







PRISHTINA INTERNATIONAL AIRPORT "ADEM JASHARI" LIMAK KOSOVO INTERNATIONAL AIRPORT J.S.C

CARBON FOOTPRINT ANNUAL REPORT 2022

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1. INTRODUCTION

Carbon footprint report provides a detailed account of the carbon footprint arising from Prishtina International Airport "Adem Jashari". It estimates the 2022 Greenhouse Gas Emissions inventory and reflects all emissions data, calculations, activities, involvement, and engagement of stakeholders in our green initiatives, the environmentally friendly project that we invested and everything that lead to the second accreditation with level 3+ renewal of Airport Carbon Accreditation. The methodologies used for the calculations are all in accordance with ACA guidance and GHG emission tools.

By continually measuring the GHG emissions emitted through Limak Kosovo International Airport JSC operations, we continue to develop and improve our carbon management strategy and identify new opportunities for carbon footprint reduction. Thus, demonstrating commitment and effort for a healthier environment and a greener airport.

1.1 Reporting period

This report covers the detailed carbon emissions data from 1 January 2022 to 31 December 2022, compared to the previous year (2021) figures and to a three-year rolling average, respectively 2021-2019-2018 excluding year 2020 due to the pandemic as per request of Airport Carbon Accreditation.

2. General Information of the Prishtina International Airport

Limak Holding was established in 1976 with Limak construction, Limak continuous its activities in construction, tourism, cement, infrastructure and energy investments, energy contracting, aviation and food. Prishtina International Airport has been taken over by Limak for 20 years with the build-operate-transfer model in 2011 in partnership with Aeroports de Lyon Management and Services. Limak Kosovo International Airport JSC is moving forward ahead in the aviation industry amid the current expansion of its new terminal to accommodate at least 4.5 million passengers. New facilities, new partnerships and a new strategy for building a better airport had made 2011–2022 a memorable period for Limak Kosovo International Airport by achieving almost 3 million passengers in 2022 and by increasing the employees' number by 6% with 788 employees in total.

3. ORGANIZATIONAL AND OPERATIONAL BOUNDARIES.

3.1 Organizational Boundaries

Prishtina International Airport's operational structure can be explained by dividing operational into airside and landside. The Aerodrome is 393.68 hectares referred to LKIA Aerodrome Services and Operational Manual (8th Edition).

Limak Kosovo International Airport has overall control of both operations except Air Traffic Control (ATC) Tower operations that are controlled by state authority.

3.1.1 LKIA Airside Operations

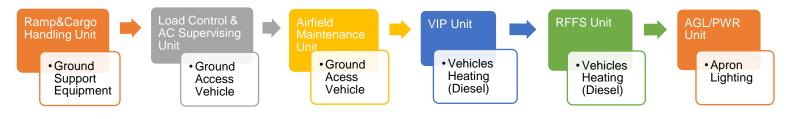
Runways, taxiways, aprons, aircraft remote parking position, aircraft ground power supply, planning and other airside activities and maintenance.

3.1.2 LKIA Terminal and Landside Operations

Operations and the maintenance of terminal building, including car park area, power distribution center, heating and cooling, water, and wastewater treatment plant.

Carbon Footprint Report is in accordance with the Airport Carbon Accreditation Manual Issue 13, March 2023.

Airside Operations



Landside Operations



3.2 Operational Boundaries

LKIA has established and documented its operational boundaries which include all operations that are owned and controlled by LKIA, respectively scope 1 and 2. Also, operations that we influence but are not owned/controlled by LKIA, respectively scope 3. All these operations are mentioned in the table below.

