Sida's Helpdesk for Environment and Climate Change

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Helpdesk report 9 September 2022

Review of three Thematic Areas in Ukraine's National Recovery Plan

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Sida's Helpdesk for Environment and Climate Change is a government agency collaboration between the Swedish University of Agricultural Sciences (SLU), University of Gothenburg (GU) and Sida to promote enhanced integration of environmental issues and perspectives in Swedish development cooperation.

Executive summary

Sida's Helpdesk for Environment and Climate Change was commissioned by Sida, on August 11th 2022, to review and comment on three selected Thematic Areas of the draft National Recovery Plan for Ukraine. The responsible experts at the Helpdesk were Erik Wallin, Gunilla Ölund Wingqvist and Eva Stephansson.

Based on a preliminary assessment[1] of the overall plan, the Helpdesk submitted suggestions for key environment and climate change questions to bring up in the dialogue with Ukrainian government – this in order to strengthen the potential for a more systematic integration of environment and climate change considerations across the whole Recovery Plan.

To this effect, it is of relevance to again highlight the framing of the overall objectives of the Recovery Plan:

- ***Resilience***: Provide economic, social, and *environmental* resilience in the marathon to victory
- ***Recovery***: Find efficient solutions for the soonest recovery of the crucial economic and social processes, *and natural ecosystems*
- ***Modernisation and growth***: Develop a modernisation plan to ensure expedited *sustainable* economic growth and wellbeing of the people

Furthermore, the Helpdesk would like to highlight a key principle in the Recovery Plan, which directly can have a positive impact on its implementation ***if*** mainstreamed across the Thematic Areas:

- *Build back for better: Quality and more advanced and sustainable technologies than the damaged/destroyed assets align Ukraine's recovery and modernization with EU principles - Green Transition and Digital Transformation*[2]

The current assignment constitutes the second step and includes three thematic areas of the Recovery Plan selected for a more detailed review. The thematic reviews are found in the below chapters to this report.

- Chapter 1: Construction, urban planning, modernization of cities and regions
- Chapter 2: Energy Security
- Chapter 3: New Agrarian Policy

[1] The first assignment was submitted on August 19th, 2022.

[2] Ukraine's National Recovery Plan, p.3. National Recovery Council, July 2022

The aim of this review was to identify key environmental and climate change issues for the specific themes, as well as to provide a structure for a potential review of the other 21 thematic areas of the Recovery Plan[3].

Below is a summary of the Helpdesk assessment of the three Thematic Areas with key opportunities and challenges in relation to environment and climate change issues.

Key opportunities for environment and climate change integration

a) Based on the overall objectives and principles in the Recovery Plan, the Helpdesk is of the opinion that the Thematic Areas could **be more ambitious in terms of environmental and climate change integration**. Higher ambitions would be especially relevant when planning for the long-term recovery efforts.
b) While the Helpdesk understands that there are urgent needs, **short-term measures and activities should at (as far as possible) avoid negative lock-in effects** that could hamper positive long-term environmental benefits. Instead, short-, and medium-term efforts should pave the way (through legislation, implementation, prioritisation, capacity-development etc.) for a green long-term recovery. **Incentives** can also be introduced in the short term as to support medium- and long-term environmental and climate change objectives.
c) While it is stated that the Recovery Plan will aim to support the EU Green Deal, early promotion of **coherence with important elements of the Green Deal should be supported**. Examples include the Biodiversity Strategy for 2030[4] (which is the roadmap for the next 10 years regarding EU nature objectives), the new Circular Economy Action Plan[5] and the Zero Pollution ambition[6].
d) **Cross-sector collaboration** should be encouraged to promote positive environmental outcomes, learning between actors, and to avoid "silos" in the implementation of the Recovery Plan.

