

*Climate Change  
and disaster risk  
prevention in  
Ukraine*

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Ecology and Natural Resources in Ukraine (2016-2019)



# COP26: Results

A series of agreements between groups of countries have been announced so far:

In a surprise announcement, the US and China agreed to work together this decade to limit global temperature rise to 1.5C

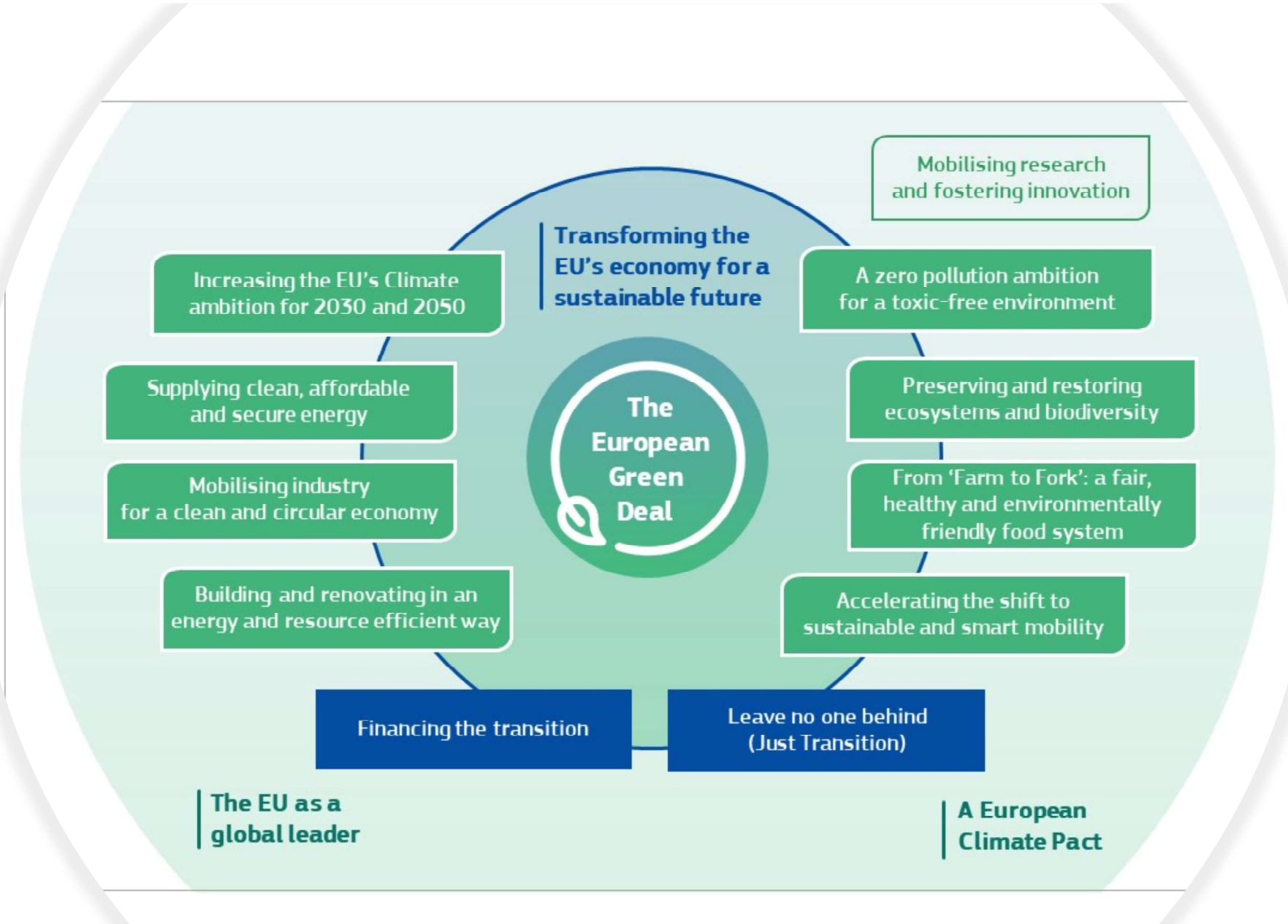
More than 100 world leaders promised to end and reverse deforestation by 2030, including Brazil, home to the Amazon rainforest

The US and the EU announced a global partnership to cut emissions of the greenhouse gas methane by 2030 - reducing methane in the atmosphere is seen as one of the best ways to quickly reduce global warming

More than 40 countries committed to move away from coal - but the world's biggest users like China and the US did not sign up

A new alliance that commits countries to setting a date to ending oil and gas use - and halting granting new licences for exploration - was launched







# EU Green Deal: Goals

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Reduce GHG emissions by at least 55% by 2030, compared to 1990 levels

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55% reduction of emissions from cars by 2030  
50% reduction of emissions from vans by 2030  
0 emissions from new cars by 2035

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35 million buildings could be renovated by 2030  
160,000 additional green jobs could be created in the construction sector by 2030

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40% new renewable energy target for 2030  
36-39% new 2030 energy efficiency targets for final and primary energy consumption

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New targets for natural carbon removals:

-225 Mt old target

-268 Mt current carbon removals

-310 Mt new target

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30% of the EU's Neighbourhood, Development and International Cooperation Instrument supports climate objectives 1/3 of the world's public climate finance comes from the EU and its Member States





# Why and How is the climate changing?

*IPCC – AR6 Synthesis Report*

Due to human activities, the surface temperature from the end of the 19th century to 2010–2019 increased in the range from 0.8 to 1.3 °C (median value 1.07 °C).