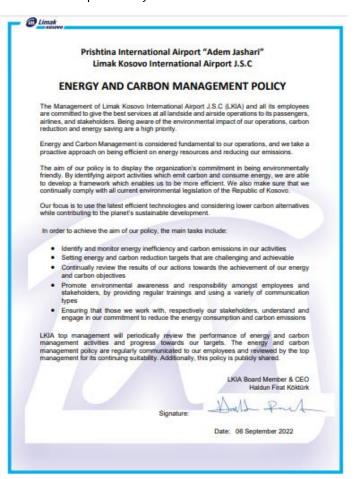
LKIA SOURCES AND CORRESPONDING EMISSIONS						
No.	Source	Emission Process	Emissions	Comments		
SCOPE 1						
1	Fuel Combustion Boiler/Heater	Combustion	Primary (CO ₂ , CH ₄ ,N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC	Heating system including six stations at different area or buildings.		
2	Emergency Power (Diesel Generators)	Combustion	Primary (CO ₂ , CH ₄ ,N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC	Diesel generators for emergency power		
3		Combustion				

	Ground Support Equipment (GSE) Baggage tractor Belt loader Air conditioner Cabin service truck Surface coating/painting etc	Non-Combustion	Primary (CO ₂ , CH ₄ ,N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC Primary (SF6, HFC, PFC)) Precursors and others (NMVOC and halogenated gases)	LKIA-owned equipment for the handling of aircraft in the ground	
4	Ground Access Vehicle (GAV) Airport property vehicles/ landside vehicles Cargo trucks, etc	Combustion Non-Combustion	Primary (CO ₂ , CH ₄ ,N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC Primary (SF6, HFC, PFC)) Precursors and others (NMVOC and halogenated gases)	All landside vehicles owned by LKIA	
5	Rescue Firefighting Service Training	Combustion	Primary (CO ₂ , CH ₄ , N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC	Fire training, equipment and materials	
6	Water Treatment Process	Combustion	Primary (CO ₂ , CH ₄ , N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC	LKIA-owned wells and entire water treatment system	
7	Surface and Aircraft De- icing	Non-Combustion	Primary (SF6, HFC, PFC)) Precursors and others (NMVOC and halogenated gases)	De-icing substances used for surface and aircraft de-icing	
		SCOF	PE 2		
7	Stationary Sources Power/Electricity consumption	Combustion Non-Combustion	Primary (CO ₂ , CH ₄ ,N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC Primary (SF6, HFC, PFC)) Precursors and others (NMVOC and halogenated	Emissions made by electricity purchased from KEDS	
		SCOF	gases) PE 3		
8	Aircraft Jet Turboprop Piston	Combustion	Primary (CO ₂ , CH ₄ ,N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC Precursors and others	During taxiing and queuing	
		Non-Combustion	(NMVOC)		
10		Combustion			

	Waste Management Activities	Non-Combustion	Primary (CO ₂ , CH ₄ ,N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC Primary (SF6, HFC, PFC)) Precursors and others (NMVOC and halogenated gases)	Off-site waste incineration or treatment from airport sources
11	Transportation Passenger's private vehicles, Airport	Combustion	Primary (CO ₂ , CH ₄ , N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC	
	employee's private vehicles, shuttle buses (commuting)	Non-Combustion	Primary (SF6, HFC, PFC)) Precursors and others (NMVOC and halogenated gases)	
12	Business Travel	Combustion	Primary (CO ₂ , CH ₄ , N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC	Flights taken on airport company business
13	Sold Electricity and Water	Combustion	Primary (CO ₂ , CH ₄ , N ₂ O) Precursors and others (H ₂ O, PM, SO _x , NO _x ,CO, NMVOC)	Metered electricity and water consumption sold to stakeholders

4 CARBON MANAGEMENT POLICY AND OBJECTIVES

Prishtina International Airport has adopted a series of core values for carbon management. These include a statement of concern for sustainability and the environment. On that basis, an Energy and Carbon Management Policy has been developed that is reviewed every three years by the relevant representatives. September 2022 was the latest update to the Energy and Carbon Management Policy. Furthermore, Prishtina International Airport on an annual basis sets new Environmental, Energy and Carbon Management objectives to achieve during the respective year.





