

IMU SDG PROGRESS REPORT

on **SDG-7 AFFORDABLE AND CLEAN ENERGY**



7 AFFORDABLE AND CLEAN ENERGY

1 NO POVERTY 	2 ZERO HUNGER 	3 GOOD HEALTH AND WELL-BEING 	4 QUALITY EDUCATION
5 GENDER EQUALITY 	6 CLEAN WATER AND SANITATION 	8 DECENT WORK AND ECONOMIC GROWTH 	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
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SDG PROGRESS REPORT

ISTANBUL MEDENIYET
UNIVERSITY

**Istanbul Medeniyet University
Sustainability Office**

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SDG Icons

<https://www.un.org/sustainabledevelopment/news/communications-material/>

Sustainable Development Report Maps

<https://dashboards.sdgindex.org/profiles/turkey>

SDG Statics

<https://unstats.un.org/sdgs/report/2023/progress-midpoint/>

<https://sdgs.un.org/goals>

FOREWORD

The 17 Sustainable Development Goals adopted by the United Nations in 2015 with the mission statement “a blueprint to achieve a better and more sustainable future for all people and the world by 2030” have become guiding principles for all of us as countries, institutions, and individuals today. In this context, the new vision for universities has now shifted from the older scholastic concept of education solely oriented toward professional training to an understanding that prioritizes human and social responsibility. Therefore, universities are central to the achievement of sustainable development goals. Thus, as İstanbul Medeniyet University,

We always consider sustainable development goals in our university’s high-level strategies, organize our management and implementation processes in line with these principles, and follow up on our activities and process of sustainability through reports for continuous improvement. **(OPERATIONS)**

While we help our students gain professional and personal skills and qualifications, we are raising future leaders, decision-makers, entrepreneurs, teachers, and more importantly, individuals with the awareness of creating a better world through the sustainability trainings we include in our course contents. **(LEARNING)**

We carry out a wide range of activities and events to share our knowledge, experience, and best practices about the implementation of SDGs with our students, staff, and local community with the ultimate aim of building a more conscious society. **(EVENTS)**

In 2022, IMU Sustainability Office was established to assume the role to place “Sustainable Development Goals” in the center of our institutional practices, educational planning, and research activities and to lead toward the realization of these goals. IMU Sustainability Office plays a significant part in developing our institutional strategies for SDGs, planning and carrying out our related activities and reporting on our progress. In addition to its contribution to institutional development, the Office also organizes public training programs and workshops.

Our Sustainability Office has planned to create annual sustainability development goals progress reports that will include all the goals and all areas of activity of our university so that we can see our progress in achieving SDGs to create new and better strategies and the report you are reading has been issued for the year 2023 as a result of these efforts. I thank everyone who have contributed to the creation of the report and especially Res.Asst. Ayça ÇELİKBİLEK, Lect. Zehra SAVAN and Res.Asst. Furkan ERUÇAR, who have edited and published all the content for our SDG website and our reports. I hope that our efforts will inspire new ideas, actions, and collaborations to take action for a more sustainable and livable future.