Over the past 50 years, temperatures have risen faster than in any of the 50 years over the past 2,000 years, and the 2010–2019 decade has been the hottest in 125,000 years.

Climate change enhances the water cycle in nature. This causes more intense rainfall and related floods, as well as more severe drought in many regions.

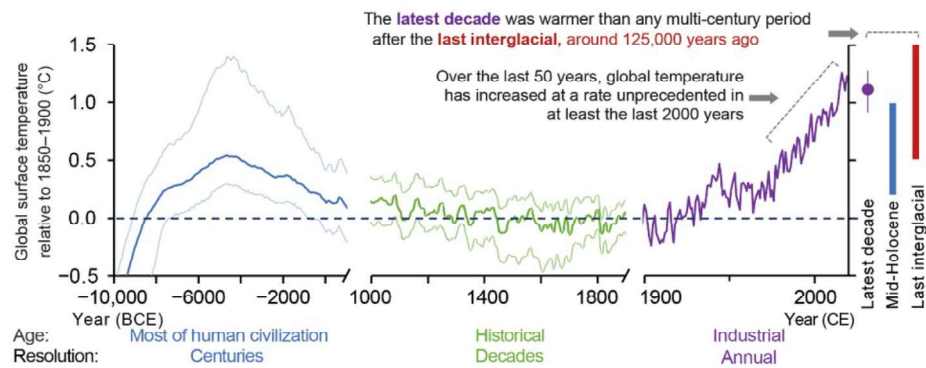
Sea levels will continue to rise in coastal areas during the 21st century, leading to more frequent and severe floods in low-lying areas and coastal erosion. Phenomena of extreme sea levels, which previously occurred once every 100 years, by the end of this century can be observed every year

In the case of global warming by 1.5 ° C there will be an increase in heat waves, prolongation of warm seasons, reduction of cold seasons

With global warming at 2 ° C, extreme heat levels are more likely to reach critical tolerances for agriculture and human health

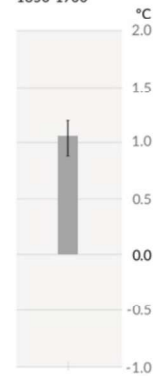
### Changes in surface temperature

(a) Recent global temperatures are unprecedented in the era of human civilization



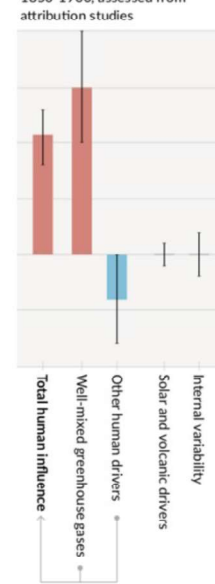
### Observed warming

a) Observed warming 2010-2019 relative to 1850-1900

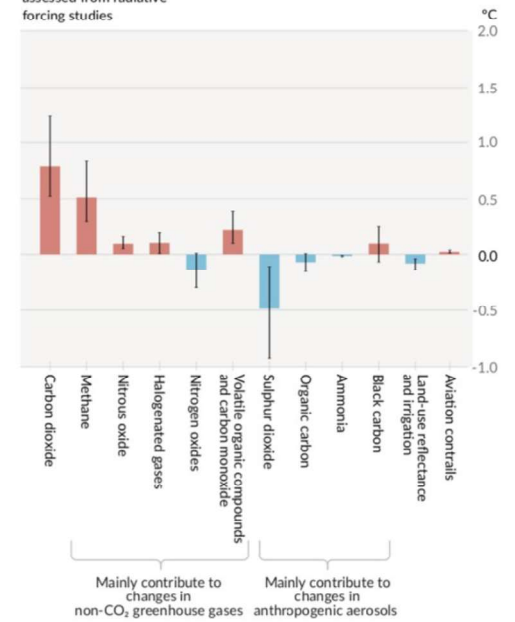


### Contributions to warming based on two complementary approaches

b) Aggregated contributions to 2010-2019 warming relative to 1850-1900, assessed from attribution studies



c) Contributions to 2010-2019 warming relative to 1850-1900, assessed from radiative forcing studies





