COMMENTS ON UKRAINE'S NDC2

- **General**

- Although NDCs should be built on the back of more comprehensive strategy documents and action plans such as the National Energy and Climate Plan (NECP), currently under finalization, there is **no reference to Ukraine's draft NECP**'s **Policies and Measures** in the analysis. Also, the Energy Community Secretariat has not received any draft NECP yet, therefore a comparison on the harmonization of the GHG emission reduction targets cannot be made for the time being;

- On **climate neutrality**: Ukraine officially supported the European Green Deal to make the European continent climate-neutral by 2050, however, in March 2021, the Cabinet of Ministers of Ukraine approved the National Economic Strategy until 2030, where climate neutrality is to be achieved ten years later, by 2060**;**

- On the **mitigation target** proposed for 2030: if comparing to 1990, total GHG emissions and sequestration level in 2018 decreased by 61.3%, Ukraine could aim at a more ambitious target for 2030, considering also that i) the impacts of the COVID-19 pandemic will be felt on the economic growth for the years to come; ii) a decoupling between GDP dynamics and GHG emissions can be observed since 1999. Also in order to reach climate neutrality, it is important to use the next 10 years in lowering the emissions in Ukraine to have a more gradual decrease;

- We would suggest to give more prominence to the **Polluter Pays Principle** applied also to greenhouse gas emitters (though the carbon tax and later emissions trading scheme) for energy sector, heating, transport, waste and industry;

- Policies for **decoupling growth and energy consumption** are not sufficiently considered and it is assumed no decoupling will take place by 2030;

- We suggest to more intensively address circular economy (included in the 2030 Ukrainian Economic Strategy, but not sufficiently addressed in the draft updated NDC). Circular technologies have high potential for indirect emissions reduction.

- Speaking about the costs of innovations, it is important also to mention the **costs of no action**. The costs of lost working days, hospital admissions, damaged infrastructure and fallen agricultural productivity may actually overweight climate policy implementation costs.

Third, additional emission reduction potential ("low-hanging fruit") existing in sectors but omitted or insufficiently addressed:

Energy and Heating:

- Potential **switching from coal to gas** is forgotten – this is main driver to change emissions in US.
- **Cogeneration** (combined heat and power generation) is a missing element with high emission reduction potential.
- **Energy efficiency of appliances is missing**. Products of very low energy efficiency should not be present on the market in Ukraine.
- **District heating reform** is forgotten and has a high emission reduction and social benefit potential.
- **Metering** is only foreseen for heat, not for closing the existing gaps for actual consumption measurement of gas and electricity consumption.

Industry:

- Mandatory **energy audits** and recognized **energy management systems**.
- **Replacing fossil fuels** with electricity (and alternative fuels such as the biomass, municipal waste, sewage sludge); **on-site cogeneration**; **use of catalysts** in chemical processes to reduce heating needs.

Transport:

- **Smart and micro-mobility elements** and alternative fuel infrastructure on the national roads are missing.
- **Measures to reduce air pollution and congestion in big urban centres** such as Kyiv are not taken into account (i.e. road infrastructure like construction of bypasses, ITS elements (intelligent traffic management systems, roundabouts, etc); these will have a big impact on emissions as well.
- Other areas not considered: greening airports, progression to zero **emission public transport** and freight fleets, shift to **multimodal freight transport** (rail, water), **switching from individual to public transports**.
- **Introducing restrictions on emission performance for private vehicles**, affecting the affordability of individual transport for an average UA citizen, or introducing congestion charges, would be unpopular, but necessary taking also in account the air quality, health and traffic congestion issues.

Agriculture, land use and forestry

- Reduce drastically the extraction of fuel peat; restoration of drained peatlands; decommissioning of a part of arable lands and conversion to hayfields.
- Protection of self-afforested areas and their inclusion into forests inventory.
- Measures (modification of feed for the livestock) to reduce GHG emissions from enteric fermentation.

Waste

- ~ Reduction of the amount of waste produced by increasing prevention, safe reuse and recycling.
- ~ Separate collection (source sorting) of specific waste streams such as recyclable materials, biowaste (kitchen, market and green from parks and gardens) followed by proper treatment.
- ~ Avoiding uncontrolled waste burning.
- ~ Dumpsite and non-compliant landfill closure and rehabilitation.

➢ On the **electricity sector**:

- **demand for electrical energy** is projected to increase by about 30% over the next decade. This number seems quite high. It could be understandable if it results from electrification of the transport sector, buildings and industry sectors and this should be better explained;
- the **substitution of obsolete power stations and CHPPs** with more efficient power plants using renewables (RES) is mentioned on the analytical paper, but not in the NDC2 document. We suggest to include it also in the official document for submission;
- the analytical paper highlights that the installation of 15 GW of new RES capacity will increase the average system-wide electricity generation costs to approximately 50 EUR/ MW/h. The scenario in which there is no RES capacity development predicts system costs at the level of 35 EUR/MW/h. However, such lower costs could be achieved only in the absence of the thermo- power plants (TPP) capacity modernization foreseen under the **National Plan for Cutting Emissions from Large Combustion Plants**, which urgently needs to be implemented in the near future. A comparison between the **alternative scenarios** might be more beneficial.
- Document lacks a presentation how much would system wide generation costs add up to in the absence of RES capacity and under full implementation of the LCPD plans? How is this metric calculated? Are excise duties/ carbon price factored in?
- further **development of renewable electricity generation capacity** will not be possible without overcoming the fundamental problems of the electricity market (artificially low prices for households, market power shared between few players, cross-subsidization), what should be mentioned in the document**;**
- energy efficiency of appliances is missing. Products of very low energy efficiency should not be present on the market in Ukraine;

