American Journal of Interdisciplinary Research and Development
ISSN Online: 2771-8948
Website: www.ajird.journalspark.org
Volume 58, November - 2026

INTERNATIONAL ENVIRONMENTAL AGREEMENTS AND THEIR IMPLEMENTATION IN THE REPUBLIC OF UZBEKISTAN

Miyassarova Dildora Muxiddinovna
Green University

Abstract
This article compares Uzbekistan's implementation of the Paris Agreement, the Convention on Biological Diversity and the United Nations Convention to Combat Desertification through a review of legislation, official reports and project records. Between 2010 and 2022, greenhouse gas emissions per unit of gross domestic product (GDP) fell while total emissions rose. At Sudochye, legal protection and wetland designation document a change in status. On the former Aral Sea bed, planting records document the scale of restoration work. The study identifies indicators for tracking environmental outcomes, including waterbird abundance and the survival of planted vegetation.

Keywords: Uzbekistan, environmental agreements, Paris Agreement, biodiversity, desertification, Aral Sea.

Introduction

Uzbekistan's environmental agreements shape decisions on electricity generation, wetland management and land restoration. Article 15 of the Constitution makes international treaties part of the national legal system and provides that treaty rules apply when they differ from rules in a law. The 2019 Law on International Treaties sets out procedures for implementing treaty commitments. Article 49 recognizes the right to a favorable environment and reliable information about its condition. It also directs the state to protect and restore the Aral Sea region's ecosystem. [1, 2]

This article asks how treaty commitments become domestic measures and what the available evidence shows about their effects. The Sudochye case also illustrates how the Convention on Wetlands can support national conservation measures at a specific site.

The Paris Agreement and climate policy

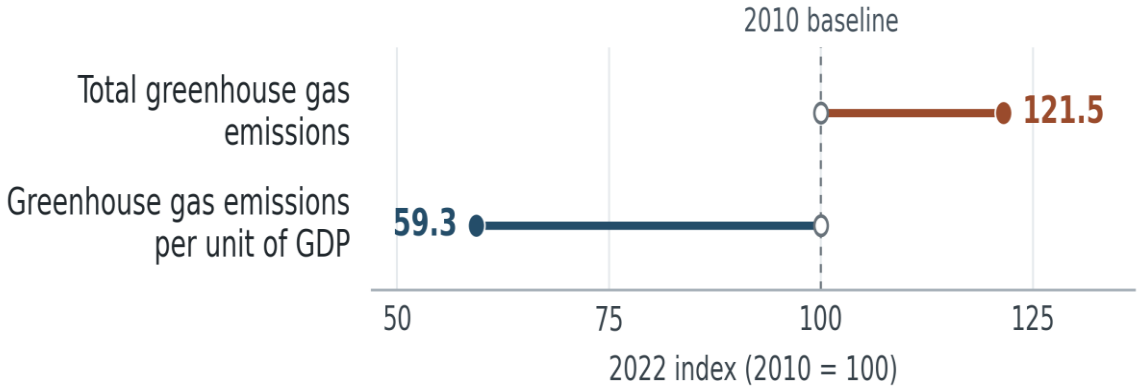


Figure 1. Greenhouse gas emissions and emissions intensity in Uzbekistan in 2022, indexed to 2010. Both series exclude land use, land-use change and forestry. Values are calculated from the UNFCCC technical review. [3]

Uzbekistan deposited its instrument of ratification of the Paris Agreement on 9 November 2018. Article 4 requires parties to prepare and communicate successive nationally determined contributions (NDCs) and pursue domestic mitigation measures. Article 13 establishes the transparency framework used to report emissions and track progress. Uzbekistan's 2030 green economy program, approved by Presidential Resolution No. PP-436 in 2022, is one domestic policy instrument for this transition. [4, 5, 6]

Uzbekistan submitted its first biennial transparency report in December 2024. Its third NDC, submitted in November 2025, sets a 2035 target of reducing net greenhouse gas emissions per unit of GDP by 50% from 2010. The new target includes the land use, land-use change and forestry sector (LULUCF). Figure 1 uses the accounting boundary of the earlier NDC reviewed in 2026, which excludes that sector. Evaluating progress under the third NDC requires a time series calculated with the boundary specified for 2035. [3, 7]

The Nur Navoi solar project is a practical example of changes in electricity supply. The 100 MW plant entered commercial operation in December 2021 and generated 277 GWh in 2022. Installed capacity indicates the scale of the facility, while annual output measures how much electricity it produced. Estimating emissions avoided also requires an estimate of the emissions from the electricity generation that the plant displaces. [8]

The Convention on Biological Diversity and wetland conservation



Figure 2. Sudochye Lake System, Karakalpakstan. Photograph from the website of Uzbekistan's Ministry of Ecology, via Wikimedia Commons, CC BY 4.0. [9]

