This project is co-financed by the European Union and the Republic of Turkey.

Technical Assistance for Developed Analytical Basis for Formulating Strategies and Actions towards Low Carbon Development

Low Carbon Turkey

Article 10c of the EU ETS Directive

Option for transitional free allocation for the modernisation of electricity generation

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EU ETS Free Allocation in the 3rd Phase of EU ETS

- Mechanism of free allocation - 80% of free allowances to industry in 2013, 30% in 2020
- Power generators have been able to pass cost of allowances to customers
- No free allocation for power sector, and 100% allocation for industry sectors deemed exposed to carbon leakage.
- Article 10c was introduced in 2009[1] to allow some MS:

- the modernization of electricity generation

- reduce the costs for power plants and other electricity installations

[1] In the DIRECTIVE 2009/29/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community

Article 10c in the 3rd Phase EU ETS

Transitional free allocation till 2020:

- Installations with electricity production in operation by 31.12. 2008 or
- Investment process was physically initiated by the same date and
- Investment undertaken from June 2009

• In 2007 the national electricity network was not connected to the network interconnected system operated by the Union for the Coordination of Transmission of Electricity (UCTE); or

• In 2007 the national electricity network was only directly or indirectly connected to the network operated by UCTE through a single line with a capacity of less than 400 MW; or

• In 2006 > 30 % of electricity was produced from a single fossil fuel and GDP per capita at market price < 50 % of the average GDP per capita in EU

State aid under Article 10c - design features

- Coverage: installations producing electricity & producing electricity and heat

To apply, MS should have submitted to EC:

- Proposed allocation methodology
- National plan – list of investments in retrofitting and upgrading of the infrastructure and clean technologies
- Yearly report on investments made in upgrading infrastructure and clean technologies
- Eligible costs were limited to the total investment costs (tangible and intangible assets) as listed in the national plan corresponding to the market value of free allowances

State aid under Article 10c – eligible technologies

EC has provided the guidance on the types of investment eligible under Article 10c of Directive 2003/87/EC:

- Retrofitting of infrastructure
- Upgrading of infrastructure
- Clean technologies
- Diversification of energy mix
- Diversification of sources of supply

Principles for the eligible investments

- Directly or indirectly contribute to GHG emissions reduction in a cost effective manner
- Eliminating the power sector configuration that made the respective MS eligible for Article 10c allowance in the first place, i.e. overwhelming dependency on one fossil fuel for power generation
- Avoidance of distortion of competition and trade in the internal market
- Additionality of investments, i.e. funds must go to projects that would not have occurred otherwise
- Contribution to diversification and reduction in carbon intensity of the electricity mix
- Economic viability if the allocation of free allowances under Article 10c will be phased out (excluding low carbon technologies at pilot stage)