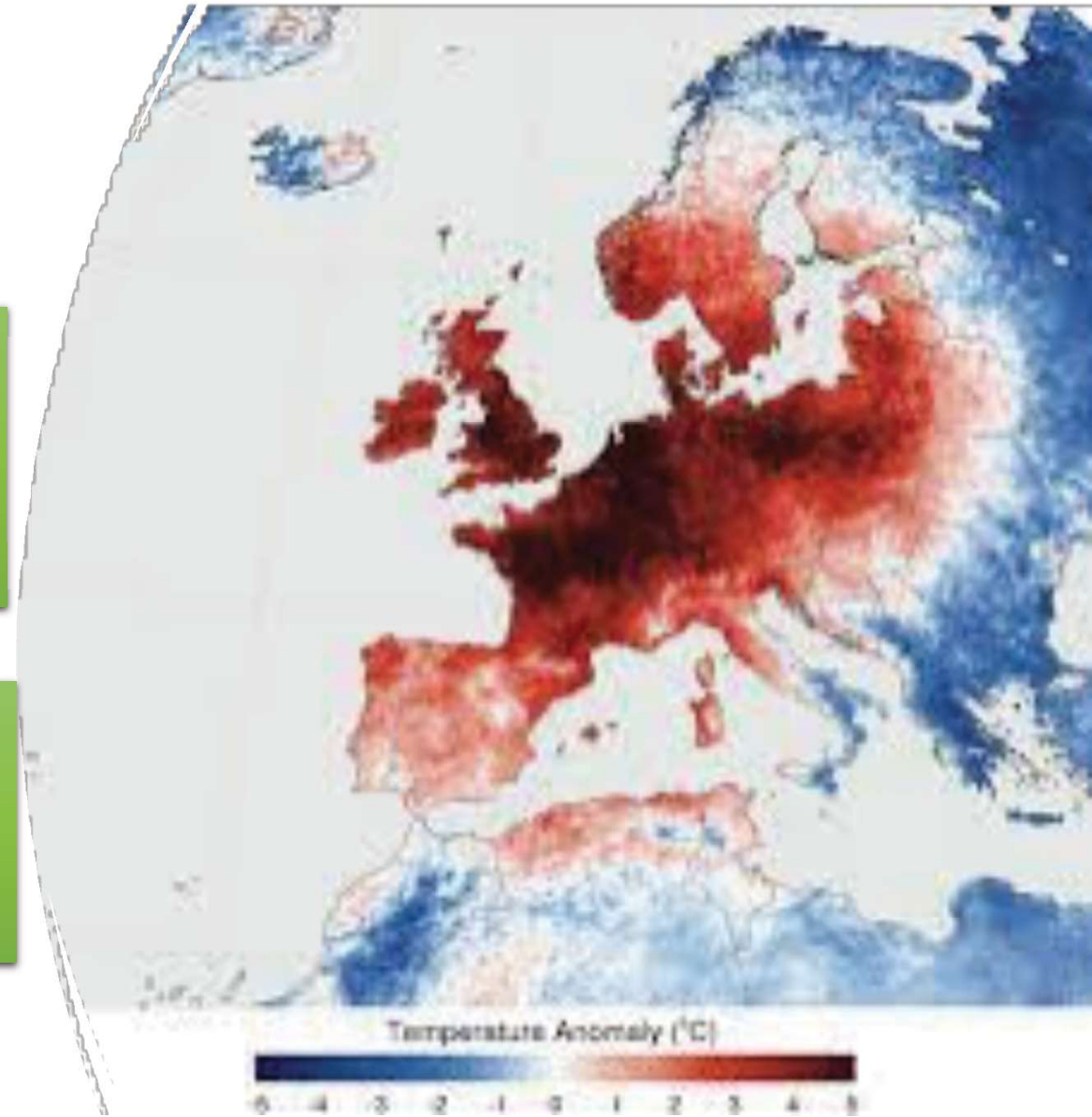
# Regional fact sheet - Europe

Regardless of future levels of global warming, temperatures will rise in all European areas at a rate exceeding global mean temperature changes, similar to past observations (*high confidence*)

The frequency and intensity of hot extremes, including marine heatwaves, have increased in recent decades and are projected to keep increasing regardless of the greenhouse gas emissions scenario.

The frequency of cold spells and frost days will decrease under all the greenhouse gas emissions scenarios in this report and all time horizons, similar to past observations

Despite strong internal variability, observed trends in European mean and extreme temperatures cannot be explained without accounting for anthropogenic factors.



## Regional fact sheet - Eastern Europe

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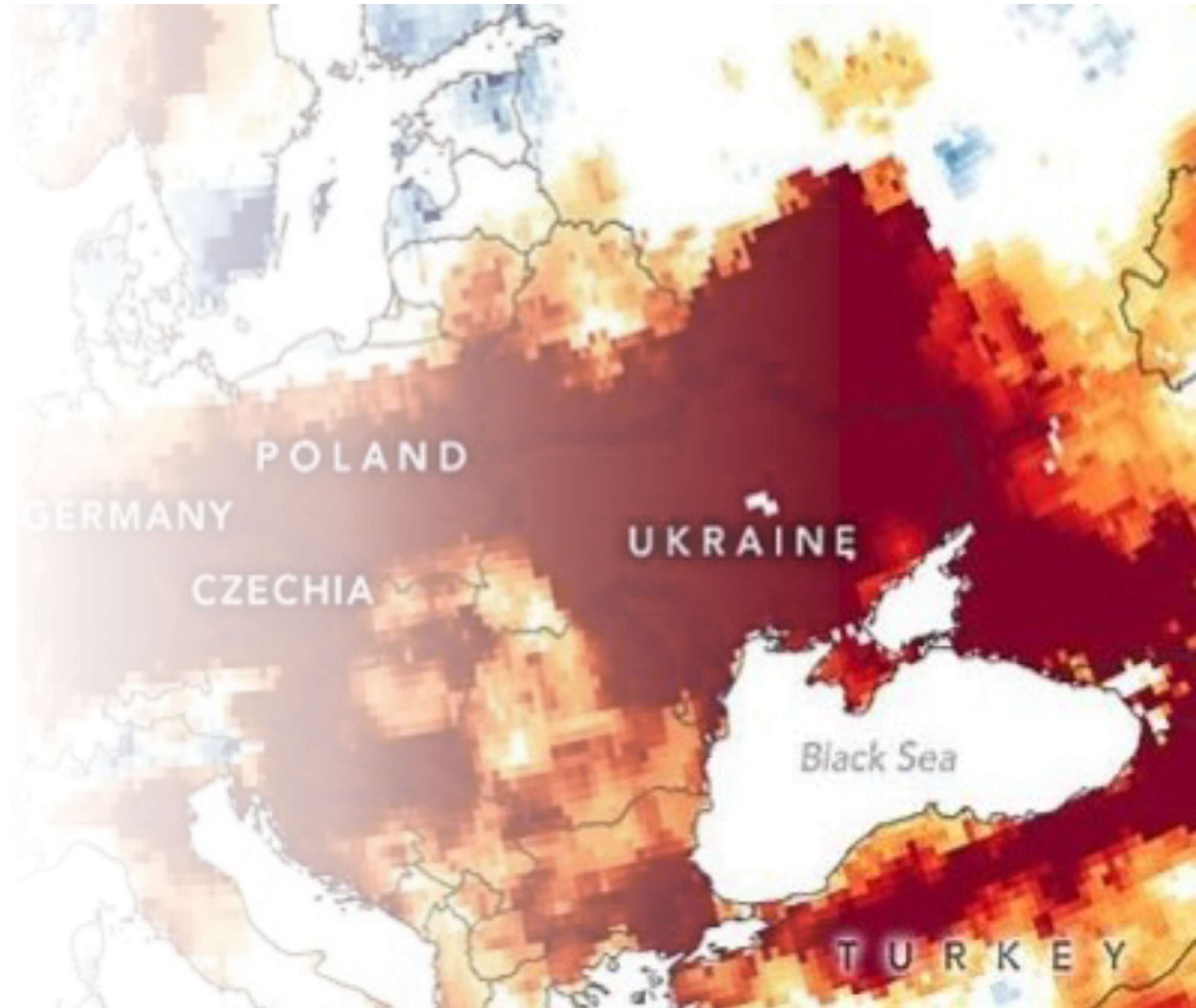
Projected increase in pluvial flooding at global warming of 1.5°C (*medium confidence*) and 2°C and above