Uzbekistan became a party to the Convention on Biological Diversity (CBD) on 17 October 1995. The convention calls for national conservation planning, conservation in natural habitats and reporting on measures taken and their effectiveness. Uzbekistan's Biodiversity Conservation Strategy for 2019–2028, approved by Cabinet Resolution No. 484, translates those responsibilities into priorities for protected areas, threatened species and biodiversity monitoring. [10, 11, 12]

Cabinet Resolution No. 58 established the Sudochye–Akpetki State Wildlife Sanctuary in Karakalpakstan in 2021. The Sudochye Lake System subsequently received Ramsar designation with an official designation date of 30 May 2022 and a listed area of 84,000 hectares. The Ramsar information sheet identifies the former Aral Sea bay as a nesting and staging area for waterbirds and describes water-level fluctuations as a pressure on the wetland. Together, the two designations establish a basis for protection. Recurring records of seasonal water extent and bird abundance would show how the habitat is responding to management. [13, 14]

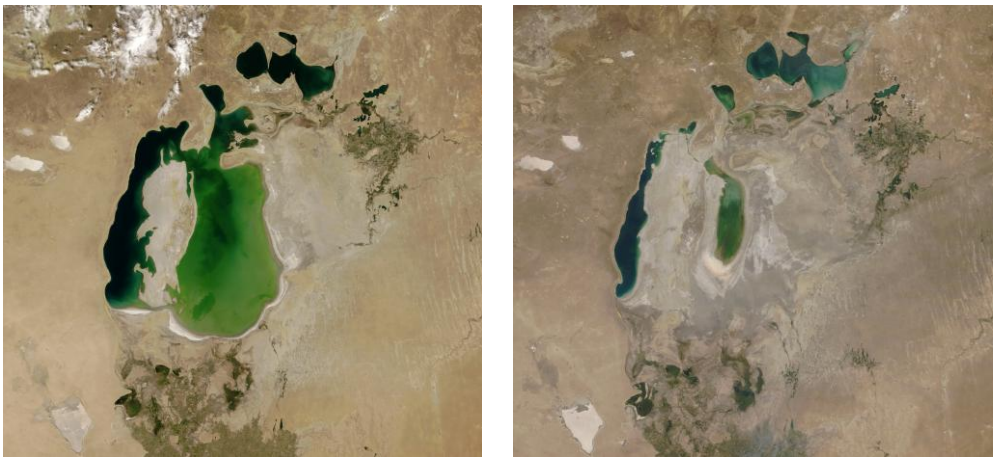


Figure 3. The Aral Sea on 25 August 2000 (left) and 21 August 2018 (right). The images show the contraction of the eastern basin of the South Aral Sea. Imagery from NASA Earth Observatory, Terra MODIS. [15]

Uzbekistan ratified the United Nations Convention to Combat Desertification (UNCCD) on 31 October 1995. Article 10 calls for national action programmes that identify the causes of desertification and measures to address them. The UNCCD Secretariat records Uzbekistan's national action programme from 1999. A later domestic instrument, Presidential Resolution No. PP-5202 of 2021, set out measures to implement the UN General Assembly's resolution on the Aral Sea region as a zone of environmental innovations and technologies. [16, 17, 18]

As the Aral Sea receded, exposed sediment became a source of wind-blown sand and salt (Figure 3). Uzbekistan has established protective plantings on parts of the dry seabed using saxaul and other desert plants that can tolerate drought and salinity. Vegetation can help bind the surface once it establishes. Planting records identify where work occurred, and repeated measurements of cover and survival can show whether the sites develop persistent vegetation. [19, 20]

The UNCCD reporting framework combines information on land cover, land productivity and soil organic carbon to estimate the share of degraded land. The national estimate covers a much larger area than the restoration sites. Monitoring at both scales is useful because vegetation establishment at a planting site and change in the national degradation rate answer different questions. [21]

Research methodology

The study used a comparative document review with a cutoff of 13 November 2026. It selected the three agreements because they address distinct environmental pressures and because each has an identifiable national measure and an accessible record of implementation. Treaty texts and party records established the nature and timing of

commitments. National legislation identified the measures adopted, while reporting records, a project completion report and official implementation updates supplied the evidence summarized in the tables.

The review recorded each item as a commitment, a completed action or an environmental indicator and retained the source's time period, geographic coverage and units. Figure 1 converts the reported emissions changes to a 2010 index of 100. Table 2 preserves the reported units. Estimating the effect of a specific intervention would require observations before and after the intervention and at suitable comparison sites.