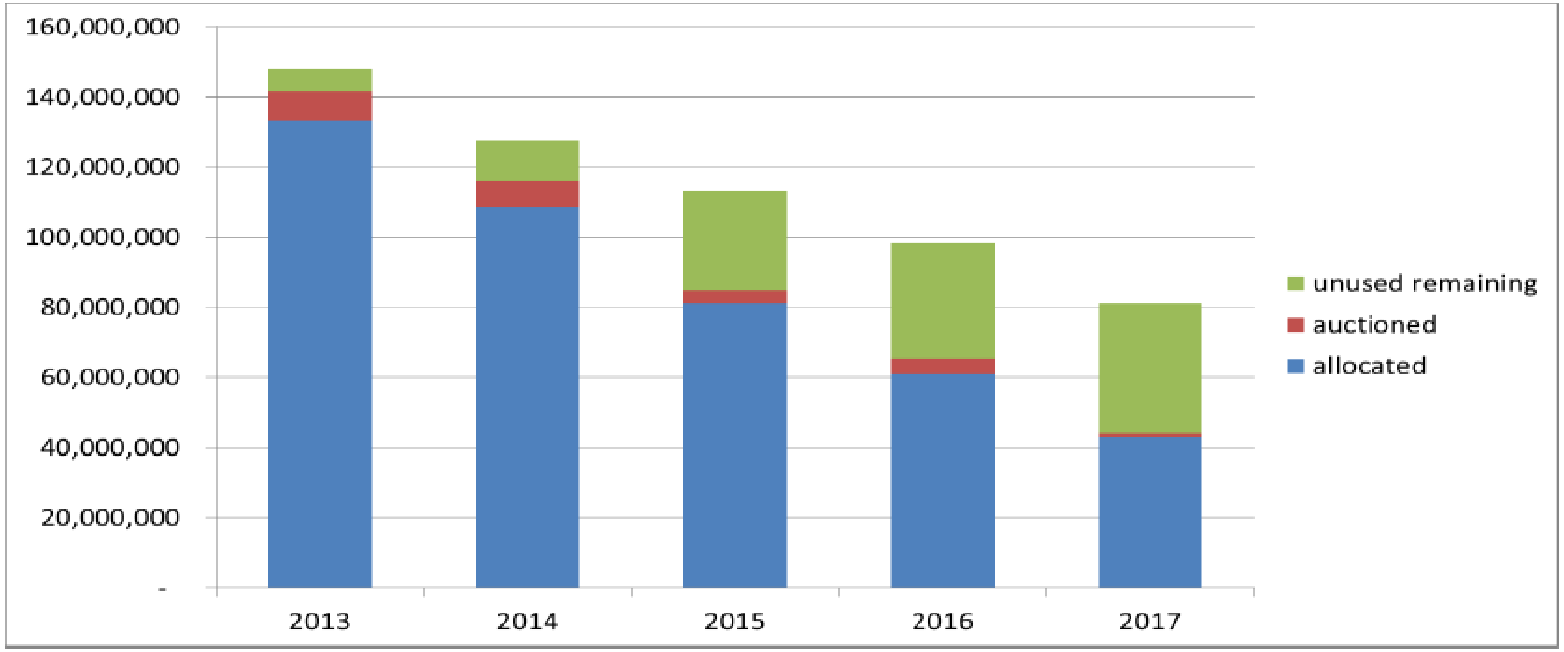
Implementation of Article 10c in EU

- 8 EU Member States - Bulgaria, Cyprus, Czechia, Estonia, Hungary, Lithuania, Poland and Romania – have made use of a derogation under Article 10c of the EU ETS Directive
- Around 680 mln. allowances were allocated till 2020 with market value of ca. €12 billion[1]
- Poland, Czech Republic, Romania and Bulgaria - received ca. 94% of allowances with share of Poland of almost 60%

[1] Source: European Commission (2017) Report on the functioning of the European carbon market. COM(2017) 693 final.

Distribution of allowances under Article 10c

- Distribution of allowances (allocated, auctioned, unused remaining)



