production.	
13,2 → 9,2	Some sectors (e.g. iron, steel, cement and petroleum) will be more impacted by climate mitigation measures than others (e.g. service sectors).	
13,2 → 9,2	Investment in climate change mitigation and cleaner technologies can enable some businesses to gain a competitive advantage.	

SDG 10 - Reduced Inequalities

Targets to be of relevance for the analysis in meetPASS:

10,1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average

10,4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

Targets	Key Interactions	Score
10,1 → 13,2	An increase in income can increase capacities to focus on climate change mitigation and adaptation.	
13,2 → 10,4	The introduction of a carbon tax will make transport more expensive and restrict the access to work and other services for those who can no longer afford petrol.	

13,2 → 10,4	Taxing transport has less regressive effects than taxing energy use.	
13,2 → 10,4	Upstream instruments, which increase the cost of production or the import of fossil fuels, have regressive effects if household expenditures (including on consumer goods) are relatively higher in low income households.	
13,2 → 10,4	Upstream instruments have smaller regressive effects than downstream policies (which occur at the end of the production chain), if the targeted businesses cannot as easily pass on increasing prices to consumers directly.	
13,2 → 10,4	A higher level of public transport provision reduces negative distributional effects.	
13,2 → 10,4	Motoring taxes may be regressive because poorer motorists spend a higher share of their income on fuels.	
13,2 → 10,4	Removing environmentally harmful subsidies might make energy less accessible to low income household. However, the money might be spent in a more targeted way to remedy this.	
13,2 → 10,4	Socially just mitigation policies are more effective and have a higher public acceptance.	
10,4 → 13,2	A rise in income is related to a rise in the carbon footprint.	

SDG 12 - Responsible Consumption and Production

Targets to be of relevance for the analysis in meetPASS:

12,2 By 2030, achieve the sustainable management and efficient use of natural resources

12,3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12,5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities

Targets	Key Interactions	Score
13,2 → 12,2	Climate change measures and increased awareness of mitigation strategies can create innovation in resource efficiency.	
13,2 → 12,3	Climate change measures can enable the reduction of food waste by shifting to a more regional and seasonal supply chain	
12,3 → 13,2	Reduction of food waste will reduce the emissions from transport and production of agricultural products.	
12,2 → 13,2	Increased investment in technologies to improve durability of food stuffs (increased packaging, increased cooling) has negative impact on CO_2 emissions	
13,2 → 12,3	Raising awareness about climate change mitigation can improve consumers awareness about the environmental footprint of food products and result in a more careful handling of these products	

12,5 → 13,2	Increased rate of recycling and reduced waste generation can increase material efficiency and reduce the environmental pressure associated with production processes	
12,5 → 13,2	Reduced waste will reduce the amount of emissions from landfills and waste processing sites.	
12.c → 13,2	Removal of fossil fuel subsidies presents a means on incorporating climate change measures into national policies and ensuring the price of fossil fuels reflect the true cost associated.	
12.c → 13,2	Environmentally harmful subsidies hinder investment in renewable energies and low-carbon technologies and have thus negative effects on the competitiveness of renewables.	

SDG 15 – Life on Land

Targets to be of relevance for the analysis in meetPASS:

15,1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

15,2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

Targets	Key Interactions	Score
15,1, 15,2 → 13,2	Forests play a large role in reducing the impacts of climate change, presenting a significant carbon sink and also reducing the severity of natural disasters.	
15,1, 15,2 → 13,2	Afforestation will lead to increased carbon absorption.	
13,2 → 15,2	The expansion of agrofuels production often involves the degradation of large areas for crop production and primeval forests (as, for example, for palm oil expansion). This frequently occurs in subtropical regions.	
13,2 → 15,1	Soil restoration measures bring positive mitigation impacts, as they usually lead to an enhancement in soil carbon stocks.	
13,2 → 15,1	Mitigation practices implemented locally for soil carbon sequestration increase the ability of soils to hold soil moisture and to better withstand erosion, droughts and floods.	

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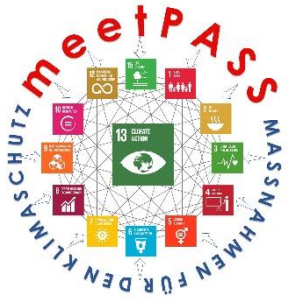

Duration: March 2017 to April 2019
Leader: SERI Nachhaltigkeitsforschungs und -kommunikations GmbH
Partner: Gesellschaft für Wirtschaftliche Strukturforschung mbH (GWS)
Contact: Andrea Stocker (andrea.stocker@seri.at)
Website: www.meetpass.at

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