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Projected decrease in river flood at global warming of 2°C and above

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Projected increase in fire weather at global warming of 2°C and above





# Environmental Security and Climate Change Adaptation Strategy of Ukraine by 2030

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Drafted to enforce the Decree of the President of Ukraine № 392/2020 dd. September 14, 2020 «On «National Defence and Security Strategy of Ukraine»

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A Working Group established of over 150 members from governmental agencies, academia, NGOs, think tanks, TA projects, business associations – in October 2020

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Published online for official consultations 1 March 2021

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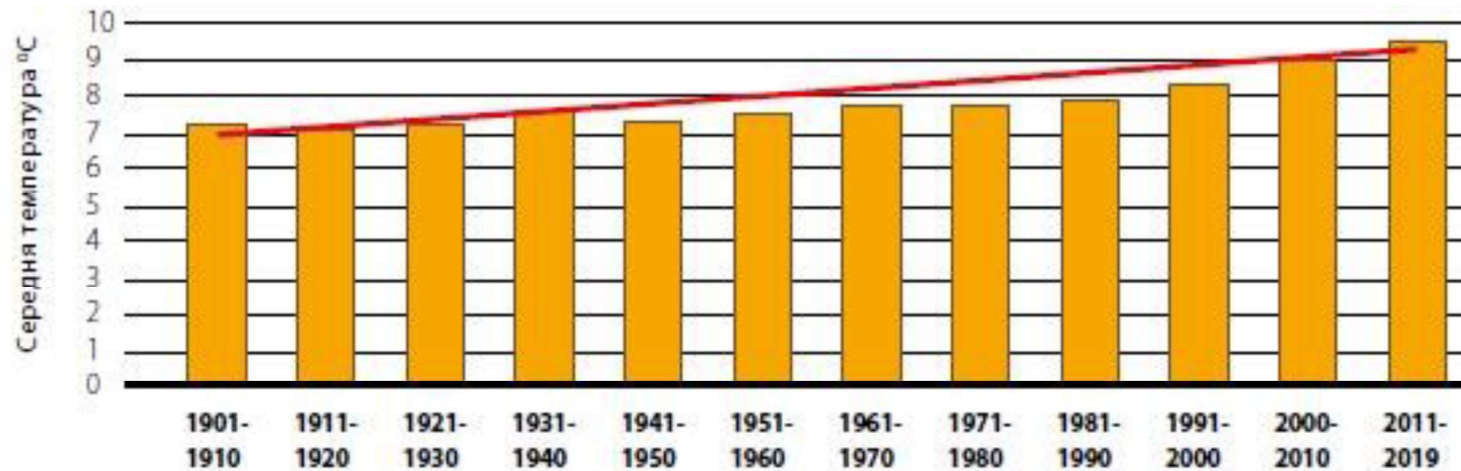
Currently, under consideration of the Government of Ukraine, together with the Adaptation Action Plan

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Development supported by EU/UNDP Project EU4Climate