	Allocated allowances
	Auctioned allowances
	Unused remaining allowances

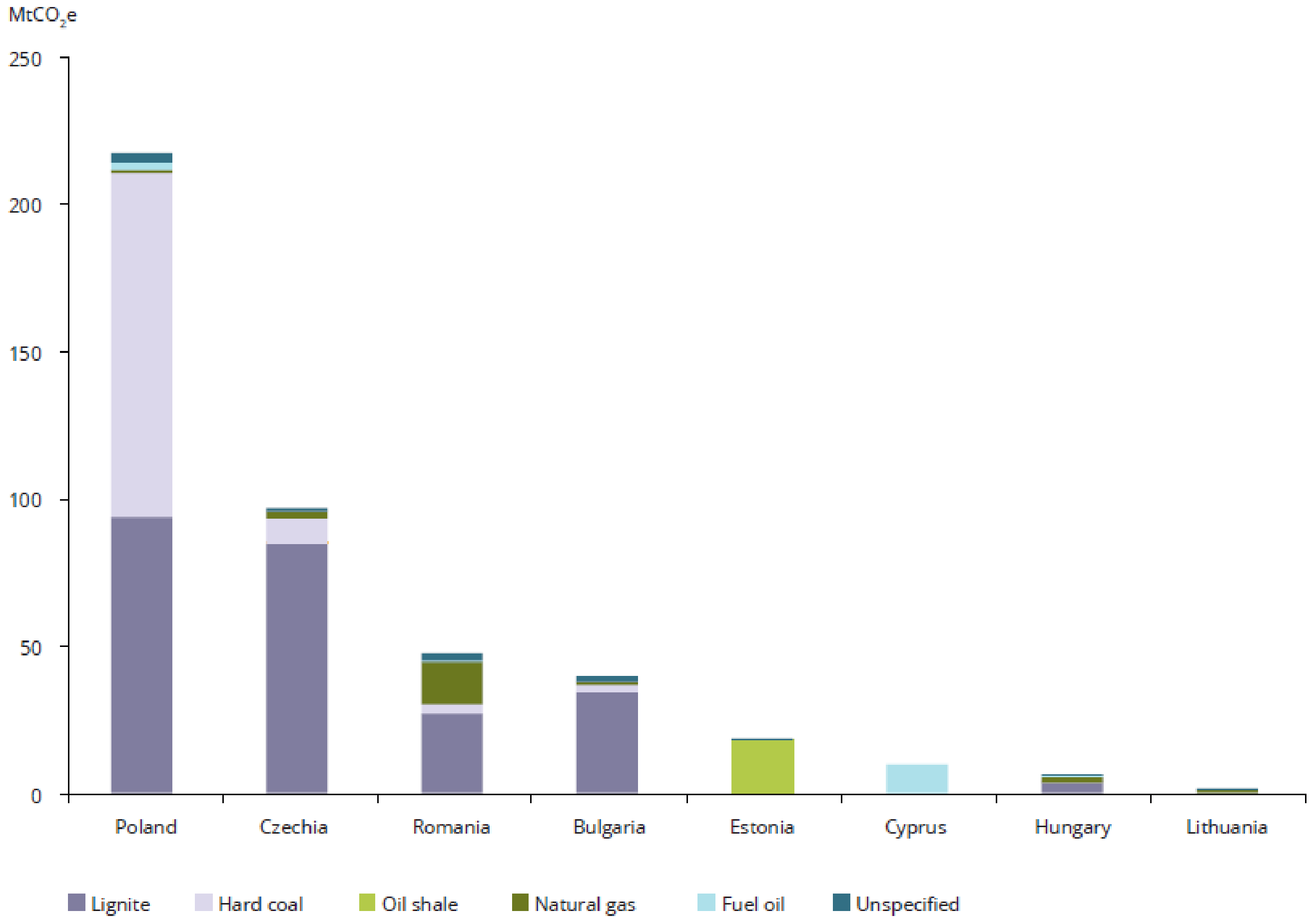
Source: European Commission (2017) Report on the functioning of the European carbon market. COM(2017) 693 final.

Use of allowances under Article 10c

- About 80% - 90% of allocation amount was dedicated to upgrading and retrofitting infrastructure, while the rest of the investments were in clean technologies or diversification of supply
- Differences observed in the determination of the maximum number of free allowances per eligible installation and definition of benchmarks in different MS
- Contribution to long-term decarbonisation of investments very difficult: e.g. Czech Republic and Poland are not reporting CO_{2e} emissions reduction from investments

Use of Article 10(c) allowances in 2013 - 2017

- Use of Article 10(c) allowances between 2013 and 2017, by Member State



Source: EEA (2018) Trends and projections in the EU ETS in 2018. The EU Emissions Trading System in numbers. Report 12/2018.