Key challenges for environment and climate change integration

a) There is very **little reflection on potential environmental risks** or challenges related to the different proposed actions in the three Thematic Areas. Strategic environmental (and social) assessment (SEA/SESA) would be a good tool for identifying the most sustainable

[3] While the Helpdesk has specifically considered environment and climate change aspects of the Recovery Plan, we recommend that Sida/the Embassy also consider other Swedish priorities (gender equality, democracy/human rights) in the further discussion with development partners and the Ukrainian government.
[4] https://www.europarc.org/european-policy/eu-biodiversity-strategy-protected-areas/eu-2030-biodiversity-strategy/
[5] https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en
[6] https://environment.ec.europa.eu/zero-pollution-stakeholder-platform_en

development alternatives, and could be promoted in all phases, for both sector policies and plans and spatial plans.

b) **Climate change considerations** do feature across the thematic areas, but not to the extent needed. For instance, investments in gas and petroleum may not match Ukraine's own low carbon emission (mitigation) goals nor the zero-carbon goals of EU. There is also a lack of climate change adaptation considerations across the areas. As an example, reconstruction of water facilities should consider droughts and a possible lack of water resources in the future.

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1. Thematic Area – Construction, urban planning, modernisation of cities and regions

1.1. Description of the thematic area

The thematic area contains the following priorities:

1. Reconstruction and sustainable development of the regions
2. Regulation in construction (including restoration of infrastructure, electronic urban planning, technical regulations, and improved management)
3. Housing, energy efficiency and civil protection (including, construction, reconstruction, energy efficiency in housing, and civil shelters)
4. The infrastructure of life support systems (including heating-, water-, sewage-, and waste systems)

Notably, the thematic area builds on a vision that include statements around environmental friendliness, circular economy, and green transformation. It also includes important principles such as "building back better" and the use of green technologies, sustainable development taking into account all SDGs, and decarbonisation.

The thematic area contains a detailed set of suggested activities (for short, medium-, and long-term implementation[7]) under each chapter, as well as a set of laws and regulations that needs to be adopted.

1.2. Key opportunities for environment and climate change integration

The Helpdesk suggests that Sida (and its partners) focus on the following in order take advantage of the opportunities for building back better and greener:

a) The overall vision and the principles outlined for the thematic area are all highly relevant from an environment and climate change perspective. This commitment from the Ukrainian government can be used to **increase the ambition for all four priorities in the thematic area**. As an example, and due to the high energy consumption and high emission from the building sector, the Helpdesk opinion is that the target for energy efficiency could be set higher. Connected to the thematic area of "Energy Security", the dependency on fossil fuels (coal and gas) for heating and the running of public utilities can decrease if higher ambitions would be set for introducing more renewable energy sources (solar, wind).

[7] Short-term: To be implemented during 2022. Medium-term: To be implemented by 2025. Long-term: To be implemented by 2032.

b) The **set-up of the plan in goals and activities for short-, medium-, and long-term provides a good tool for a reasonable but ambitious integration of environment and climate change aspects**. To this effect, short-term measures should include efforts to avoid negative "lock-in effects" which could make a green transformation more difficult in the longer term (for example fossil fuel dependency for heating, non-climate resilient infrastructure, or infrastructure that does not manage problems with pollution). The Helpdesk suggests that medium-term goals and activities focus on setting up systems, regulations, and capacities as to strengthen the long-term effort of environmental sustainability. Long-term goals and activities can then build on a more sustainable and realistic recovery with learning and adaptive management at the centre.

c) Relating to urban planning and development, these issues could be addressed in more transformational approaches by including the **introduction of climate and environmentally friendly strategies, and by introducing Nature-based Solutions (NbS)**[8] instead of a more traditional "grey" reconstruction. If not, Ukraine risks being locked into further dependency on fossil fuels and high resource intensive strategies for construction, water, sewage, transport, and waste.

d) While issues around pollution (air, water, waste) and climate change mitigation are (partly) addressed in the thematic area, the Helpdesk opinion is that there are many possibilities to strengthen the climate **change adaptation as well as the biodiversity** perspective in the area. For instance, construction should take into consideration future predicted higher temperatures. Reconstruction of water facilities should likewise consider droughts and a possible lack of water resources in the future. Laws and regulations that are to be produced/updated should also integrate these aspects.

e) Specific **environmental and climate change indicators can, and should be introduced**, as a way to guide the concrete implementation of environmental targets. Not the least for the medium-, and long-term targets which relate to "green" construction, carbon-free production circular economy, development of the "smart cities" concept, etc.

f) The **decentralised system of local governments and territories** in Ukraine, and future reforms this system, can be used as a tool where local environmental needs are addressed and where capacities and systems for environmental integration are strengthened. Financial incentives can also be introduced on local level as to target specific local or regional environmental problems.