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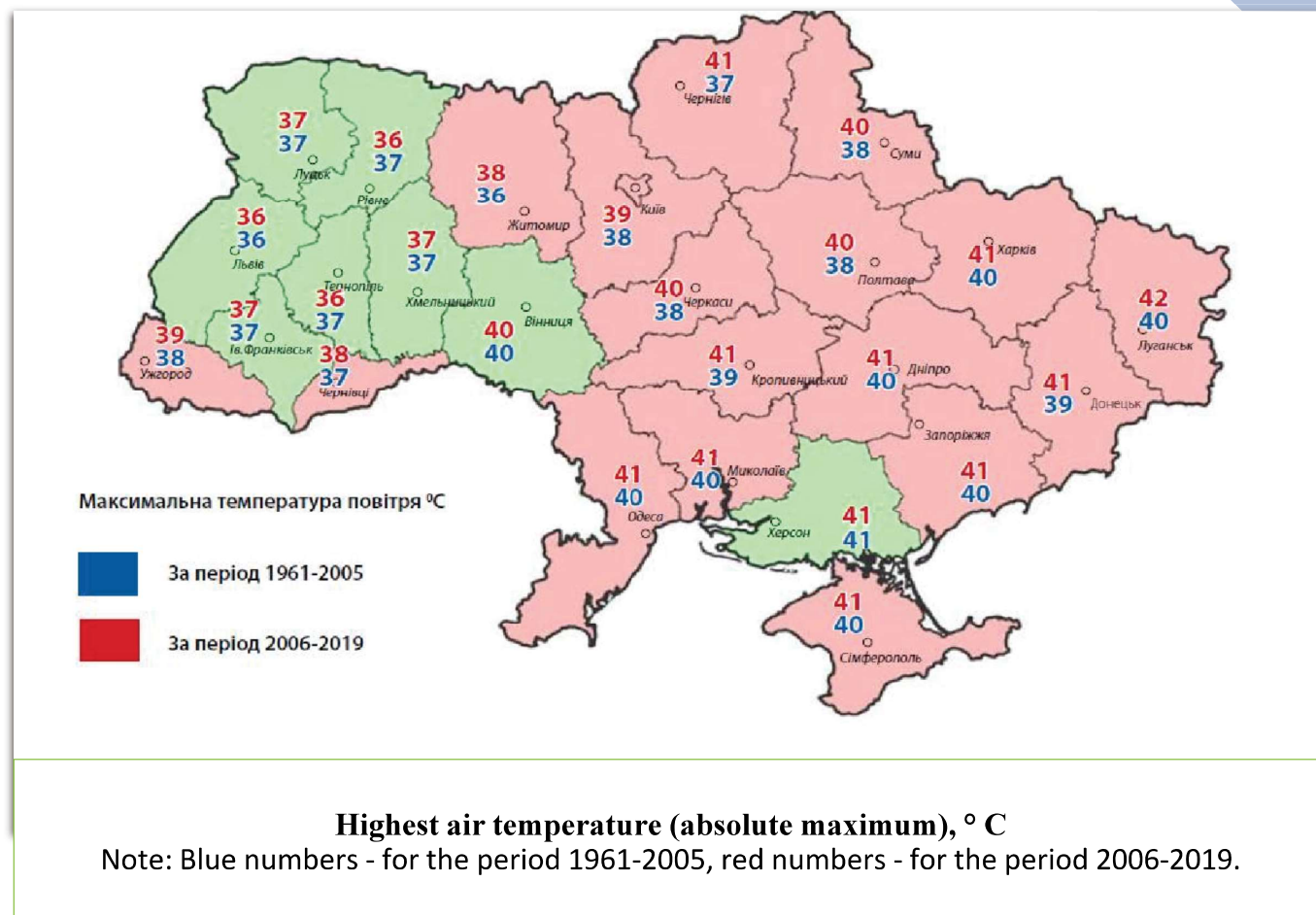
The following sectors were defined as the most vulnerable: Biodiversity; Water resources; Energy; Public health; Fisheries; Agriculture and soils; Forestry; Cities and territorial communities; Transport and infrastructure; Coastal areas, Tourism.



- The rate of rise in air temperature in Ukraine is ahead of global trends, as a result of which in Ukraine is likely to intensify and spread droughts, increase the area of land prone to desertification
- If humanity does not abandon the use of fossil fuels in the second half of the century, then in 30 years the average annual temperature in Ukraine may rise by another 1-1.5 C, and by the end of the century by 3.4-4C
- In Ukraine, the average annual temperature has risen by 1.2 ° C over the last thirty years
- The average monthly air temperature in February, March, June, October, November and December 2019 was the highest or one of the highest for these months for the entire period of instrumental weather observations (since the end of the 19th century)