Prof. Dr. Yaşar BÜLBÜL

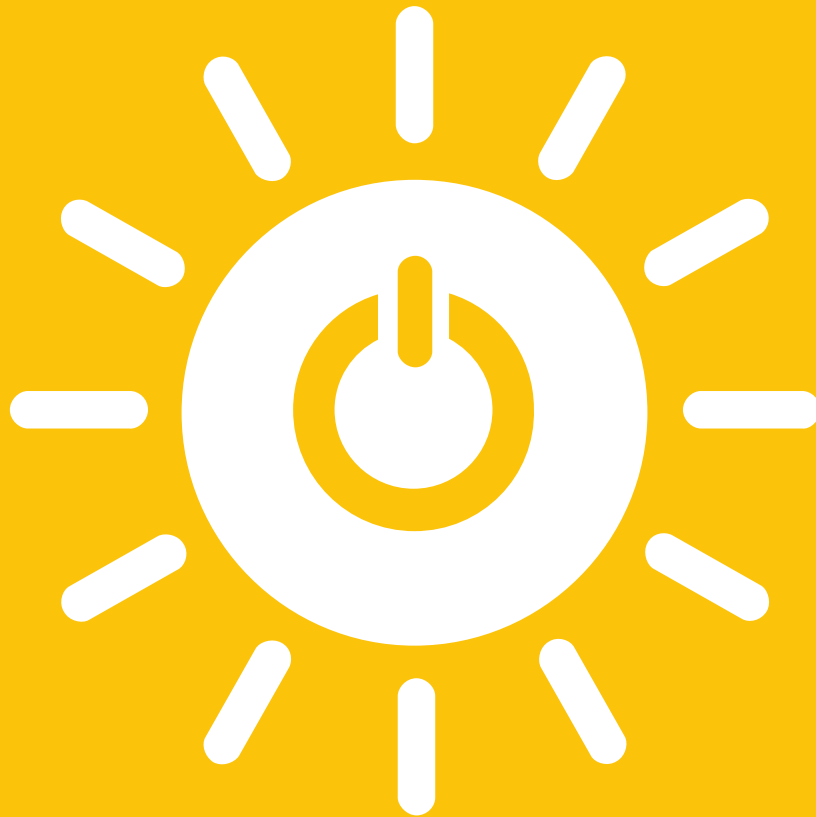
Vice-Rector and Sustainability Office Coordinator
İstanbul Medeniyet University

The Times Higher Education Impact Rankings, which assesses the contribution of universities around the world to sustainable development goals, has been an important source of motivation for us to see our place in the world and measure our contribution with all the activities we carry out for sustainable development as a higher education institution. As Istanbul Medeniyet University, we were included in THE Impact Ranking for the first time in 2021 by applying with only 4 SDGs, while we applied with 11 SDGs for 2024, being ranked 601-800 in the global ranking. The table below shows IMU's continued rise on this ranking.

Sustainable Development Goals	THE Impact Rankings 2024	THE Impact Rankings 2023	THE Impact Rankings 2022	THE Impact Ranking 2021
General Ranking	601-800	801-1000	1001+	1001+
SDG 1 No Poverty	601-800	601-800	-	-
SDG 2 Zero Hunger	301-400	401-600	401+	301-400
SDG 3 Good Health and Well-being	301-400	301-400	401-600	401-600
SDG 4 Quality Education	1001-1500	801-1000	801-1000	601-800
SDG 5 Gender Equality	801-1000	801-1000	-	-
SDG 8 Decent Work and Economic Growth	401-600	401-600	401-600	-
SDG 9 Industry, Innovation and Infrastructure	801-1000	601-800	601+	-
SDG 10 Reduce Inequalities	401-600	401-600	401-600	-
SDG 11 Sustainable Cities and Communities	601-800	401-600	601+	-
SDG 12 Responsible Consumption and Production	201-300	201-300	-	-
SDG 17 Partnerships for the Goals	401-600	601-800	1001+	601-800

7

**AFFORDABLE AND
CLEAN ENERGY**



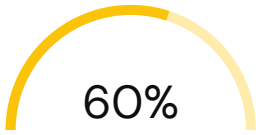
7 AFFORDABLE AND CLEAN ENERGY



Between 1990 and 2010, the number of people with access to electricity has increased by 1.7 billion, and as the global population continues to rise so will the demand for cheap energy. A global economy reliant on fossil fuels, and the increase of greenhouse gas emissions is creating drastic changes to our climate system. This is impacting every continent.

Efforts to encourage clean energy has resulted in more than 20 percent of global power being generated by renewable sources as of 2011. Still one in seven people lack access to electricity, and as the demand continues to rise there needs to be a substantial increase in the production of renewable energy across the world.

Ensuring universal access to affordable electricity by 2030 means investing in clean energy sources such as solar, wind and thermal. Adopting cost-effective standards for a wider range of technologies could also reduce the global electricity consumption by buildings and industry by 14 percent. This means avoiding roughly 1,300 mid-size power plants. Expanding infrastructure and upgrading technology to provide clean energy in all developing countries is a crucial goal that can both encourage growth and help the environment.



