

# Sustainable Development Goals for Pupils

## #9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



## Imprint

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**To be interested in the 17 Sustainable Development Goals** is to make the choice to represent the world in a different and more thoughtful way.

In 2015, 193 member states of the United Nations voted in favor of the Sustainable Development Goals. In 2016, 17 objectives and these 169 targets were created. This ratification aimed to put in place strategies and modules so that all of us could take part and succeed in achieving them on a global scale.

It is therefore all together that we participated in the production of this guide which supports all those who participate in the achievement of these 17 sustainable development objectives. It is obvious that to achieve these objectives by 2030, the training of adults and especially of the youngest, is the most effective way to change representations and raise awareness.

This guide, which has been the subject of careful consideration between the partners, provides complete learning units intended for stakeholders in the educational community as well as the students themselves.

This reflection cannot be done alone. Different actors therefore came together to look at these objectives and put in place actions to achieve them.

The Piton La Ravine Blanche school in Reunion has therefore joined forces with Eco Logic, which is an organization which works for the protection of the environment, and with the European Multicultural Association, which has experience in adult training and young people. In addition, the Centro Per Lo Sviluppo Creativo Danilo Dolce, is responsible for putting our educational platform online and populating each tab with the product tools.

In these organizations, it is not possible to carry out this project without involving the schools and involving the teaching team, the students and all the other actors who revolve around the student. Thus, a secondary school in Macedonia, OR Malina Popivanova Kocani and Yenimahalle Istiklal Ikkokulu.

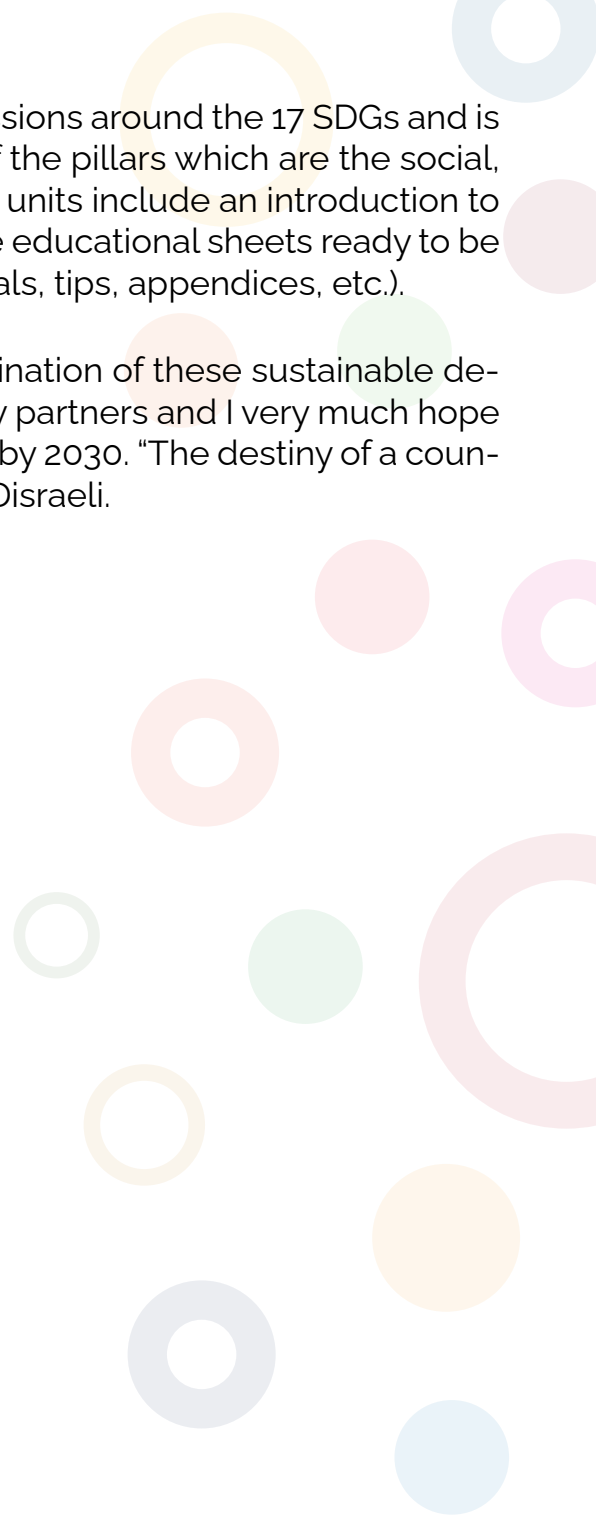
Just like the Piton La Ravine Blanche school, these secondary and primary establishments mentioned above have the mission of testing the lesson plans designed by all the partners and of leading the sessions with their students.