- On the **investments**

  - Financing of decarbonisation related investments is not very clear. We suggest to effectively **introduce carbon pricing**, well before 2025-2027, when introduction of emission trading scheme is mentioned and use this source of financing for decarbonisation efforts.
  - Green **investments should be particularly substantial in the upcoming ten years** (2021-2030), where most of the interventions (on industry, energy sector, transport, etc.) are to be planned. The document shifts intensive investment wave in the far future;
  - It would help the clarity of the document to see also the **"savings" achieved through increased climate ambition**, such as benefits of energy efficiency measures for containing energy poverty, benefits of improved air quality on health and related medical expenses, lower environmental degradation costs. Also, the numbers indicated for agriculture within this section should be crossed checked with those included in the dedicated section as they are discordant;
  - It would help the clarity of the document to see also the **"savings" achieved through increased climate ambition**, such as benefits of energy efficiency measures for containing energy poverty, benefits of improved air quality on health and related medical expenses, lower environmental degradation costs; Also, the numbers indicated for agriculture within this section should be crossed checked with those included in the dedicated section as they are discordant;

- On the measures in **transport:**

  - the section could also mention the **development of public transport infrastructure and the shift to other transport modalities**. Also, freight transported on the road could be shifted to rail or domestic navigation, which are less polluting. Public transportation (bus fleet) could also be modernized or turn to electric, which would result in better quality of public transport and less emissions;
  - Moreover, **other local actions** such as congestion charging, introduction of low-emission zones, inner-city parking fees and public transport ticket subsidies might also be taken into account if applicable to local circumstances;
  - An **indication how many passenger km are travelled per year by mode of transport in urban area/ inter-city is missing.** What is the potential for passenger transport mode shifts in urban areas/ inter-city (state: comfort, safety, cost of public transport infrastructure incl. rail)? Would cost structures need to change to incentivize passenger transport mode shifts (fuel subsidies, taxes related to car ownership, subsidies for public transport

etc.)? What income level or price of vehicles would deliver the best results and support the lower income households instead of the wealthy ones?

- Measures to reduce air pollution and congestion in big urban centers such as Kyiv are not taken into account (i.e. road infrastructure like construction of bypasses, ITS elements (intelligent traffic management systems, roundabouts, etc); these will have a big impact on emissions as well;

- On **gas transportation**, the NDC2 should consider methane leakage as well; Metering is only foreseen for heat, not for closing the existing gaps for actual consumption measurement of gas (and electricity) consumption.

- On the **industry sector**:

  - are there measures envisaged that will be dedicated to achieving the 10% increase of electrification in the industry sector (processes, space, fleet) proposed for 2030?
  - Also, **circular technologies have high potential for indirect emissions reduction**. Notably, cement has a high recycling potential, and GHG emissions decline in the EU metallurgy has been achieved also through raising share of steel production from scrap. Ukrainian metallurgy enterprises generate huge volumes of waste heat, the capture and use of which (e.g., for district heating) could contribute to the overall emissions reduction in the country;
  - Mandatory **energy audits** and recognized **energy management systems** could also be considered among the key measures.

- On **agriculture**, please consider also including plans/measures for enteric fermentation as second, largest GHG emission category. Also, it would be interesting to account for potential trends in agriculture e.g. increase of livestock farming due to changed lifestyles etc. This would provide insights on future needs/ potential for intervention;

- On solid **waste** treatment the document, refers to EUR 200 per tCO2eq and then to EUR 120 per ton of CO2eq. These numbers should be checked for consistency;

- It has been mentioned that Ukraine plans to increase the use of **biomass** for energy/heat generation, however the document does not discuss how the needed biomass will be produced and if it will be sourced sustainably;

- On the share of forested lands in the **forestry sector**, it is planned to increase from the current 15.9% to 18% through the preservation of naturally forested lands and the use of degraded agricultural lands (in the relevant climatic zones). This is not very ambitious, considering that interventions in the forestry sector such as afforestation are relatively easy to carry out and can have a huge impact in terms of reducing GHG emissions;

- On the **building decarbonisation**, addressing energy poverty could also be listed among the benefits;

- On **LULUCF**, is not clear for which specific measures are 3 BLN EUR investments required by the sector. Also, on the sectoral challenges, protection of existing natural reserve areas should be included, while Policies and Measures should encompass restauration of peatlands and, more in general, a climate-responsible peatlands management, an increase in forested areas, conservation of biodiversity;

- The section on **adaptation** lacks some clarity, but we understand that it will be developed further in a separate document.

- Differently from other NDC2s (Montenegro, North Macedonia, Serbia), there is no focus on **gender-sensitive actions**. At the NDC policy process level, we must assess how climate policies in the country help achieve or promote gender-related objectives and why gender differences and inequalities are relevant to the climate action in each sector of focus (energy, transport, agriculture, waste management, forestry etc.).