Implementation of Article 10c: Example Poland

- The final Polish investment plan - > 340 investment projects of > €28 billion
- In Polish NIP, 82% of projects relate to the modernization of existing fossil fuel capacity
- This included the investment in Bełchatów, the biggest coal-fired power plant in Europe in a new lignite coal fuelled unit with the capacity of 858 MW –the largest power unit in Poland
- Only about 8.5% of investments were the investments in the renewable energy
- Almost all of these renewable projects (29 out of 31) provide support for biomass co-firing with coal, while there are no investments in wind or solar power listed

Implementation of Article 10c: Example Czech Republic

- About 46% of investments - upgrading of coal power plants
- Ca. 5.4 bln. Euro will be invested by 2020, reducing emissions ca. 12 mln. tonnes of CO_{2e} [1]
- ČEZ, dominant producer of electricity in the market with a market share of min. 60% in 2010, supposed to receive 74.9 million out of a total of 108.2 million[2], raising serious concerns about distortions in competition
- The NIP includes at least 25 investments[2] that are not eligible under the Article 10c due to the commencement of the investment process before 25 June 2009 and that do not comply with the State aid rules

[1] https://www.mzp.cz/cz/news_110922_derogace

[2] Environmental Law Service and the Centre for Transport and Energy (2012) Undue distortions of competition and state aid involved in the free allocation to electricity producers in the Czech Republic. Research report.

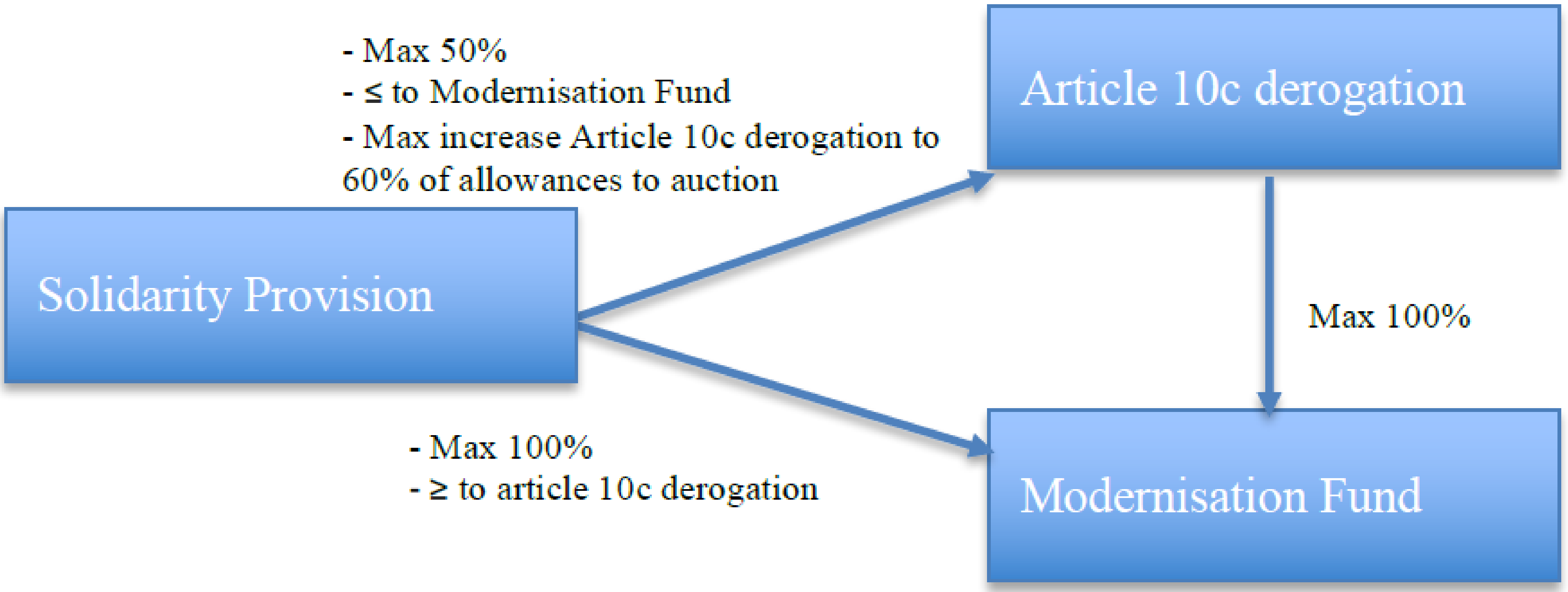
Implementation of Article 10c in EU: Summary

- **Additionality** - it is difficult to assess based on the annual reports to which extent these investments may have also taken place without the possibility of free allocation (EC 2015)
- **Low carbon technologies** - Limited number of investments regarding renewable energy sources, or more generally diversification of the energy mix
- **Transparency** - the national investment plans of beneficiary countries are difficult or impossible to access, are extremely vague and, in some cases, are only available in Member States’ national languages.