60%

percent of global greenhouse gas emissions accounting by energy

660 MILLION

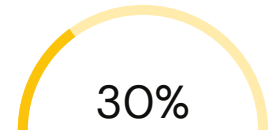
people still live in darkness



if current trends continue, 1 in 4 people will still be using unsafe and inadequate cooking systems in 2030

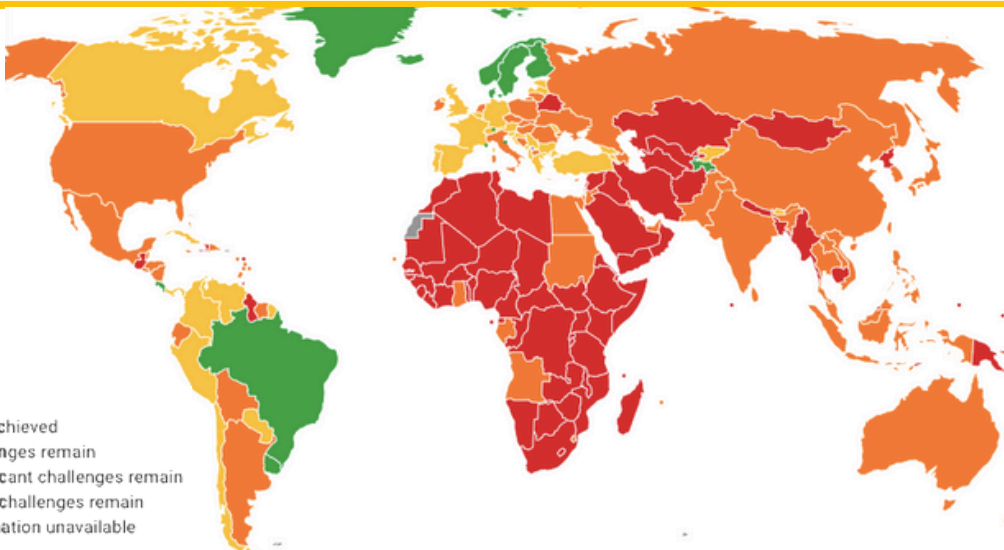
2 BILLION

people will still rely on polluting fuels and technologies for cooking by 2030



30%

of energy consumption in the electricity sector comes from renewable sources




“ **0.250 GJ/M2**
ENERGY USE
DENSITY
in 2023 ”

“ **0.088**
NATURAL GAS
use density in IMU campuses
(GJ/m2) ”



“ **0.145**
ELECTRICITY
use density in IMU campuses
(GJ/m2) ”

“ **0.017**
FUEL
use density in IMU campuses
(GJ/m2) ”

“  energy management unit
to ensure energy efficiency ”

Energy-efficient Buildings and Renovation

Istanbul Medeniyet University has a policy on carrying out the energy management activities within the institution in accordance with the applicable national or international qualifications and standards that form the basis for certification. This policy was put into effect with [Istanbul Medeniyet University Energy Directive](#). In this context, in order to ensure and certify energy efficiency in the buildings used by our university, the Energy Performance Certificates that were put into effect as per the [Energy Performance of Buildings Regulation](#) were designated as our national standard and the International TS EN ISO 50001 Energy Management System as our international standard and a decision was made that all construction work would be carried out according to these qualifications and standards.

IMU attaches importance to ensuring energy efficiency both in its newly constructed buildings and its older buildings that have been taken into reuse after refunctioning and renovation and carries out certain practices to increase energy efficiency for brownfields. For instance, much work has been done to achieve efficiency in different types of energy in our buildings which were taken over from the another institutions. Stone wool insulation was applied to achieve thermal insulation for the buildings and the existing lighting systems were renewed with photocell lighting assemblies to reduce electricity use.

Carbon Reduction and Emission Reduction Process

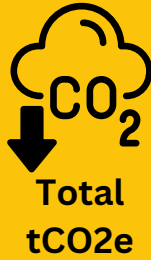
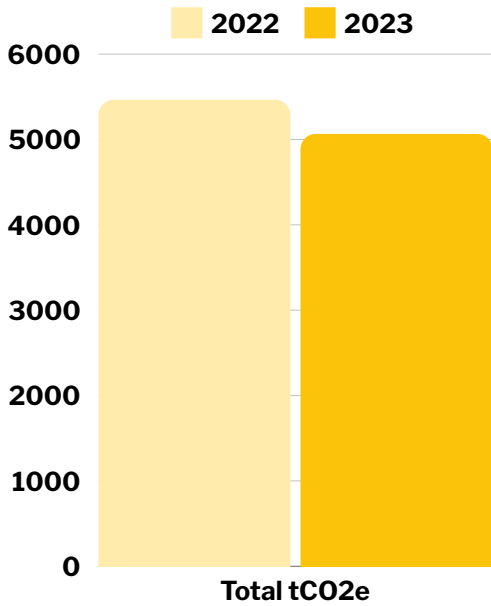
Istanbul Medeniyet University recognizes the urgent need to address the challenge of climate change and implements various strategies to reduce carbon emissions from its activities. IMU's main goal is to minimize its carbon footprint, reduce greenhouse gas emissions, and promote sustainability initially through smart energy efficient choices, responsible purchasing practices and education. While IMU continues to improve its physical environment and capabilities, it also prioritizes building stronger policies.