[8] Nature-based Solutions can be defined as "actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services and resilience and biodiversity benefits" (UNEA 2022)

1.3. Key challenges for environment and climate change integration

The Helpdesk suggests that Sida (and its partners) address the following in order to be able to identify, and act on, key environmental and climate challenges for the recovery:

a) For environment and climate change to be integrated in the thematic area, **capacities also need to be built and partners with expertise on particular issues needs to be engaged**. While the column in the plan called "Dependence of the task on the tasks of other areas, spheres, problems", environment is seldom mentioned here which points to a risk of leaving out input and knowledge from environmental actors.

b) The problem of lack of (reliable) data is a reoccurring issue in this thematic area. To this effect, data management should preferably include collection, storage of data, and use of **environmental and climate change data**. This will be critical for making decisions that consider environmental risks and opportunities for building back better.

c) While physical reconstruction efforts are needed when it comes to waste, water and sewage management, they need to be combined with **"soft measures"** including building awareness, creation of incentives etc. by the population and user of the services.

d) A general concern is the risk of "**projectification**" when implementing the activities in the thematic area. For a green transformation to happen, a systematic approach to both environmental opportunities and challenges is needed. That being said, environmental safeguards should be used also for short-term recovery projects.

2. Thematic Area - Energy Security

2.1. Description of the thematic area

The main goal of the recovery plan related to energy security is "a stable, modern and investment-attractive energy industry that provides Ukrainian consumers with clean, affordable and reliable energy, relies on the responsible development of domestic energy production, and also supports the EU in achieving its strategic autonomy".

The proposed recovery measures are outlined in the Plan for three time periods (short-term (2022), midterm (2023-2025) and long-term (2026-2032) and are grouped under the following five objectives:

- Objective 1: European integration and efficient operation of energy markets
- Objective 2: Energy security: diversification of energy supply sources, creating reserves, cyber-security
- Objective 3: Decarbonisation, optimisation of the energy mix and development of low-carbon generation
- Objective 4: Modernisation and development of infrastructure for energy transportation, transmission, distribution, and storage

- Objective 5: Improvement of energy efficiency and demand-side management

The challenge is to increase the energy security while, at the same time, promoting a transition towards a low-carbon energy system.

2.1.1. General comments to the Energy Security report

On a general note, the Helpdesk finds the Plan a bit challenging to read. Parts of it is very technical. Readability could improve with a list of ***acronyms***, numbering of ***figures and tables*** (with clear references in the text), and a consistent use and inclusion of ***units***.

Furthermore, the Plan presents different electricity demand ***scenarios*** ("SMEE", "RS" and "SCNE"). These scenarios are not easily understood. What is the main difference between them, and what are the underlying assumptions? (Are they for instance including any demand-side management measures? Are they based on GDP growth estimates?)

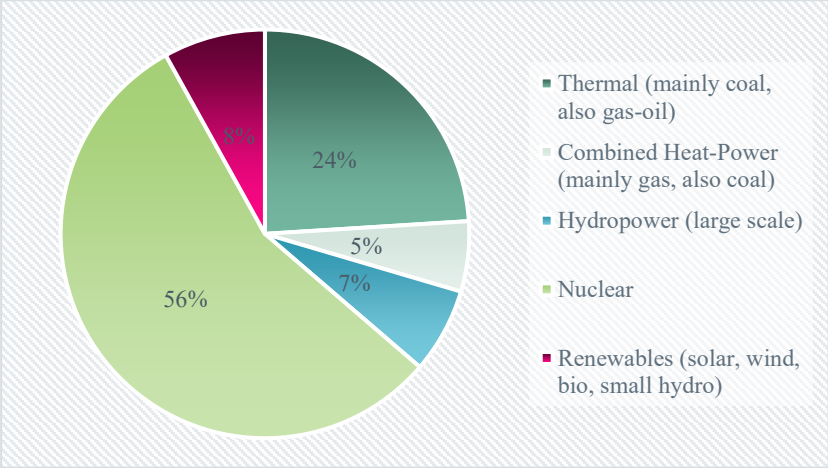
The Plan also refers to a "low-carbon development scenario" but we are not sure which one that is, and what distinguishes it from the other. However, all scenarios show an increase in electricity demand.