Research results

The three cases show different ways in which international commitments enter national practice. Climate implementation links policy and investments to an emissions inventory. Biodiversity protection combines national planning with site designation. Desertification measures combine national land reporting with field projects. Table 1 summarizes the national measures and the evidence reviewed for each case.

Table 1. National implementation of the three agreements

Agreement	Commitment examined	Measure in Uzbekistan	Evidence reviewed
Paris Agreement	Maintain successive NDCs and report progress.	2030 green economy program and third NDC.	First transparency report and its technical review. [3, 6, 7]
Convention on Biological Diversity	Plan conservation, conserve habitats and report on measures.	2019–2028 biodiversity strategy and Sudochye–Akpetki sanctuary.	Cabinet decisions and the Sudochye Ramsar record. [12, 13, 14]
UN Convention to Combat Desertification	Identify and address causes of land degradation through national action.	National action programme and protective planting in the Aral Sea region.	UNCCD reporting and records of planting. [17, 20, 21]

The numerical indicators in Table 2 record different stages of implementation. In 2022 emissions intensity was 40.7% below the 2010 level, while total greenhouse gas emissions were 21.5% higher under the same sector boundary. The protected-area series measures national legal coverage, and the land-degradation series describes conditions at an earlier reporting date. The 2025 greening figure counts an area treated during the year. [3, 20, 21, 22]

Table 2. Reported indicators and their scope

Indicator	Reported value	Scope and interpretation
Greenhouse gas emissions per unit of GDP	**40.7% lower**	2022 versus 2010, excluding land use, land-use change and forestry. [3]
Total greenhouse gas emissions	**21.5% higher**	2022 versus 2010, using the same sector boundary. [3]
Protected natural areas	**4.64% to 15.7%**	Share of national territory, 2017 to 2026, as reported by the national ecology committee. [22]
Land classified as degraded	**30.2% to 26.1%**	National share for the 2000–2015 baseline and 2016–2019 reporting periods. UNCCD records medium confidence for the latter. [21]
Greening on the former Aral Sea bed and adjacent land	**145,200 ha**	Area where work was reported in 2025. Follow-up monitoring would establish vegetation cover. [20]

A documented example at project scale is the March 2025 Green Aral Sea planting at Akpetki in the Muynak district. The United Nations Development Programme (UNDP) recorded 80,000 saxaul seedlings planted across 80 hectares. That dated record provides a starting point for a site-level survival survey and can be linked to repeat vegetation observations. [23]

Discussion

The climate comparison shows the value of publishing the inventory alongside the target indicator. A growing economy can reduce emissions per unit of GDP while emitting more overall. National reporting can make this relationship visible by publishing net and gross totals alongside intensity and identifying any recalculations to the base year. In the 2026 technical review addendum, Uzbekistan acknowledged that a reporting table erroneously showed a 100% reduction in the 2010 base year. The correct entry is 0%, since the baseline year is being compared with itself. The review recommended aligning table values with the indicator's definition. [3, 7, 24]

For biodiversity, a larger protected-area network increases the area under legal protection. The Kunming–Montreal Global Biodiversity Framework also calls for effective management, ecological representation and connectivity. At Sudochye, those management questions are concrete. Water and conservation authorities can use seasonal water levels,

waterbird counts and records of fishing and reed harvesting to interpret shifts in habitat use. Recording the survey dates and effort would make successive bird counts more comparable. [14, 22, 25]

For the former seabed, a practical monitoring design would record planting boundaries, methods and dates, then revisit representative plots after the first and third growing seasons. Field checks of survival and native plant cover could help interpret satellite observations. Comparable naturally regenerating sites would help distinguish the effects of planting from recovery that follows exposure of the seabed. A study on the Kazakh side of the Aral Sea found changes in topsoil under both planted and naturally established vegetation, which makes the comparison relevant to study design in Uzbekistan. [19, 23, 26]

Access to data affects all three cases. The Aarhus Convention, in force for Uzbekistan since 23 June 2025, provides a framework for access to environmental information, public participation and access to justice. Uzbekistan's 2025 law on environmental assessment sets out public hearing procedures and provides for publication of hearing results. Publishing maps, survey methods and responses to comments alongside decisions would make it easier for local communities to review proposed measures and follow their effects. [27, 28]

Conclusions

Uzbekistan has translated its environmental commitments into a climate contribution and reporting system, national and international protection for Sudochye, and restoration projects on the former Aral seabed. The case evidence shows progress in policy and delivery, alongside different levels of information about environmental change.

Future reporting should pair emissions intensity with absolute emissions using a consistent inventory boundary. For Sudochye and the Aral seabed, publishing repeated measurements of wetland condition and plant establishment would connect legal protection and restoration activity to changes that can be verified over time.