By adopting IMU Climate Change Policy, IMU is committed to reducing its carbon footprint and promoting sustainability in the community.

At the end of each year, IMU calculates the carbon emissions resulting from its activities, evaluates the efficiency of its reduction strategies and revises its strategies where necessary.

When the data for 2023 is evaluated, it is seen that IMU's reduction strategies have been successful and the total carbon footprint has decreased from 5,465 tCO₂e to **5,065 tCO₂e**. At the same time, the amount of emissions per student has decreased from 0.52tCO₂e to **0.37 tCO₂e**.

OPERATIONS

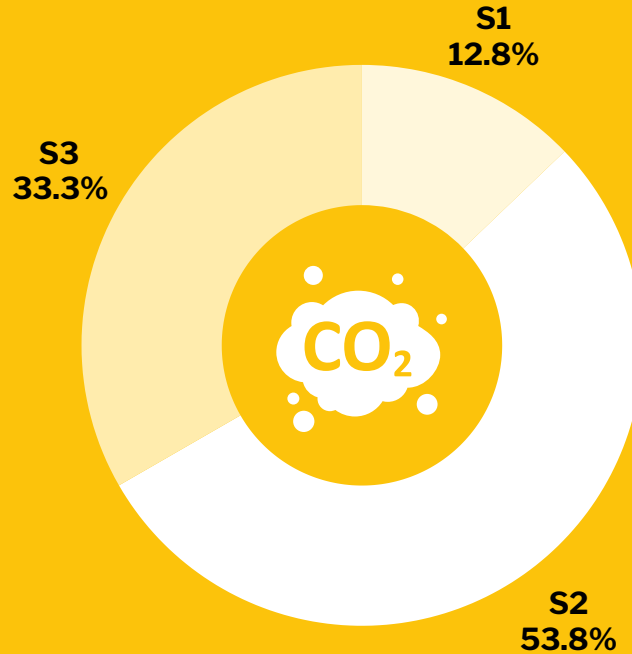


(2022)
0,52
tCO2e

(2023)
0,37
tCO2e



Distribution of carbon footprint by category (2023)



S1: Direct Emissions

(Stationary combustion such as natural gas consumption; Mobile combustion such as gasoline and diesel consumption; Fugitive emissions such as chiller and air-conditioning units)

S2: Energy Direct Emissions

(Purchased electricity)

S3: Indirect Emissions

(Emissions due to waste; Emissions due to water consumption)

Plan to Reduce Energy Consumption

IMU has established an Energy Management Unit and developed an energy efficiency policy in order to regulate energy management practices within the institution, to use energy effectively and efficiently, to prevent energy waste and to increase efficiency in energy use for environmental protection.

The Energy Management Unit established within IMU is responsible for the preparation of energy identity certificate of buildings, building controls, audit activities, determination of energy needs, creation and updating of building inventories, remote monitoring and automation of energy, energy management, energy culture and efficiency awareness.

The unit also uploads and monitors the consumption amounts of the university buildings and the consumption cost corresponding to this amount to the Energy Efficiency Software. It produces strategies to reduce energy consumption and increase energy efficiency.

Within the scope of the Regulation on Energy Performance in Buildings, it takes measures to increase efficiency in order to carry out the necessary maintenance, repair and modifications in order to ensure that the necessary maintenance, tests are carried out in a timely and appropriate manner on issues related to the efficiency of systems such as architectural, mechanical, electrical and lighting systems that affect the energy performance of the building

and that the building is operated in a way that does not fall below the energy performance at the design stage.