2.1.2. Current situation, electrical energy

In 2021 the total electricity produced in Ukraine was around 155 bn MW[9], and over half of the electricity derived from nuclear power plants (see Figure 1). Also coal and natural gas were major energy carriers (thermal and combined heat-power plants). The energy system in Ukraine has been a priority target of the Russian aggressions, and around 4 % of generation capacities have been destroyed by the hostilities, and 35 % of capacities are located in the occupied territories (almost all wind, but also thermal and solar power are affected).

As a result of the hostilities, demand decreased significantly (by 30-35 % compared to consumption in 2021).

Figure 1. Electricity production mix in Ukraine 2021 (source: Energy Security Plan)



[9] The table states that the unit is billion kWh, but the Helpdesk assumes that it should be billion MWh.

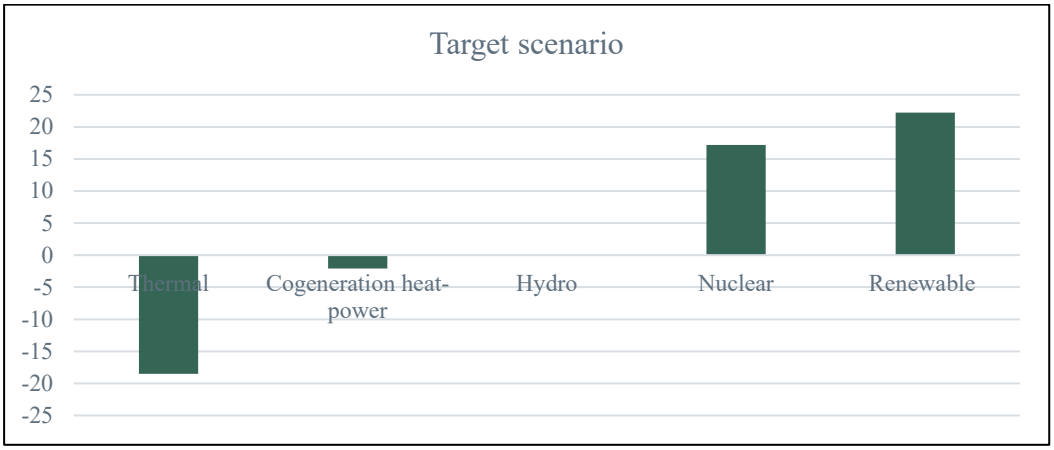
The report describes two electrical energy balance scenarios:

- The ***baseline scenario*** (reduction of electric power production with around 15 bn MWh between 2023 and 2032). This is a likely scenario but not flexible enough and therefore not acceptable from an energy security standpoint
- The ***target scenario*** (increase with almost 20 bn MWh between 2023 and 2032): less likely but will produce enough power to meet the forecasted demand, and be flexible enough

The share of renewable sources in both the baseline and targe scenario (wind, solar, micro/mini/small hydro power and other) is in accordance with the target indicators of the National Economic Strategy up to 2030 (25% share in generation mix by 2030).

The target scenario encompasses an increase in nuclear and renewable power production, no change in large-scale hydro, and a reduction in thermal power and combined heat-power (see Figure 2). Even if the thermal and combined heat-power are reduced, there will be investments in fossil energy sources, including oil refinery and gas transportation. There will be a phasing out of coal.