5 CALCULATION METHODOLOGY AND SCOPE EMISSONS

Limak Kosovo International Airport's Greenhouse Gas emission footprint is calculated using the guidance of Greenhouse Gas Protocol (http://www.ghgprotocol.org/) and all the process is done under the guidance manual: Airport Greenhouse Gas Emissions Management (http://www.aci.aero/Publications/Full-Publications-Listing/Guidance-Manual-Airport-Greenhouse-Gas-Emissions-Management) and Airport Carbon Accreditation Application Manual Issue 13 (http://www.airportcarbonaccredited.org/).

Based on their emission sources, GHG emission calculations are divided into three parts: Scope 1, Scope 2, and Scope 3.

a. Scope 1 emissions and calculation method

Direct emissions from sources that Limak Kosovo International Airport JSC owns or controls as;

Stationary Sources

- Heating facilities
- Emergency generators
- Rescue Firefighting Service exercises

Mobile Sources

o Transport (landside and airside operations) for every unit

Process Emissions

Water management/consumption

Other

- Leaks from plants/other gases
- Wastewater treatment system
- De-icing

Entire calculations covering scope 1 emission sources are measured by Greenhouse Gas Protocol Calculation Tools except the De-icing process. For surface and aircraft de-icing calculations we use the emission factor for the degradation of the de-icing chemical from ACERT Tool v6.0.

Worth mentioning is that wastewater treatment system emissions are not calculated because of the minor number of emissions, while refrigerants (compounds used for refrigeration and air condition) are taken into account just in case of leaks.

b. Scope 2 emissions and calculation method

Greenhouse gas emissions from purchased electricity, where emissions are generated externally but attributed to energy consumption at the airport.

The electricity of Kosovo relies on coal-fired power plants (97%). KEDS (Kosovo Energy Distribution Service) is the only licensed distributor and the regulation of activities in energy sector in Kosovo is the responsibility of the Energy Regulatory Office. For this reason, Limak Kosovo International Airport purchased electricity is calculated only in location based.

The purchased electricity is calculated manually because Kosovo isn't specified as a region at the table. The electricity emission factor is taken from ACERT Tool v6.0 – EF Grid under "Other Europe"

All of these tools are checked periodically in order to prevent errors of emission calculations.

c. Scope 3 emissions and calculation method

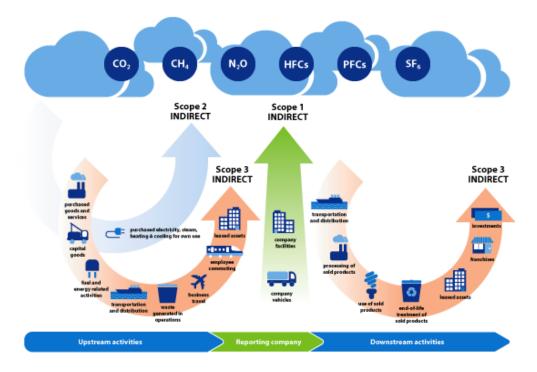
All other indirect emissions from other sources, not controlled but related to the activities of the airport as:

- Flights/LTO Cycle
- > Employee transport/private cars
- Employee transport/bus
- Cargo activities/Export Activities
- Municipality Waste
- Passenger & Visitor Car
- Business travel
- ➤ Re-sold Electricity
- Re-sold Water

Including different emission sources, for scope 3 emissions are used different calculation methods such as GHG Protocol, ICAO Emission Calculator and ACERT Carbon Emission Calculation Tool.