Example Polish Investment Plan: only in Polish, the descriptions of investments as e.g. ‘Modernization B1’ without further details, no information on the investments costs or emission reductions

Allocation in the 4th Phase of EU ETS

Overview of flexibility to move allowances



By 30 September 2019 Member States will have to notify the Commission about the respective amount of allowances they want use for all funding mechanisms

Funding under Article 10c in the 4th Phase of EU ETS

- Article 10c was amended in 2018 in the DIRECTIVE (EU) 2018/410 – MS with 2013 GDP per capita levels at market prices < 60%
- The value of intended investments has to be at least as high as the market value of the free allocation, yet only < 70% of the investment costs may be supported using the transitional free allocation
- Selection procedure for two types of investments:

- For projects of **over €12.5 million-** a competitive bidding process

- For **smaller projects (below €12.5 million) -** selection based on ‘objective and transparent criteria’

Artcle 10c in 4th Phase of EU ETS

- For the big projects: investments shall comply with the principles of **transparency, non-discrimination, equal treatment and sound financial managemen and c**ontribute to

- **Diversification of energy mix** and sources of supply
- Restructuring, environmental upgrading and retrofitting of the **infrastructure**
- **Clean technologies**, such as renewable energy technologies, or
- **Modernisation of the energy production sector**, such as efficient and sustainable district heating, and of the transmission and distribution sector

- Define clear, objective, transparent and non-discriminatory **selection criteria for the ranking** of projects

- Ensure a net positive gain in terms of **emission reduction** and realise a predetermined significant level of CO_2 reductions;

Artcle 10c in 4^{th} Phase of EU ETS- Investments

- Should be **additional**
- Offer **best value for money**, and
- Do not contribute to or improve the financial viability of high emission intensive electricity generation or increase dependency on emission intensive fossil fuels
- Smaller projects (< €12.5 million) may also be selected through the competitive bidding process but also based on unspecified ‘objective and transparent criteria
- The results of this selection shall be made available for public comment

Estimated Impact of Article 10c in 4th EU ETS Phase

- Maximum amount of allowances that may be given by eligible MS as transitional free allocation in the base scenario is estimated to roughly 965 million allowances over Phase 4[1]
- If fully used, this could decrease the amount of allowances to be auctioned by almost 12%
- In the baseline scenario, the transitional free allocation could cover up to 23.75% of the projected power emissions in the eligible MS
- For Croatia, Hungary and Slovakia, the allocation can be > 50% of the projected emissions in the power sector in the baseline scenario

[1] Source: CEEP (2018): Funding Mechanisms in the fourth phase of the EU ETS, exploring what is known and identifying issues for clarification and discussion. Research Report.

Estimated Impact of Article 10c in 4th EU ETS Phase

- Amount of Article 10c Derogation allowances available in Phase 4 compared to the projected emissions of the power sector

Country	*Amount of projected emissions in power sector 2021-2030 (mton CO2)*	*Base Scenario* (40%) - millions of allowances over Phase 4*	*% free allocation compared to projected emissions*	*Maximum Scenario* (max 60%) – millions of allowances over Phase 4*	*% free allocation compared to projected emissions*
Bulgaria	204.67	52.89	25.84	79.34	38.76
Croatia	33.11	18.34	55.41	24.3	73.41
Czech Republic	524.58	114.26	21.78	158.53	30.22
Estonia	99.41	18.02	18.13	27.04	27.20
Hungary	65.71	35.48	53.99	47.9	72.89
Latvia	15.45	3.89	25.17	5.83	37.76
Lithuania	24.36	8.91	36.59	13.37	54.89
Poland	1546.96	280.06	18.10	416.58	26.93
Romania	201.90	93.97	46.54	140.96	69.82
Slovakia	62.32	34.06	54.65	51.09	81.98
TOTAL	***2778.47***	***659.89***	***23.75***	***964.94***	***34.73***

