Corrigendum: Empowering Ukraine Through a Decentralised Electricity System
Issued: February 2025
Link to report: https://www.iea.org/reports/empowering-ukraine-through-a-decentralised-electricity-system

On page 8:
"With peak demand this winter likely to reach 18.5 gigawatts (GW), the supply deficit could increase to as much as 6 GW, which would result in longer and more widespread power cuts."

Replaced with:
"With peak demand this winter likely to reach 18.5 gigawatts (GW), the supply deficit was expected to increase to as much as 6 GW, which would result in longer and more widespread power cuts. Despite a strong repair campaign ahead of the winter, further Russian attacks mean that this deficit will likely remain in the near-term."

On page 11:
"As Ukraine's power system accommodates a growing share of DERs, transmission and distribution grid codes require updating to ensure the quality and reliability of supply and accurate information on system operations."

Replaced with:
"As Ukraine's power system accommodates a growing share of DERs, transmission and distribution network codes require updating to ensure the quality and reliability of supply and accurate information on system operations."

On page 11:
"System operators and the regulator should collaborate with Ukraine's standards body to establish technical standards for original equipment manufacturers (OEMs) that ensure compliance with grid code requirements."

Replaced with:

"System operators and the regulator should collaborate with Ukraine's standards body to establish technical standards for original equipment manufacturers (OEMs) that ensure compliance with network code requirements."

On page 14-15:
"As a result, it is unlikely that Ukraine will be able to avoid load shedding: The IEA estimates a power deficit of nearly 6 GW over the 2024/2025 winter, depending on the prevailing temperatures and the potential impact of further Russian attacks. Moreover, this power deficit is likely to persist through the winter of 2025/2026."

Replaced with:

"As a result, it is unlikely that Ukraine will be able to avoid load shedding: Ahead of the winter, the IEA estimated a power deficit of as much as 6 GW over the 2024/2025 winter, depending on the prevailing temperatures and the potential impact of further Russian attacks. Despite a strong repair campaign ahead of the heating season, further Russian attacks mean that this deficit will likely remain in the near-term. Moreover, the power deficit is likely to persist through the winter of 2025/2026."

On page 15:

"In addition to physical damage, cyberattacks on energy facilities and companies have tripled since the start of the full-scale invasion."

Replaced with:

"In addition to physical damage, cyberattacks on energy facilities and companies have tripled since the start of the full-scale invasion by January 2023."

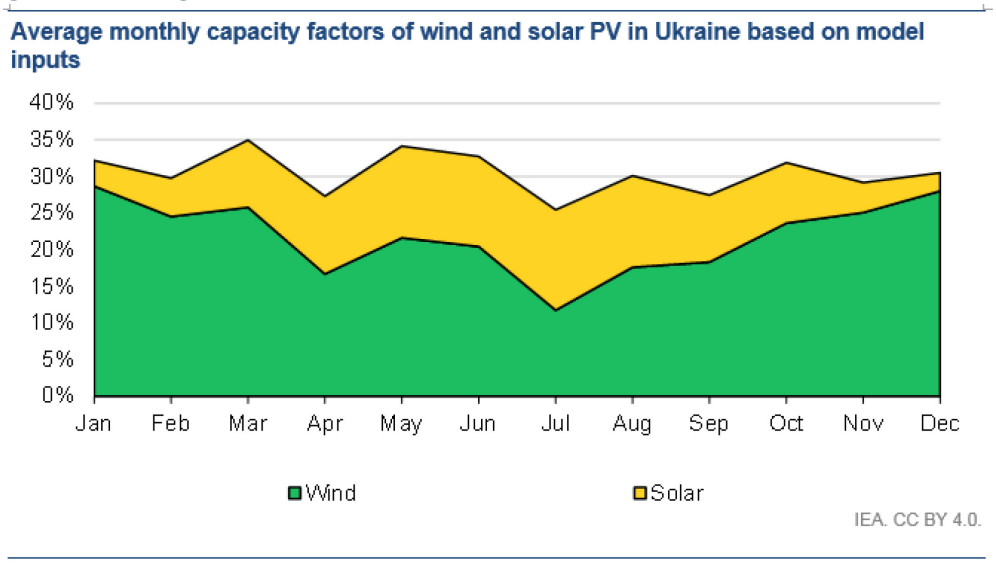
On page 31:

"To properly capture **deployment speed** and **resilience** as a consideration in the capacity expansion model, these factors are considered as part of constraints in the feasible expansion plans for 2025 and 2030, based on analysis from the Danish Energy Agency and its Urgency Technology Catalogue."