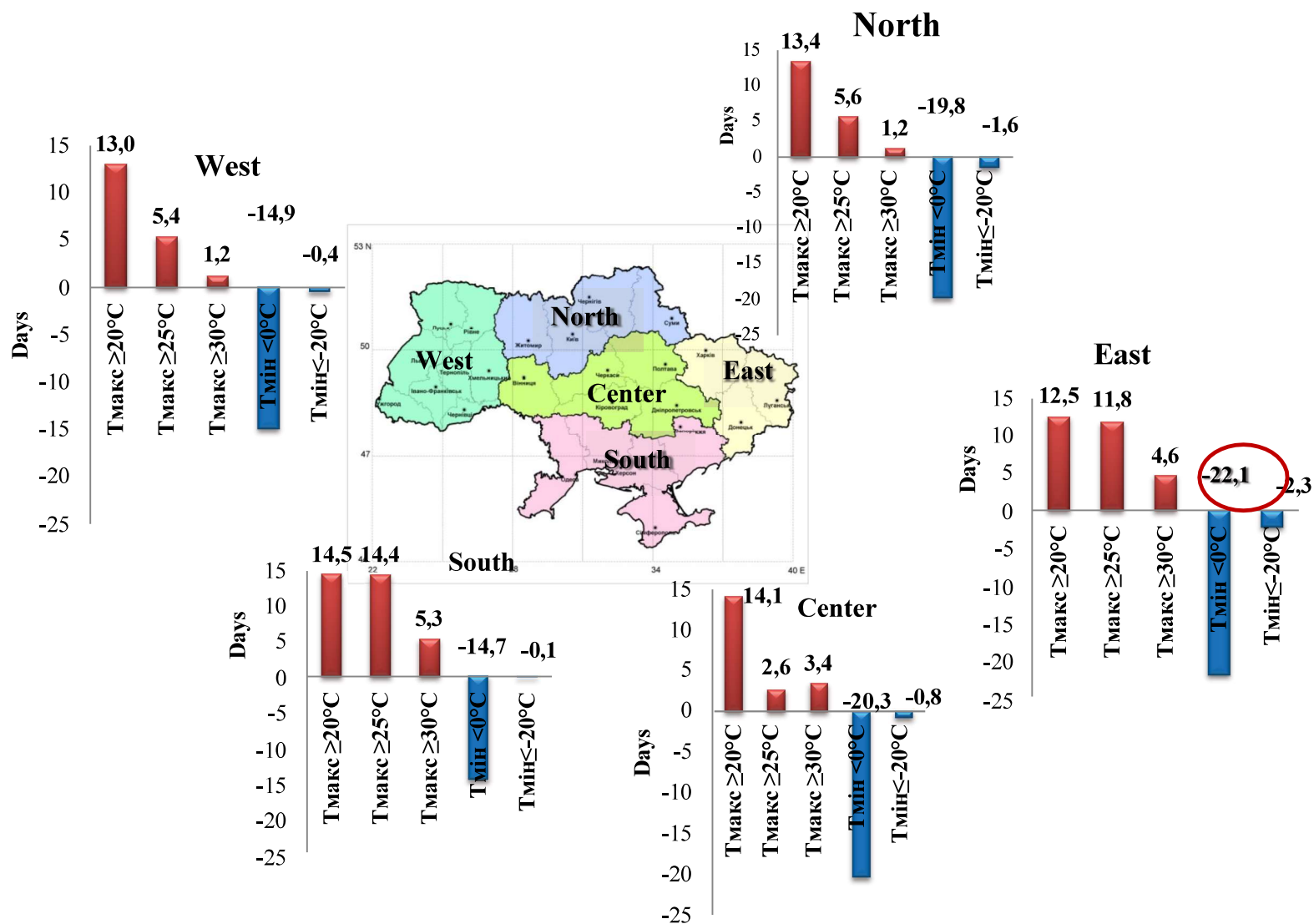
## Anomaly of average annual air temperature in Ukraine

Since 1991, each subsequent decade has been warmer than the previous one:  
 1991-2000 – at 0,5 °C,  
 2001-2010 – at 1,2 °C,  
 2011-2019 – at 1,7 °C.



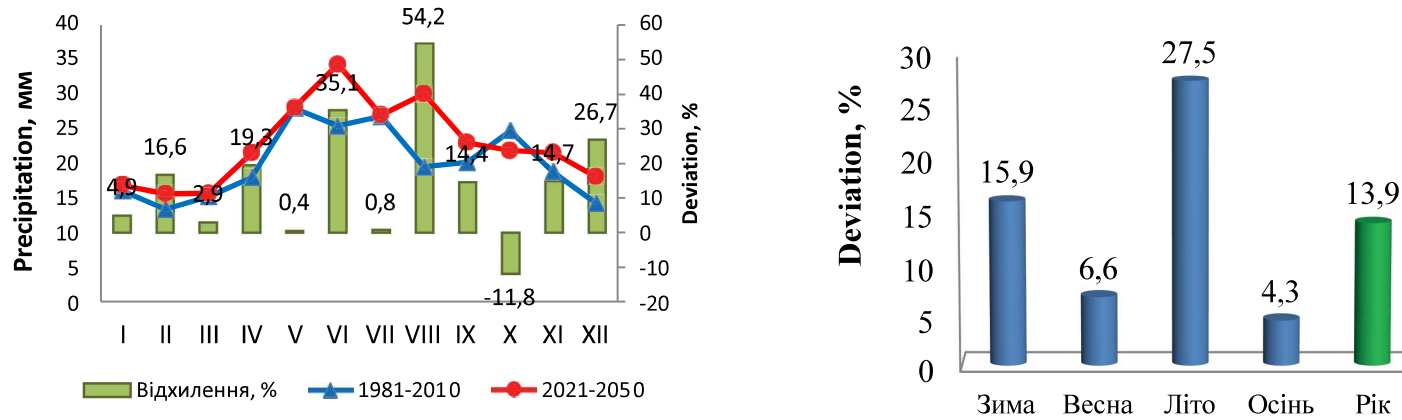


## Projection of changes in extreme weather conditions due to air temperature in 2021-2050 relative to 1981-2010

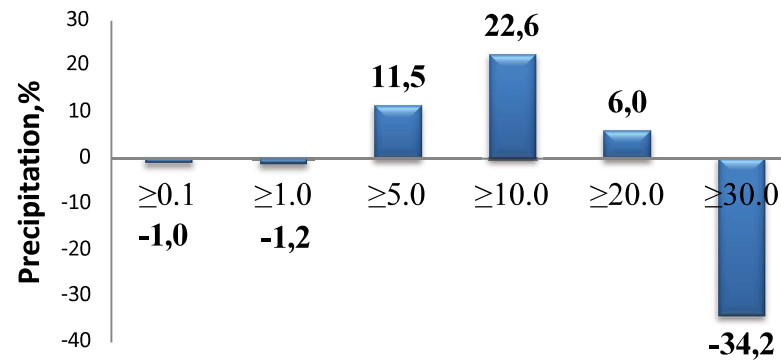


## Projection of changes in extreme weather conditions caused by precipitation in 2021-2050 relative to 1981-2010

### Maximum precipitation per day



### Change in the number of days with precipitation of varying intensity (mm/24hs)



# Climate policy in Ukraine

▼ In Ukraine, there is an increase in abnormal meteorological phenomena, long-term heat waves, drying of rivers, an increase in the number and scale of fires, anomalous precipitation, and so on.