Energy managers appointed within the IMU, record information on energy consumption and energy management practices within the institution on the ENVER portal, the energy efficiency software of the Ministry of Energy and Natural Resources. Thus, all efficiency processes designed to reduce energy consumption are carried out electronically to collect, evaluate, analyse and share data with relevant units and public institutions.

In addition, both the Energy Management unit and the Sustainability Office and related units organise trainings and workshops for our students, staff and the public on energy efficiency, clean energy and measures to reduce energy consumption.

In addition, the Sustainability Office prepares the SDG-7 Affordable and Clean Energy Progress report at the end of each year and analyses energy consumption for the relevant year. Following this report, assessments on energy consumption increases in certain areas and suggestions on solutions to reduce energy consumption are forwarded to the relevant units.

Energy Use Density

Every year, Istanbul Medeniyet University measures the total amount of energy consumed in the campus areas and depending on the campus related uses, and determines the energy use density. Energy usage density is used as an important guide in policies to be determined next year to reduce energy consumption.

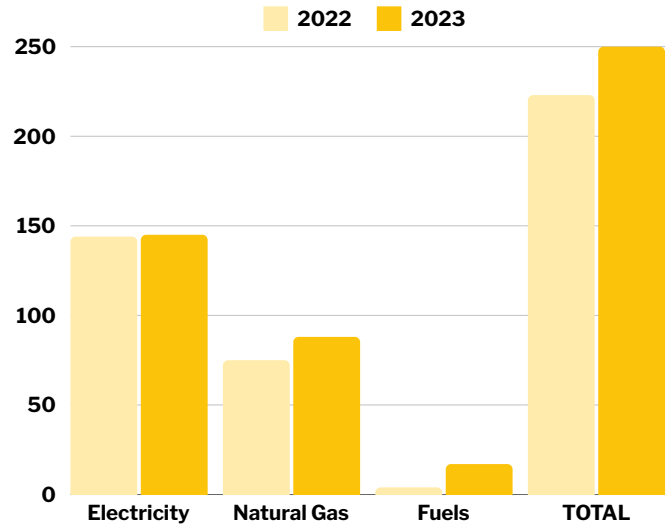
As a result of all these strategies toward energy efficiency and reduction of energy consumption, the energy use density in 2023 for the five campus areas used by IMU with a total building area of 160,554 m² was **40,056 GJ/m²**.

“ **0.250 GJ/M²**
ENERGY USE
DENSITY
in 2023 ”

The electricity consumption in all the indoor and outdoor areas in all our campuses in 2023 was 6,461,242 kwh with an electricity use density of **0.145 GJ/m²** in 2023.

The natural gas consumption in all our campus areas in 2023 was 377,217 m³ with a natural gas use density of **0.088 GJ/m²** in the same year.

The energy equivalent of the fuels consumed by the vehicles used by the institution in 2023 was 19 kiloliters. While 4.3 liters of this consumption was gasoline and 14.7 liters was diesel fuel, the usage density was **0.027 GJ/m²**.



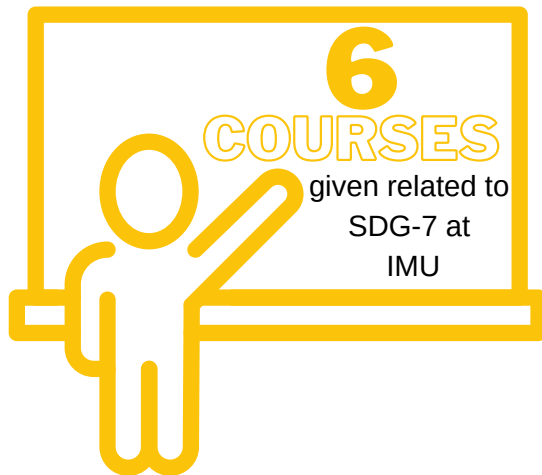
Energy Type	Consumption in 2023	IMU Use Density in 2023
Electricity	6,461,242 kwh	0.145 GJ/m ²
Natural Gas	377,217 m ³	0.088 GJ/m ²
Fuels	19 kl	0,017 GJ/m ²
TOTAL	40,056 GJ	0,25 GJ/m²

LEARNING

Learning processes are key in achieving SDGs. Thus, universities play a critical role both by training professionals who will prioritize SDGs in their future practices and by increasing local, national, and global capacity to successfully achieve SDGs. As Istanbul Medeniyet University, we are aware of our critical role and therefore, we primarily inform our students, the leaders and decision-makers of the future, about the Sustainable Development Goals through course contents, co-curricular activities and student club activities and strengthen their awareness. For this purpose, each of our faculties and departments prepares SDG-related course contents, including courses that address the Sustainable Development Goals holistically, as well as specific contributions that can be made by the expertise of the relevant professional field in which they provide training. In 2023, 6 bachelor degree courses related to SDG-7 were given at IMU.