References

1. Republic of Uzbekistan. (2023). Constitution of the Republic of Uzbekistan. Articles 15 and 49. lex.uz
2. Republic of Uzbekistan. (2019, February 6). Law on International Treaties of the Republic of Uzbekistan. No. ZRU-518. lex.uz
3. UNFCCC. (2026, September 22). Report on the technical expert review of the first biennial transparency report of Uzbekistan. FCCC/ETF/TERR.1/2024/UZB, table 5 and paras. 18, 23. unfccc.int
4. United Nations. (2015). Paris Agreement. Articles 4 and 13. unfccc.int
5. United Nations Treaty Collection. (2018). Paris Agreement: Ratification by Uzbekistan. treaties.un.org

6. President of the Republic of Uzbekistan. (2022, December 2). Measures to improve the effectiveness of reforms for the transition to a green economy by 2030. Resolution No. PP-436. lex.uz
7. Republic of Uzbekistan. (2025). Updated nationally determined contribution of the Republic of Uzbekistan (NDC 3.0) for the period up to 2035. UNFCCC NDC Registry. unfccc.int
8. World Bank. (2024). Implementation completion and results report for the Navoi Scaling Solar Independent Power Producer Project. Project P170598. documents1.worldbank.org
9. Ministry of Ecology, Environmental Protection and Climate Change of Uzbekistan. (2023). Sudochye lake 2023. Photograph. Wikimedia Commons. commons.wikimedia.org · CC BY 4.0
10. United Nations. (1992). Convention on Biological Diversity. Articles 6, 8 and 26. cbd.int
11. Secretariat of the Convention on Biological Diversity. (n.d.). Uzbekistan country profile. cbd.int
12. Cabinet of Ministers of the Republic of Uzbekistan. (2019, June 11). Biodiversity Conservation Strategy for 2019–2028. Resolution No. 484. lex.uz
13. Cabinet of Ministers of the Republic of Uzbekistan. (2021, February 8). Establishment of the Sudochye–Akpetki State Wildlife Sanctuary in the Republic of Karakalpakstan. Resolution No. 58. lex.uz
14. Convention on Wetlands Secretariat. (2023). Sudochye Lake System. Ramsar Information Sheet, site No. 2522. rsis.ramsar.org
15. NASA Earth Observatory. (n.d.). World of change: Shrinking Aral Sea, all images. Terra MODIS images for 2000 and 2018. science.nasa.gov
16. United Nations. (1994). United Nations Convention to Combat Desertification. Article 10. unccd.int
17. UNCCD Secretariat. (n.d.). Uzbekistan country profile. Includes the 1999 National Action Programme. unccd.int
18. President of the Republic of Uzbekistan. (2021, July 29). Measures to implement the UN General Assembly resolution on the Aral Sea region as a zone of environmental innovations and technologies. Resolution No. PP-5202. lex.uz
19. World Bank. (2024, December 4). Greening the desert: The role of landscape restoration in Uzbekistan's battle against sand and dust storms. worldbank.org
20. National Committee on Ecology and Climate Change of Uzbekistan. (2025, December 26). In 2025, more than USD 32 million in grant funding was mobilized to stabilize the environmental situation in the Aral Sea region. gov.uz
21. UNCCD Secretariat. (2023). Preliminary analysis of strategic objective 1 on affected ecosystems, desertification and land degradation neutrality. ICCD/CRIC(21)/2, table 15. unccd.int

22. National Committee on Ecology and Climate Change of Uzbekistan. (2026, November 2). Public presented with results of environmental protection, greening and air quality improvement efforts. gov.uz
23. UNDP Uzbekistan. (n.d.). Green Aral Sea initiative continues next stage of Aral Sea ecosystem restoration using innovative methods. undp.org
24. UNFCCC. (2026, September 22). Report on the technical expert review of the first biennial transparency report of Uzbekistan. Addendum. FCCC/ETF/TERR.1/2024/UZB/Add.1, table 10. unfccc.int
25. Secretariat of the Convention on Biological Diversity. (2022). Kunming–Montreal Global Biodiversity Framework: Target 3. cbd.int
26. Kim, G., Ahn, J., Chang, H., An, J., Khamzina, A., Kim, G., & Son, Y. (2024). Effect of vegetation introduction versus natural recovery on topsoil properties in the dried Aral Sea bed. Land Degradation & Development, 35(13), 4121–4132. doi.org
27. United Nations Treaty Collection. (2025, March 25). Aarhus Convention: Accession by Uzbekistan. Depositary notification C.N.152.2025.TREATIES-XXVII.13. treaties.un.org
28. Republic of Uzbekistan. (2025, February 24). Law on Environmental Expertise, Environmental Impact Assessment and Strategic Environmental Assessment. No. ZRU-1036. lex.uz