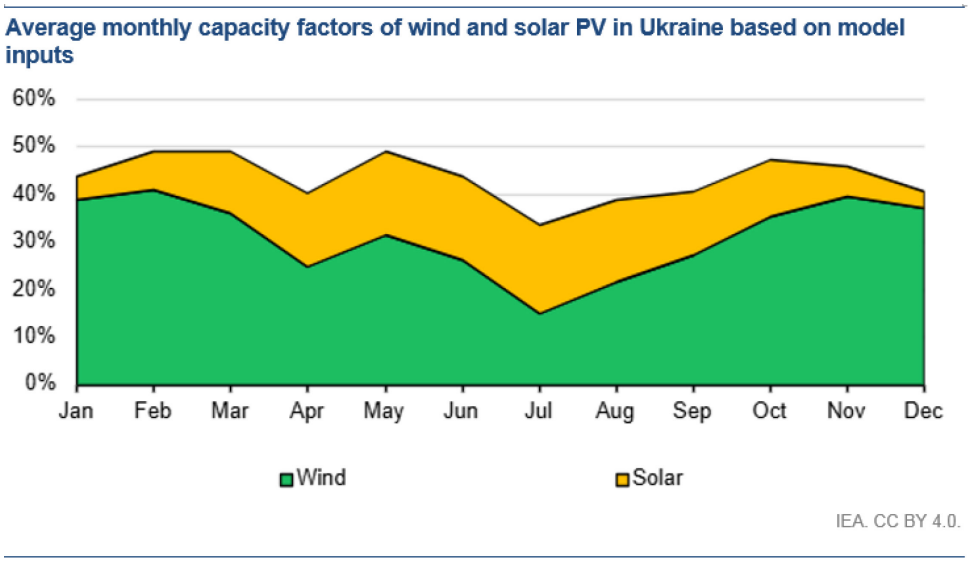
Replaced with:

"To properly capture **deployment speed** and **resilience** as a consideration in the capacity expansion model, these factors are considered as part of constraints in the feasible expansion plans for 2025 and 2030, based on analysis from the Danish Energy Agency and its "

On page. 46, the figure below:



Was replaced with updated figure



On page 51-52:
"As the deployment of DERs advances, resilience measures should be expanded to encompass grid codes and technical standards that ensure system security across all network levels."

Replaced with:

"As the deployment of DERs advances, resilience measures should be expanded to encompass network codes and technical standards that ensure system security across all network levels."

On page 52:
"Once the war in Ukraine ends, the regulator and government should consider a transition to cost-reflective and time-varying electricity prices."

Replaced with:

"The regulator and government should consider a transition to cost-reflective and time-varying electricity prices."

On page p. 59:
"Ukraine's transmission code should be amended to enable accurate forecasting of DERs, providing better information to system operators."

Replaced with:

"Ukraine's transmission network code should be amended to enable accurate forecasting of DERs, providing better information to system operators."

On page 59:

"Ukraine's transmission grid code already requires DSOs to provide day-ahead forecasting for both demand and grid-connected distributed generation."

Replaced with:

"Ukraine's transmission network code already requires DSOs to provide day-ahead forecasting for both demand and grid-connected distributed generation."

On page 59:

"The distribution grid code should require DERs to meet minimum technical performance standards to ensure the quality and reliability of supply."

Replaced with:

"The distribution network code should require DERs to meet minimum technical performance standards to ensure the quality and reliability of supply**."**

On page 59:

"The regulator can also work with the European Network of Transmission System Operators for Electricity (ENTSO-E) and the Agency for the Cooperation of Energy Regulators (ACER) to align the grid codes with European regulations."

Replaced with:

"The regulator can also work with the European Network of Transmission System Operators for Electricity (ENTSO-E) and the Agency for the Cooperation of Energy Regulators (ACER) to align the network codes with European regulations."