Some of these are listed below.

Faculty	Course
Arts and Humanities	PSİ 414 - Selected Topics in Clinical Health Psychology
Dentistry	TEB106 - Medical Genetics
Education Sciences	ECE018 - Pediatric Health and First Aid
Engineering and Natural Sciences	BYM416 - Micropollutants, Treatment and Effects on Human Health
Medicine	TFS104 - Cancer Biology
All- Elective	IMU071-Introduction to Sustainability



Local Community Outreach for Energy Efficiency

IMU continues to develop programs to support not only our campus community but also the local community to learn about energy efficiency and the importance of clean energy.

A workshop on renewable and clean energy production was organized by IMU Sustainability Office in cooperation with Sustainability Student Club on December 20, 2023, as part of the **“3rd Istanbul Medeniyet University Sustainability Week”** activities. In the workshop conducted by our university Sustainability Office Research Assistant Ayça ÇELİKBİLEK and geological engineer Gökhan SAPMAZ, **“ElectriCITY: Energy Preferences Game”**, a role game in which participants would produce energy policies as decision makers in the city’s energy production, was played. The workshop was open to the participation of all Istanbul Medeniyet University students, staff and the public.

In the workshop, general information about the energy system used in cities and energy management was given. In this context, participants were informed about primary energy sources, including fossil fuels, renewable energy sources and other energy sources. Then, the technologies and facilities that convert these primary energy sources into usable energy were mentioned and the energy sources through which these facilities generate electricity and which end-use sectors such as commerce, industry, transportation and housing are

provided with energy. Following this information through the Sankey diagram, the participants discussed where the electricity generated from which energy sources is used, the amount of energy that energy sources can produce and the amount of energy lost (energy efficiency). Finally, in order to understand why energy policies are important for the environment, participants were informed about the air pollutants, greenhouse gases and water consumption caused by fuel choice in energy production. This helped participants understand the importance of energy management in the global climate crisis.

In the second part of the workshop, the participants were introduced to the game, which is a simple simulation of the energy system in cities, and the rules of the game were explained. The participants were divided into five groups, each representing a city with different resources. The game, which was designed as a simulation of real life, was played in 6 different stages in which carbon costs gradually increased, carbon emissions were kept within a certain limit, water consumption was kept within a certain limit, and different political and economic conditions developed for each group. In each stage, it was discussed how the changes in political, economic and environmental conditions were reflected in the energy policies produced by the groups and how these policies were reflected in environmental costs in addition to construction and operating costs.

The workshop ended with the announcement of the top three teams with the lowest cost (installation+operation+environmental) at the end of the 6 stages.

EVENTS

IMU



Score Keeping for All Rounds

Round	Team 1	Team 2	Team 3	Team 4	Team 5
Round 1	8075	8435	8790	8145	8615
Round 2	9236	9184	9889	8490	9051
Round 3	10452	11110	10407	11310	8949
Round 4	9128	11845	9835	10640	18108
Round 5	11807	12059	12195	11365	13275
Round 6	49392	52059	51176	50960	58788

CO₂ and Water Use (By Team)



“ElectriCITY: Energy Preferences Game”

EVENTS

IMU

The IMU HidroCar team, consisting of IMU Science and Engineering Community students, participated in the Efficiency Challenge organised within Teknofest in 2023 with their hydrogen-fuelled domestic design vehicles. The **HidroCar** team was one of the 11 teams that made it to the finals in the Challenge with their hydrogen-fuelled cars that drew attention to domestic production, clean environment, clean energy and innovation in automobile technologies. IMU HidroCar team continues to develop the hydrogen fuelled vehicle they designed.



IMU HidroCar

7 AFFORDABLE AND CLEAN ENERGY