** Potential banking of unallocated allowances from Phase 3 is not included in these estimations*

Source: CEEP (2018) REPORT: Funding Mechanisms in the fourth phase of the EU ETS, exploring what is known and identifying issues for clarification and discussion

Future challenges in Article 10c implementation

- What the framework for the competitive bidding processes in the Member States will look like, as the design will most likely affect the extend of use of Article 10c Derogation.
- What type of requirements will Member States adopt for investments to be eligible?
- If Member States decide to auction all (or a large part) of the unallocated allowances in 2020, how will this affect the market?
- Lastly, what will happen to unused allowances after Phase 4 has ended?

- Will Member States again have the choice to bank them to the next Phase (if Article 10c Derogation is again continued) or auction them?
- Will they be cancelled or put into the MSR?

Solidarity provision

- **90%** of the allowances to be auctioned will be distributed to the EU Member States on the basis of their share of **verified emissions**, and
- **10%** will be allocated to the **less wealthy EU Member States** for the purposes of solidarity, growth and interconnections[1]
- Member States with GDP per capita at market prices < 90% of the Union average in 2013 will benefit from the Solidarity Provision

[1] CEEP (2018) REPORT: Funding Mechanisms in the fourth phase of the EU ETS, exploring what is known and identifying issues for clarification and discussion

Allowances - Solidarity provision calculation

Member State	*Percentage increase of allowances to be auctioned (Annex IIa of the Directive)*	*Estimated amount of additional allowances over Phase 4 (in millions)*	*Estimated value over Phase 4 (in millions - €20/EUA)*	*Estimated value over Phase 4 (in millions - €35/EUA)*
Bulgaria	53%	69.93	1398.61	2097.92
Croatia	26%	11.90	237.94	356.91
Cyprus	20%	3.53	70.65	105.97
Czech Republic	31%	88.36	1767.11	2650.66
Estonia	42%	18.88	377.69	566.53
Greece	17%	40.83	816.53	1224.80
Hungary	28%	24.78	495.61	743.42
Latvia	56%	5.43	108.68	163.01
Lithuania	46%	10.23	204.59	306.89
Malta	23%	1.55	30.90	46.35
Poland	39%	272.46	5449.25	8173.88
Portugal	16%	19.63	392.52	588.79
Romania	53%	124.24	2484.81	3727.22
Slovakia	41%	34.84	696.73	1045.1
Slovenia	20%	6.09	121.88	182.83
Spain	13%	80.39	1607.74	2411.61
TOTAL		***813.06***	***16261.25***	***24391.87***

Modernization Fund

- Reason: high investment needs relating to energy efficiency and the modernization of energy systems in lower income MS
- Between 2021 and 2030, 2% of the allowances, approximately 310 million, will be lay by to establish the fund with contribution from all MS
- The criterion for the fund eligibility was limited to MS with a gross domestic product (GDP) per capita of < 60% of the EU average (in 2013)
- All in total 10 MS

Design of the Modernization Fund

- The fund will be governed by an investment board of EBRD and a management committee
- Member State has proposed an investment to the EIB
- If the EIB decides that an investment falls into ‘Area 1’ – priority projects, financing up to 100% of the relevant investments costs, using that MS share of the Modernisation Fund
- Area 1: investments in renewables, energy efficiency (excluding solid fossil fuels), energy storage and networks, interconnections between MS and energy efficiency in transport, buildings, agriculture or waste

Design of the Modernization Fund

- If the project falls under Area 2' – nonpriority projects (investments that are consistent with the EU 2030 climate and energy policy framework and the long-term objectives as expressed in the Paris Agreement) - investment only up to 70% of the relevant costs

- No support can be given to energy generation facilities that use solid fossil fuels, except for district heating in Romania and Bulgaria, under the condition that investments used under Article 10c Derogation by these countries do not involve solid fuels