- The ICAO Carbon Emissions Calculator allows us to estimate the emissions attributed to air travel, precisely our business travel emissions. It is simple to use and requires only a limited amount of information. The methodology applies the best publicly available industry data to account for various factors such as aircraft types, route specific data, passenger load factors and cargo carried.
- For flights or emissions generated during approach, taxi, and ground idle (in), taxi and ground idle (out), take-off and landing, Limak Kosovo International Airport uses the ACERT Carbon Emission Calculation tool with option of detailed aircraft data based on annual movements.
- Greenhouse Gas Protocol Tools are used for employee transport and service bus based on interviews and checklists that are made with employees for their travel method under Mobile Combustion Tool.
- Cargo activities emissions are also calculated under GHG Mobile Combustion Tool with the characteristics of Weight Distance (Freight Transport), based on the exported cargo data (tone Kilometer)
- Municipality waste is calculated under GHG Protocol Calculation Tool based on solid fossil as fuel type and used fuel municipality waste (non-biomass fraction).
- Number of passenger cars is calculated under GHG Mobile Stationary Tool, based on vehicle distance (road transport). According to the Ministry of Infrastructure of Kosovo the most used fuel type is diesel, therefore we calculate our emissions based on passenger car – diesel type.
- External users for electricity and water consumption are calculated in the same way as for Scope 1 and Scope 2 emissions. Emissions are netted off Scope 1 and Scope 2 then included in Scope 3.

Every calculation methodology is regularly checked for any update or change.



6 BASE YEAR

As a base year for this report, we are going to use the year 2018 as part of the three-year rolling average method.

6.1 Data collection

Carbon emissions are analyzed and calculated separately for each scope because they contain different emissions sources. Calculations include like-for-like comparison method for all scopes and according to three-year rolling average (2018-2019-2021) for scope 1 and scope 2 emissions. These methods help us to continuously monitor our carbon emission and improve our carbon management performance in general.

Scope 1

Emission Source	Units	Resolution	Calculation Method
Heating facilities	Liter (L)	By site, per month	GHG Protocol Tool
Emergency Generator	Liter (L)	By site, per month	GHG Protocol Tool
LKIA Transport	Liter (L)	By units, per month	GHG Protocol Tool
Water Consumption	Meter Cubic (m ³)	By site, per month	DEFRA Emission Factor
Rescue Firefighting Service Exercises	Liter (L) & Kilogram (Kg)	By site, per month	GHG Protocol
De-icing	Liter (L) & Kilogram (Kg)	By site, per month	ACERT Tool Emission Factor

Scope 2

Emission Source	Units	Resolution	Calculation Method
Purchased Electricity	Kilowatt per hour (kWh)	By invoices, per month	International Energy Agency Factor Emission

Scope 3

Emission Source	Units	Resolution	Calculation Method
Flights/LTO Cycle	Aircraft data/ Annual movement	By aircraft movements, annually	ACERT Carbon Emission Calculation Tool
Employee transport (Private Cars)	Distance (Km)	Single figure	GHG Protocol Tool
Employee Transport (Bus)	Distance (Km)	Single Figure	GHG Protocol Tool
Cargo Activities/Export	Ton/kilometer		
Municipality Waste	Kilogram (Kg)		
Passenger & Visitor Car	Distance and number of cars	By site, per month	GHG Protocol Tool
Business Travel/Flights	Aircraft types, passenger load factors and cargo carried	By journey, per month	ICAO Calculator
Re-sold Electricity	Kilowatt per hour (kWh)	By site, per month	International Energy Agency Factor Emission
Re-sold Water	Meter Cubic (m ³)	By site, per month	DEFRA Factor Emission
Construction activities	Liter (L)	By construction site, by contractors	GHG Protocol Tool

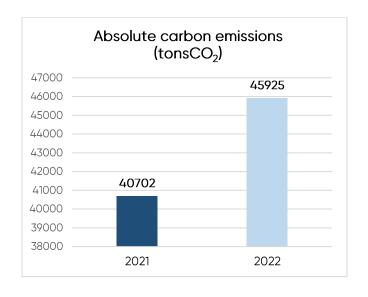
7 CARBON FOOTPRINT PROGRESS

During 2022 Limak Kosovo International Airport had an enormous increase of passenger's number by 37%, consequently, increase on operations, flights, and greenhouse gas emissions. However, LKIA is committed to continuously reduce its carbon footprint and offset its residual emissions, thereby maintaining a carbon neutral airport.

Carbon emission data covering all three scopes are presented below.