▼ This indicates the urgency of tackling climate change. Its causes include emissions from the extraction, transportation and combustion of coal, oil and gas, industry, agriculture, low energy efficiency of buildings, lack of a waste management system, and reduced carbon sequestration by ecosystems, primarily forests, and much more.



# Climate policy in Ukraine: regulatory framework

- ü Paris Agreement
- ü The concept of implementing state policy on climate change until 2030
- ü Action plan for the implementation of the Concept for the implementation of state policy on climate change until 2030
- ü Low-carbon development strategy of Ukraine for the period up to 2050
- ü National Waste Management Plan until 2030
- ü Strategy of the state ecological policy till 2030
- ü Strategy for environmental safety and adaptation to climate change until 2030
- ü Updated national determined contribution for the Paris Agreement

# Public authorities involved in the implementation of climate policy

- **Ministry of Environmental Protection and Natural Resources of Ukraine;**
- **Ministry of Energy of Ukraine;**
- **Ministry of Agrarian Policy and Food of Ukraine;**
- **Ministry of Infrastructure of Ukraine;**
- **State Ecological Inspectorate of Ukraine;**
- **State Service of Ukraine for Emergencies;**
- **State Agency for Energy Efficiency and Energy Saving of Ukraine and others**

# Ukraine's international climate commitments

- q Achieving climate neutrality no later than 2060;**
- q NDC2 of Ukraine for the Paris Agreement is not to exceed 35% by 2030 or to reduce GHG emissions by 65% from 1990 levels;**
- q Refusal to use coal until 2035;**
- q Reduction of methane emissions by 30% by 2030;**
- q Stop reducing forest area by 2030.**



# Climate Change Adaptation in Ukraine

## **National Strategy and Operational Action Plan**

- Conduct an **institutional and legal analysis** for climate change adaptation at the national and sectoral levels;
- **Climate risks and vulnerability assessments (CRVA) methodologies/recommendations** development for key sectors;
- **Undertaking of sectoral CRVA;**
- Development of **relevant sectoral action plans**/incorporating adaptation to current strategic documents (energy strategy, transport strategy, new strategical documents);
- **Needed changes to legislation** (incorporation of climate adaptation to local economics and social development strategies, environmental assessment process, and environmental impact assessment process);
- Development of **indicators on climate change impact** for social-economic sectors and natural components (will be used for M&E in future).

During the period from 2000 to 2020, material damage from natural disasters amounted to UAH 44.95 billion \*

\* Official SES data

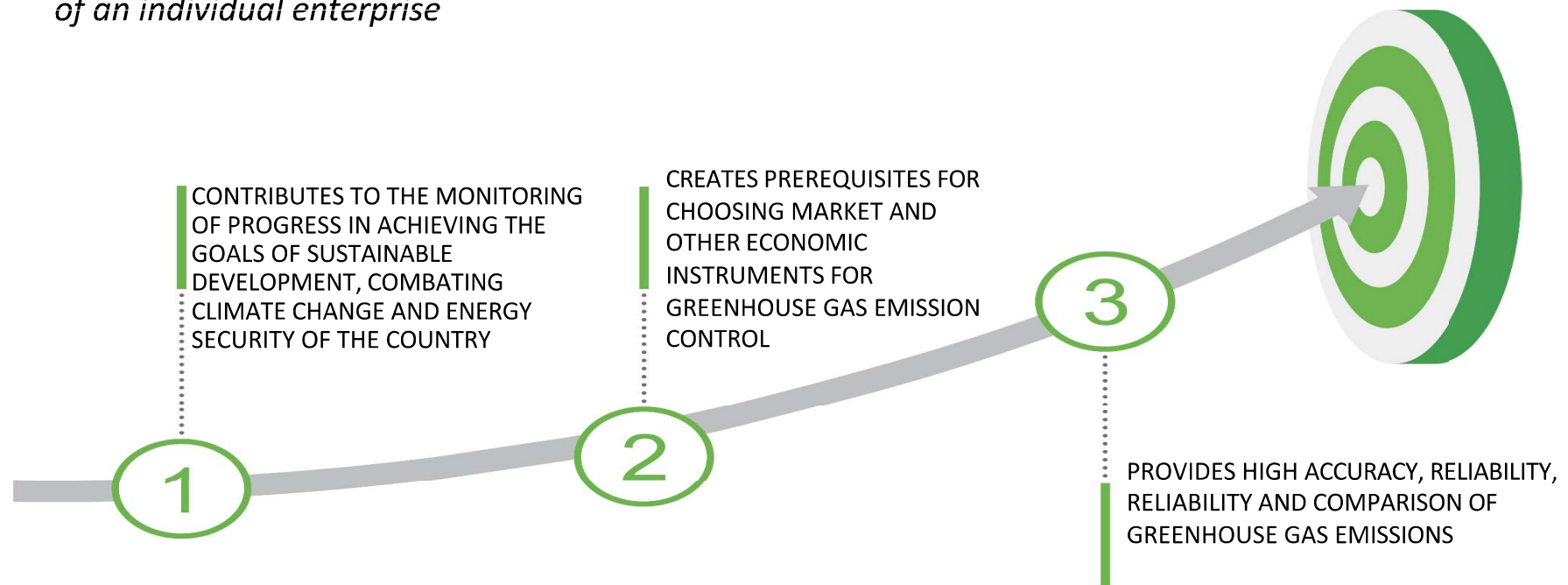
**Quantitative indicators of emergencies that occurred in 2020, compared to 2019**