- Maximum 30% of the Modernisation Fund can be used to finance Area 2 projects

Allowances in the Modernization Fund

- Estimated amount and value of allowances under the Modernisation Fund

Country	*Percentage of Modernisation Fund (Annex IIb of the Directive)*	*Base Scenario (2%) – millions of allowances over Phase 4*	*Estimated value over Phase 4 (in millions – 20€/EUA)*	*Estimated value over Phase 4 (in millions – 35€/EUA)*	*Maximum Scenario (2.5%) – millions of allowances over Phase 4*	*Estimated value over Phase 4 (in millions – 20€/EUA)*	*Estimated value over Phase 4 (in millions – 35€/EUA)*
Bulgaria	5,84 %	18.43	368.62	645.09	23.04	460.78	645.09
Croatia	3,14 %	9.91	198.20	346.85	12.39	247.75	346.85
Czech Republic	15,59 %	49.20	984.04	1722.08	61.50	1230.05	1722.08
Estonia	2,78 %	8.77	175.47	307.08	10.97	219.34	307.08
Hungary	7,12 %	22.47	449.42	786.48	28.09	561.77	786.48
Latvia	1,44 %	4.54	90.89	159.06	5.68	113.62	159.06
Lithuania	2,57 %	8.11	162.22	283.88	10.14	202.77	283.88
Poland	43,41 %	137.00	2740.05	4795.08	171.25	3425.06	4795.08
Romania	11,98 %	37.81	756.18	1323.31	47.26	945.22	1323.31
Slovakia	6,13 %	19.35	386.93	677.12	24.18	483.66	677.12
TOTAL	***100%***	***315.60***	***6312.02***	***11046.03***	***394.50***	***7890.02***	***11046.03***

Innovation Fund

- Established after 2021 to support investments in energy efficiency, RES, carbon capture and storage (CCS) and other low-carbon innovation in energy intensive industry
- Support technologies that are not yet commercially available, yet are mature enough to be ready for demonstration at a precommercial scale
- Ca. 400 million allowances of estimated market value between €9 bln. and €16 bln.
- Further €50 million of the unallocated allowances from 2013-2020 will be reserved to support breakthrough technologies in industry before 2021
- Innovation Fund will cover up to 60% of the relevant costs, out of which up to 40% need not be dependent on verified avoidance of GHG emissions

Source: CEEP (2018) REPORT: Funding Mechanisms in the fourth phase of the EU ETS, exploring what is known and identifying issues for clarification and discussion

Innovation Fund: eligible projects

- Low carbon technologies and processes in sectors covered by the ETS
- Environmentally safe carbon capture and utilisation (‘CCU’) that contributes substantially to mitigating climate change
- Products substituting carbon intensive products of sectors covered by the ETS
- Environmentally safe capture and geological storage (‘CCS’) of CO_2
- Innovative renewable energy and energy storage technologies

Open questions to design of the Innovation Fund

- What technologies will be eligible? Will there be certain criteria adopted?
- How will the available funds be distributed, both among countries, and projects?
- Ranking of investments: on the ‘first come first serve’ basis, or whether certain requirements for ranking of investment proposals will be adopted?
- What will the monetisation process of allowances look like? Contrary to the Modernisation Fund, it is not known who will be in charge of monetising the allowances
- Lastly, what will happen to leftover allowances or funds in the Innovation Fund after Phase 4 has ended?

Allocation in the 4th Phase of EU ETS

- The total amount of available allowances during Phase 4 will amount to 15.780 mln. allowances.
- From this total amount of allowances 57% is to be auctioned and 43% is to be allocated for free.
- However, out of these 57% allowances to be auctioned, 2% is meant for the Modernisation Fund, and 3% is held as free allocation buffer, in order to avoid the application of the CSCF
- Moreover, 75 million allowances from the auctioning share and 375 million allowances from the free allocation share are used for the Innovation Fund

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Thank you for your attention!

http://www.lowcarbonturkey.org/