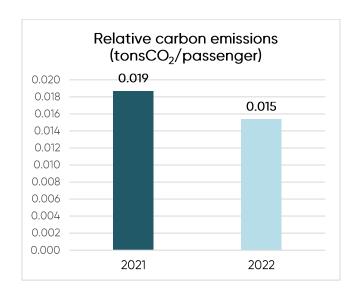
7.1 2021/2022 Three scopes data comparison

For absolute carbon emissions of scope 1, scope 2 and scope 3 with a total 45925 tonsCO₂ emitted in 2022 we had an increase by 13% compared to 2021 data. While for relative emissions (tonsCO₂/passengers) in 2022 we had a reduction of 18%.





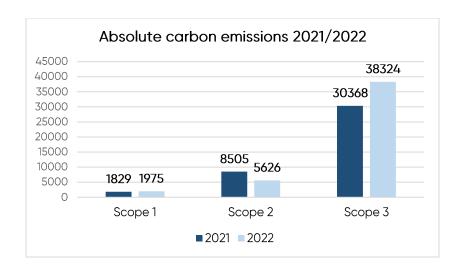




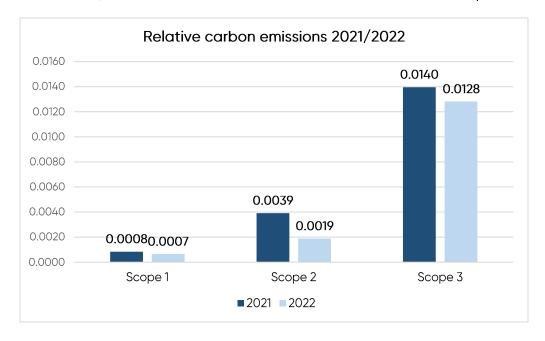
18% Reduction



When we compare 2021/2022 data for each scope separately, we can see that due to the increase of passenger numbers and operations we have increases in scope 1 and scope 3, while per scope 2 we have a reduction due to the change of CO2 emission factor for electricity. The electricity emission factor that we used in previous years was from IEA, while in 2022 we started to use the emission factor from ACERT Carbon Emission Tool v6.0 EF Grind "Other Europe".



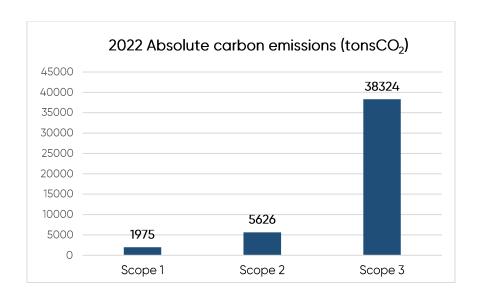
When we compare the data to the passenger numbers, which as mentioned above, had a 37% increase in 2022, the relative carbon emissions are reduced for each scope.

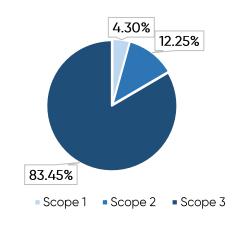


7.2 All scopes summary of 2022

Absolute carbon emissions (TonsCO₂)

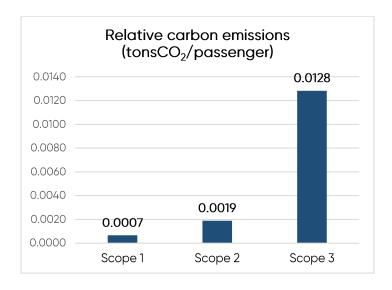
Scope 3 is responsible for the highest amount of carbon emissions (83.45%) at LKIA and represents the emissions sources that LKIA cannot control, scope 1 is responsible for the lowest (4.30%), while scope 2, is responsible for 12.25% of total emissions and includes only one source of emissions, purchased electricity.