Figure 2. Change in electrical energy balance forecast between 2023 and 2032 (bn MWh)



2.2. Key opportunities for environment and climate change integration

The Helpdesk suggests that Sida (and its partners) focus on the following in order take advantage of the opportunities for building back better and greener:

a) Two of five objectives in the energy security plan are environmental and climate change positive as they relate to **decarbonisation** and **energy efficiency**. This commitment from the Ukrainian government can be used to **higher the ambition related** to the other objectives, particularly objective 4 (modernisation). In this regard, the policies of many international financing institutions to ban investments in (new) fossil fuels constitute an opportunity to focus on "greener" energy sources in the efforts to transform and modernise the sector.

b) The division of goals and activities into **short, medium, and long term** is an opportunity for Ukraine to meet the immediate energy needs while planning to transform the energy sector in the longer term, into a modern, flexible, resilient, and low-carbon energy system. To this end,

short-term measures should include efforts to avoid negative "lock-in effects" which could make a green transition more difficult and expensive in the longer term (for example investing in fossil-fuel based power plants that are not possible to transform into renewable energy source power plants, or building a power sector that is vulnerable to a changing climate, or invest in expensive production plants that could be minimised with cheaper demand management measures).

c) While the short-term focus is to ensure acute access to heat and electricity, the medium to longer term should take care to ensure that **demand-side management measures** are linked to investments in production, as early demand side measures can help reduce demand and thereby also the investment needs. One important step to incentivise energy efficiency and private investments is to adapt tariffs to enable full cost recovery, hence **getting the price right**.

d) Investments in **renewable energy sources** should be encouraged and supported and always considered in investments. Ukraine has good potential for renewable energy production, including solar, wind, and biomass. Would it be possible to have even higher ambitions for renewable energy in Ukraine in the long term than what is stated in the plan? Would it be possible to use gas turbines at peak loads instead of the other way around?

e) There are plans to **replace coal** with natural gas, and in the longer-term replace natural gas with biogas. As gas is more costly than coal, Ukraine will need financial support to change the fuels. The phasing out of coal includes plans in the medium- to long-term to **transform "coal regions**". It is likely necessary to support the transition, to avoid loss of job opportunities and social unrest.

f) Bioenergy provides opportunities (bioethanol, biodiesel, biogas/biomethane). **Cross-sector collaboration** should be encouraged: the *agricultural* sector can help produce bioenergy; elaborating opportunities for *waste-to-energy;* collaborating with the *construction* sector on regulation for energy efficiency in buildings and industry, and with city planners to reduce needs for transportation fossil fuel, etc.

g) Ukraine highlights the need for flexibility in the electricity sector and energy storage, and is keen to introduce **green hydrogen** (production, transportation and export) as both a way to keep the flexibility and as a business opportunity.

2.3. Key challenges for environment and climate change integration

The Helpdesk suggests that Sida (and its partners) address the following, to avoid key environmental and climate challenges for the recovery:

a) It is important to assess if there are any **risks that climate change will impact negatively** on the energy sector and in what way. The report mentions that low precipitation is likely to affect hydro power production (p 23), and states that as one reason not to invest further in large-scale hydropower. It is **urgent** to investigate if there is a risk that low water availability will risk access to water for cooling (for nuclear and other plants based on combustion) now or in the future. If there is no cooling water, many of the power plants cannot be operated. This was the case e.g. for France during the summer 2022 as the heat and drought reduced availability of water that

could be allocated for cooling, and they were forced to limit power production from their nuclear power plants.

b) The low energy **tariffs**, and the practice of cross-subsidisation, constitute other challenges. When the tariffs are too low, customers are not motivated to minimise and optimise overall electricity consumption (p 28). There are also problems associated with non-payments and debts. Issues around pricing, billing, and collection, as well as other demand-side management measures, should constitute an important part of the energy sector modernisation.

c) Another challenge is the likelihood of achieving an energy sector with low-carbon emissions. Continuing investments in gas and petroleum (refineries, transmission networks, etc.), not only in the immediate term but also the long-term **may not match Ukraine's own low carbon emission** goals nor the zero-carbon goals of EU.

d) According to the Energy Security plan, natural gas is much costlier than coal, and the transition can be expensive. It may be difficult to **argue for and justify the transition** of the energy sector if it is too expensive. Here, Ukraine will need support in many ways, including financial, to avoid other political priorities or social unrest.

e) Finally, of course the ongoing occupation and disruption of nuclear sites is a challenge from an environmental point of view. It also demonstrates the importance of robust and effective international **protocols, procedures and risk assessments for nuclear facilities affected by armed conflicts**.