Emergency data	2019	2020	Decrease (increase), in percent
Total number of emergencies:	146	116	- 20,5
Including:			
Man-made nature	60	47	- 21,7
Environmental nature	81	64	- 21,0
Social nature	5	5	0,0
Including by levels:			
State level	2	6	+ 200,0
Regional level	7	4	- 42,9
Local level	63	50	- 20,6
Object level	74	56	- 24,3
People died as a result of the emergency	200	170	- 15,0
People were injured as a result of the emergency	1492	305	- 79,6
Material damage from the emergency, thousand UAH	1 626 730	<u>9 916 677</u>	+ 509,6

# The main initiatives of the Government of Ukraine on the implementation of climate policy

## ü Greenhouse gas monitoring, reporting and verification system

q *the system will provide reliable data on greenhouse gas emissions at the level of an individual enterprise*



# The main initiatives of the Government of Ukraine on the implementation of climate policy



- Participants: 1500 companies
- (capacity more than 20 MW)



- The first verified data - after March 30, 2022



- **Competent Authority- MEPR**

**Next steps:**



# The main initiatives of the Government of Ukraine on the implementation of climate policy

## ü JUST TRANSITION POLICY

### industry + environmental protection + regional development

#### SYSTEM CHALLENGES

- § monopole of the local economy of coal communities
- § state owned coal mining companies are unprofitable
- § growing support by the state budget
- § systematic delays in payment of wages
- § lack of trust to the authorities
- § negative experience of restructuring the coal industry in the 2000s

#### IMPLEMENTATION TOOLS

- improving just transition government policy
- communication strategy and broad social dialogue
- social support for miners
- launching of a multi-donor fund for the
- transformation of coal regions
- implementation of the Just transition state target program

#### CURRENT INITIATIVES

- the Coordination Center for the Just transition of Coal Regions of Ukraine was launched
- State Strategy for Regional Development for 2021- 2027, which defines the vision of ways of just transition to achieve balanced development, solving problems of monofunctional coal communities – approved in August 2020
  - State target program for just transition of coal regions of Ukraine for the period up to 2030 is being developed, Concept for this State Program approved by CMU on September

#### PROJECT EFFICIENCY

- gradual diversification of the local economy and increase in gross value added
- new jobs
- gradual balancing of local
- budgets
- modernization and development of local infrastructure
- improving the environmental situation in the coal territories



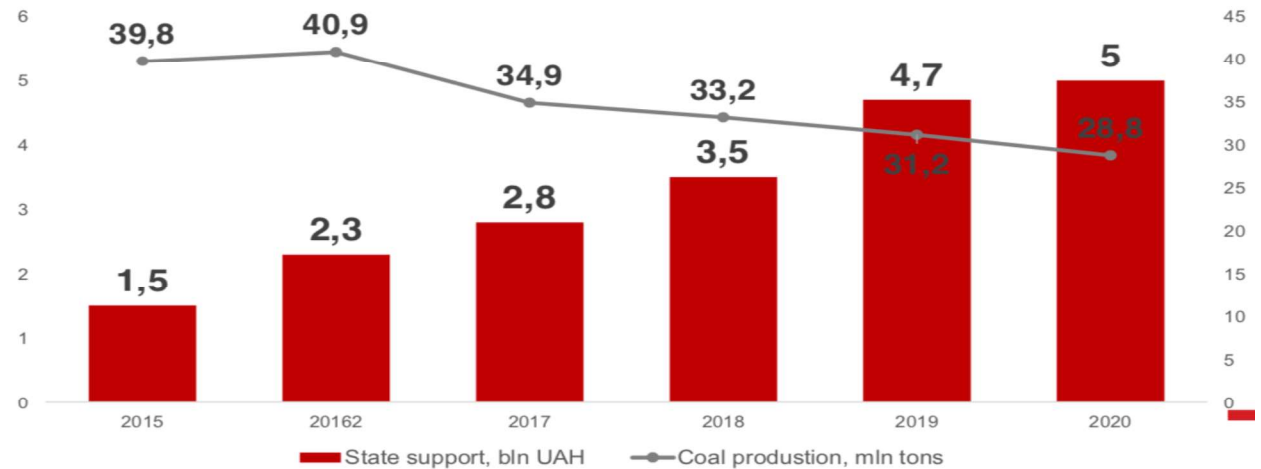
# The main initiatives of the Government of Ukraine on the implementation of climate policy

## ü JUST TRANSITION POLICY

### KEY PROBLEMS OF THE COAL SECTOR

- Decrease in coal production
- High cost of production of state-owned coal mines
- Non-payment for shipped coal
- Increase in budget support for state-owned coal mines    Accounts payable of state-owned coal mines
- Delay in salary payments
- The duration and cost of the mines liquidation    Ineffective management of state coal mines
- Environmental problems

State support to coal mines



*Thank you!*