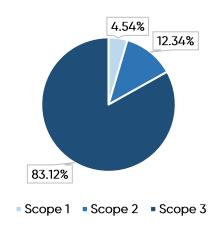




Relative carbon emissions (TonsCO₂/passengers)

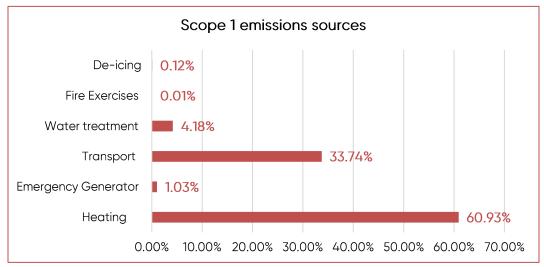
The same as per absolute carbon emissions, the highest amount of carbon emissions are emitted by scope 3 sources, while the lowest amount of carbon emissions are emitted by scope 1.





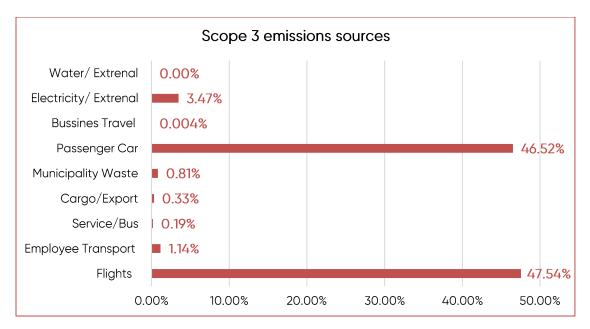
7.2.1 Scope 1 carbon emissions by their sources

From a total of 1974.841 tonsCO₂, scope 1 carbon emissions are dominated by heating facilities with 60.93% and transport with 33.74%, while other scope 1 emission sources are minor.



7.2.2 Scope 3 carbon emissions by their sources

Scope 3 emissions include different major sources that LKIA does not control therefore only monitors, advices and measures their emissions. From a *total of 38323.93 tonsCO* $_{2i}$ scope 3 carbon emissions are dominated by *landing & take-off cycle of aircraft (LTO cycle) with 46.62%*, passenger & visitor transport with 45.62% and external electricity with 5.33%, while the other scope 3 carbon emission sources are minor.



7.3 Airport Carbon Accreditation calculation method

Based on ACA calculation requirements we compared the present year carbon emission data to the average of three-year rolling, respectively 2018-2019-2021. The data for the year 2020 is completely excluded from all calculations as per the request of ACA.

These analyses include only Scope 1 and Scope 2 figures, which sources LKIA can control and act directly over for any improving or reducing possibilities.

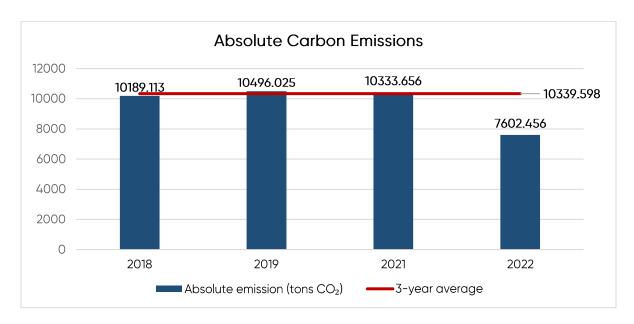
The detailed analyses are presented below:

The data of absolute carbon emissions for each year is:

- > 2018 corresponds for 10189.113 tonsCO₂e.
- > 2019 corresponds for 10496.025 tonsCO₂e.
- > 2021 corresponds for 10333.656 tonsCO₂e.
- > 2022 corresponds for 7600.969 tonsCO₂e.

The average figure of 2018-2019-2021 absolute carbon emissions is:

> 10339.598 tonsCO₂



Comparing 2022 carbon emissions data to the three-year average carbon emission (2018-2019-2021) there is a 26% reduction.

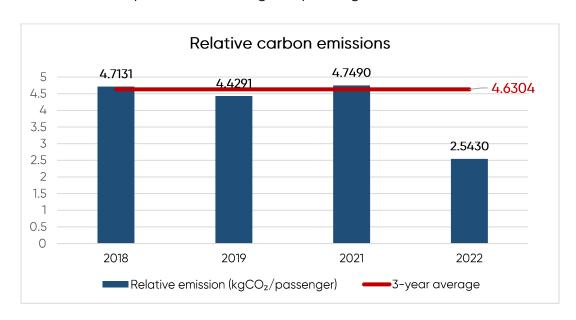
Relative carbon emissions are directly indicated by the number of passengers.