3. Thematic Area - New Agrarian Policy

3.1. Description of the thematic area

Prior to Russia's invasion in February 2022, Ukraine's agriculture sector accounted for 11 % of the country's GDP, nearly 20 % of its labour force, and nearly 40 % of total exports, with Ukraine being the world's fifth-largest exporter of wheat, fourth-largest exporter of corn, and third-largest exporter of rapeseed.

A land reform package has been developed and decided on over the latest years and has become the basis for long-term development within the sector.

The recent Russian aggression is already seen to have a negative impact on agricultural sector at large. It not only hampers all steps of the production chain, including storage, but also trade at all levels, from local to global. For instance, Ukraine has been top world producer of sunflower seed since 2008. The production is primarily concentrated in the eastern and south-eastern regions of the country. Due to the specific challenges from the war in these regions, production is expected to go down sharply.

3.1.1. The new agrarian policy

The key challenge identified in the new agrarian policy is in short to promote a sustainable economic activity of all entities engaged in the agribusiness sector. This includes e.g., a rapid recovery, to

create new value chains, to support a competitive processing industry, improved energy efficiency, and harmonisation of domestic legislation with the EU acquis.

Among the key opportunities mentioned are the new laws on land reform, the deregulation and anti-corruption initiatives adopted by the Parliament of Ukraine (Verkhona Rada). The level of production per employed is expected to increase significantly through increased domestic processing and implementation of digital technology. In addition, the launch of land markets is expected to help attract investments in capital-intense production.

Two main problems, or strategic goals, have been identified:

- Economic transformation of the agribusiness sector
- Development of the agricultural infrastructure

16 specific projects have been developed with the purpose to achieve the strategic goals.[10]

3.1.2. General comments to the new agrarian policy

The Helpdesk acknowledge the importance of the agricultural sector as a source for livelihood for the rural populations as well as for a sustainable economic development of Ukraine. Ukraine being a large exporter of grains and oilseed also makes the Ukrainian agricultural sector critical for global food security.

The short-term measures (Stage 1 /2022) outline in the plan has an ambition to maintain the economic potential of the agribusiness sector to ensure food security. The suggested mid-term measures (Stage 2 /2023-2025) includes elements of restoration/recovery (building back), while the more long-term measures (Stage 3 /2026-2032) also includes rapid performance improvements (building back better/greener?).

The link to European integration is mentioned in all three stages. But, more specific/detailed reference to the EU Green Deal[11] is only found at Stage 3. We find this a missed opportunity as harmonisation to EU acquis is a priority for Ukraine and these ambitions could be integrated earlier in the suggested activities/projects.

[10] 1: Development of reclamations systems; 2: Bioenergy independence; 3: Fruit and vegetables in Ukraine 4: Meat and dairy independence; 5: Export-oriented food factory: promotion an development of processing of products of plant origin; 6: Construction of transhipment facilities and cross-board terminals in Western Ukraine; 7: Development of export of agricultural products by river; 8: Return of agricultural land to the economic circulation; 9: Mapping Ukraine and implementation of the national geospatial data infrastructure; 10: Promoting the transition of the agri-sector to Green growth; 11: Construction of a new transport corridor to the ports of Poland and Lithuania on the basis of broad gauge; 12: Maintaining the agricultural sector in the context of the sea port blockade; 13: Facilitation of the implementation of key reforms under the EU association agreement; 14: Comprehensive planning of spatial development and land use of the communities; 15: Development of seed production: construction of facilities for the production of hybrid seeds; 16: Prompt recovery of agribusiness sector after the war.