On page 60:

"System operators and the regulator should work with Ukraine's standards body to establish technical standards for original equipment manufacturers (OEMs), ensuring compliance with grid codes and minimum requirements."

Replaced with:

"System operators and the regulator should work with Ukraine's standards body to establish technical standards for original equipment manufacturers (OEMs), ensuring compliance with network codes and minimum requirements."

On page 60:

"As the share of DERs grows in the Ukrainian power system, there will be a need to identifying data gaps will become essential, particularly for the distribution network."

Replaced with:

"As the share of DERs grows in the Ukrainian power system, identifying data gaps will become essential, particularly for the distribution network."

On page 62:

“However, as these measures may conflict with market dynamics, they should be defined in grid codes and reserved strictly for emergency use to avoid undermining incentives for deployment.”

Replaced with:

“However, as these measures may conflict with market dynamics, they should be defined in network codes and reserved strictly for emergency use to avoid undermining incentives for deployment.”

On page 67:

“Enable accurate forecasting of DERs through the transmission code”

Replaced with:

“Enable accurate forecasting of DERs through the transmission network code”

On page 67:

“Include minimum technical performance standards into the distribution code”

Replaced with:

“Include minimum technical performance standards into the distribution network code”

On page 67:

“Establish technical specifications for original equipment manufacturers to ensure compliance with grid codes”

Replaced with:

“Establish technical specifications for original equipment manufacturers to ensure compliance with network codes”

On page 72:

“Permanent disconnection from Russia’s power system and synchronisation with ENTSO-E – a key milestone in Ukraine’s energy strategy – was ultimately achieved in November 2023.”

Replaced with:

“Permanent disconnection from Russia’s power system and synchronisation with ENTSO-E – a key milestone in Ukraine’s energy strategy – was ultimately achieved on March 16, 2022.”

On page 75:

“Additionally, due to the incurred damage to the transmission system since the full-scale invasion, it is assumed that the transfer capacity between regions has been compromised in the regions closest to the front line (EOR, ER and SR). In 2025 (and in all validation scenarios since the full-scale invasion), it is therefore assumed that transmission capacity between regions is reduced by a third between EOR and all other regions, also by a third between ER and SR, and by half between ER or SR and other regions.”

Replaced with:

“Additionally, due to the incurred damage to the transmission system since the full-scale invasion, it is assumed that the transfer capacity between regions has been compromised in the regions closest to the front line (Dnipro, Donbas and SR). In 2025 (and in all validation scenarios since the full-scale invasion), it is therefore assumed that transmission capacity between regions is reduced by a third between Donbas and all other regions, also by a third between Dnipro and SR, and by half between Dnipro or SR and other regions.”

On page 76:

Input assumptions for transmission capacity between modelled regions in Ukraine

Transmission corridor	Forward (Reverse) capacity [GW]	Derating due to damaged transmission in 2025
CR-ER	4 820 (2 410)	50%
CR-NR	410 (205)	N/A
CR-SWR	7 430 (7 430)	N/A
CR-WR	1 105 (2 210)	N/A
EOR-ER	3 920 (7 840)	33%
EOR-NR	405 (810)	33%
ER-NR	810 (810)	50%
ER-SR	4 525 (9 050)	33%
ER-SWR	205 (410)	50%
SR-SWR	205 (410)	50%
SWR-WR	2 615 (5 230)	N/A

Replaced with updated table:

Input assumptions for transmission capacity between modelled regions in Ukraine

Transmission corridor	Forward (Reverse) capacity [GW]	Derating due to damaged transmission in 2025
CR-Dnipro	4 820 (2 410)	50%
CR-NR	410 (205)	N/A
CR-SWR	7 430 (7 430)	N/A
CR-WR	1 105 (2 210)	N/A
Donbas-Dnipro	3 920 (7 840)	33%
Donbas -NR	405 (810)	33%
Dnipro -NR	810 (810)	50%
Dnipro -SR	4 525 (9 050)	33%
Dnipro -SWR	205 (410)	50%
SR-SWR	205 (410)	50%
SWR-WR	2 615 (5 230)	N/A