The data of relative carbon emissions for each year is:

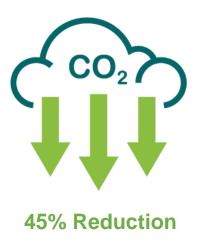
- ➤ 2018 corresponds for 4.7131 kgCO₂/passenger
- ➤ 2019 corresponds for 4.4291 kgCO₂/passenger
- ➤ 2021 corresponds for 4.7490 kgCO₂/passenger
- > 2022 corresponds for 2.5430 kgCO₂/passenger

The average figure of 2018-2019-2021 relative carbon emissions is:

4.6304 kgCO₂/passenger



Comparing 2022's relative carbon emission data to the three-year average (2018-2019-2021) relative carbon emissions, we have a 45% reduction.



8. NEUTRALITY SECOND RENEWAL CERTIFICATION

One of the main annual objectives of LKIA was to get accredited with the Level 3+ Second Renewal. To achieve this, LKIA reduced its scope 1 and scope 2 emissions as much as possible. Furthermore, through the United Nations – Carbon Offset Platform, LKIA offset its residual emissions that could not be reduced together with emissions of staff business travel from scope 3, respectively 10335 CERs, equivalent to 10335 tons of CO₂.



DATE: 16 AUGUST 2022 REFERENCE: VC24486/2022



Presented to

Limak Kosovo International Airport J.S.C

Project

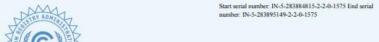
Kadamane Mini Hydel Scheme-1 (KMHS-1)

Reason for cancellation

I am offsetting greenhouse gas emissions for my company

Number of units cancelled

10,335 CERs



The certificate is issued in accordance with the procedure for voluntary cancellation in the CDM Registry. The reason included in this certificate is provided by the cancellor.



Paschim hydro energy private limited has set up a 2x4.5 MW small hydro power project plant in Maranhalli village, Karantaka. The objective of the power plant is to utilize the natural water and head available at the project site for generation of clean renewable energy/Contribution to Sustainable Development:

Socio-Economic well-being:

- Implementation of Kadamane Mini Hydel Scheme helps in partially meeting the power shortage and improve the economic activity of the region
- The project activity would result in the enhanced employment and assist in development of technical knowledge for the local people
- Rural electrification would help in improving the quality of life of the rural community by supplying electricity for lightning of homes, shops, community centers and public places in all villages as well as for agricultural and industrial usage
- The project has created business opportunities for local stakeholders.

Environmental well-being:

- The generation of hydroelectric power will lead to avoidance of the use of conventional sources for power generation. The southern grid is dominated by coal and gas and their avoidance will result in mitigation of greenhouse gas emissions. Additionally, hydroelectric power projects do now adversely affect the environment as in the case with coal and gas-based power plant. As it is a renewable energy project, there would not be any GHG emissions.
- The project produces absolutely no air pollution/greenhouse gas emissions.
- One of the major beneficial impacts of hydropower projects is the treatment of degraded catchments area of the project to control the soil erosion. This results in regeneration of natural forests and other ecosystems significantly benefiting the environment.

As a result, we got certified with the Level 3+ Neutrality Second Renewal.



Valid until the 5th August 2023

This is to certify that *Airport Carbon Accreditation*, under the administration of WSP, confirms that the carbon management processes at



PRISHTINA INTERNATIONAL AIRPORT









have earned the accreditation level of **NEUTRALITY**, in recognition of the airport's exemplary work in reducing its CO_2 emissions, engaging other stakeholders to do the same and compensating responsibly the residual CO_2 emissions under its control, as part of the Global airport industry's response to the challenge of Climate Change.

Olivier Jankovec Director General Simon Clouston Director WSP