[11] The European Green Deal sets out how to make Europe the first climate-neutral continent by 2050. It maps a new, sustainable and inclusive growth strategy to boost the economy, improve people's health and quality of life, care for nature, and leave no one behind.

Further, the more specific EU strategy "Farm to Fork"[12], is not mentioned at all. The Farm to Fork Strategy is at the heart of the Green Deal. It addresses comprehensively the challenges of sustainable food systems and recognises the inextricable links between healthy people, healthy societies, and a healthy planet. The strategy is also central to the Commission's agenda to achieve the United Nations' Sustainable Development Goals (SDGs). The EU's goals are to reduce the environmental and climate footprint of the EU food system and strengthen its resilience, ensure food security in the face of climate change and biodiversity loss and lead a global transition towards competitive sustainability from farm to fork and tapping into new opportunities.

More than 30 per cent of the population are rural. We would also welcome a stronger focus on livelihood aspects and on family farms vs large scale agricultural enterprises. Thus, promoting rural development in a wider sense.

Finally, the link to environmental conservation is merely mentioned at Stage 2 under Problem/ strategic goal 1: Economic transformation of the agribusiness sector and at Stage 3 under Problem/strategic goal 2: Development of the agricultural infrastructure. It is, however, unclear to us how environmental conservation will be dealt with in the sector.

Increasing the production and the productivity and simultaneously mitigate climate change other environmental impacts is a general challenge.

To summarise, there may be a risk that achievements in production will be associated with management practices that may degrade the land and water systems upon which production depends. Increased pressure on agriculture may compromise the long-term capacity by Ukraine to produce food, etc. Degradation of land and aquatic ecosystems directly affects the food supply and the income of poor, increasing their vulnerability and creating a vicious circle of poverty, hunger and inequalities. It can also reduce the available gene material and thereby the options of breeding new crops and plant varieties that may allow food systems to better adapt to climate change.

3.2. Key opportunities for environment and climate change integration

The Helpdesk suggests that Sida (and its partners) focus on the following in order take advantage of the opportunities for building back better and greener:

a) **Promote sustainable agricultural practices**. This means agriculture that conserves land and water, as well as plant and animal genetic resources. It should be environmentally non-degrading, technically appropriate, economically viable and socially responsible. Application of sustainable agriculture can enhance food security, build livelihood resilience against climate change, support climate change mitigation and adaptation and contribute to sustainable utilization and conservation of biodiversity. It can have nature-positive effects.

[12] https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590404602495&uri=CELEX:52020DC0381

b) Promote that the new agricultural policy is developed in **closer coherence with the EU Green Deal** already from stage 2.

c) Promote **especially the strategy from Farm to Fork** (also from stage 2).

d) Also, promote early coherence with other elements of the Green Deal, particularly the **Biodiversity Strategy for 2030**[13] (which is the roadmap for the next 10 years regarding EU nature objectives), the new Circular Economy Action Plan[14] and the Zero Pollution ambition[15].

3.3. Key challenges for environment and climate change integration

There is very **little (if any) reflection on potential environmental risks or challenges** related to the different proposes actions in the policy. To get a better understanding and overview of the situation and if and how different actions are interlinked, and to identify particular risks and mitigation measures, which can guide the decision makers, we would recommend a strategic environmental assessment.

Just to mention some potential risks associated with one goal taken from the policy. The goal: *A radical increase in the efficiency of land use* (see p.8) could (depending on which agricultural system, or technology, is applied) entail many potential environmental risks. Such as: increased use of farm inputs (fertilisers, pesticides), large-scale monoculture (which could be negative for e.g. biodiversity, and also potentially lead to soil erosion), increased irrigation (which could deplete the ground water), etc. In addition, it could entail unsustainable land use change and subsequent land degradation and habitat loss.

[13] https://www.europarc.org/european-policy/eu-biodiversity-strategy-protected-areas/eu-2030-biodiversity-strategy/

[14] https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en

[15] https://environment.ec.europa.eu/zero-pollution-stakeholder-platform_en