Work together around these objectives and put every chance on our side to achieve them, reflect and propose tools to share with a wide audience, question representations and expectations; define objectives to be achieved, set challenges to "give all students the means to understand the ecological transition in order to become actors in it".

In addition, this project echoes the 20 measures of national education, plays the interdisciplinarity card and allows schools from kindergarten to high school to prepare students for this ecological transition by giving them the opportunity, once moreover, to give a European dimension to this approach.

This guide is the essential tool for organizing learning sessions around the 17 SDGs and is structured as follows: a definition of the concept, a list of the pillars which are the social, economic and ecological issues, units of learning. These units include an introduction to each objective, a presentation of each of them, complete educational sheets ready to be used (unit objectives, target audience, necessary materials, tips, appendices, etc.).

It is therefore with great enthusiasm and a serious examination of these sustainable development objectives that this guide is offered to you. My partners and I very much hope that together we will be able to achieve these objectives by 2030. "The destiny of a country depends on the education of its people. » Benjamin Disraeli.



## Introduction



Sustainable Development Goal 9 (SDG 9), also known as “Industry, Innovation, and Infrastructure,” is one of the most important goals in the global quest for a sustainable future. SDG 9 recognizes the role that infrastructure, technological innovation, and industrialization have in bringing economic growth, enhancing human well-being, and working on environmental sustainability. This goal emphasizes the need for modernized, resilient infrastructure that can respond on the challenges of the 21st century, from the demands of growing urban populations which can affect climate change.

As mentioned previously, it encourages the development of innovative industries and the adoption of sustainable technologies to drive economic prosperity but at the same time minimizing environmental impact. Accessible and sustainable infrastructure, combined with newest innovations, can contribute to economic growth, but at the same time it can work on inclusion of marginalized communities, global connectivity, and protect our planet's fragile ecosystems.

Sustainable Development Goal 9 (SDG 9), is especially important for education.

First, building schools and improving transportation networks is one of the first things that need to be ensured in order that children and young adults have access to quality education. If this condition is not satisfied, children in remote or underserved areas may struggle to attend school regularly. Second, development of skills needed to adapt to everyday working market with relevant skills. Education on this goal and focus on providing students with knowledge is crucial for adapting to those emerging industries.

Third, as SDG 9 is focused on innovation and technology it means that SDG is crucial in digital education and development of educational platforms which contain interactive and engaging learning materials. This would be possible only with improved infrastructure.

Fourth, education can raise awareness about the importance of sustainability and responsible management of resources. It can also equip students with the skills and knowledge in order to make informed decisions about these topics that at the same time are taking into consideration the environmental and social impacts.

Fifth, connectivity allows international collaboration in education, more exchange programs, sharing of best practices and improved educational experience

In essence, SDG 9 serves as a start for building a more technologically advanced and environmentally responsible world for all.

## Theoretical part of the activity

Targets and indicators are essential components of the Sustainable Development Goals (SDGs). They provide specific, measurable goals for monitoring progress towards sustainable development.

Targets are specific and show what needs to be achieved to address a particular aspect of sustainable development. Indicators are measurable points that help track progress towards achieving the targets. Each target typically has one or more indicators associated with it and they show “how” of the goals, as they help measure progress.

## **Outcome targets:**

**Target 9.1** is: "Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and fair access for all".

It has two indicators:

"Proportion of the rural population who live within 2 km of an all-season road"

"Passenger and freight volumes, by mode of transport"

**Target 9.2** is "Promote inclusive and sustainable industrialization, and by 2030, to raise significantly the industry's share of employment and GDP in line with national circumstances as well as to double its share in least developed countries"

It has two indicators:

"Manufacturing value added as a proportion of GDP and per capita"

"Manufacturing employment as a proportion of total employment"

**Target 9.3** is: "Increase the access of small-scale industrial and other enterprises, particularly in developing countries, to financial services including affordable credit and their integration into value chains and markets".

It has two indicators:

"Proportion of small-scale industries in total industry value-added"

"Proportion of small-scale industries with a loan or line of credit"

**Target 9.4** is: "By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities". [14]

It has only one indicator: "CO2 emissions per unit of value added."

**Target 9.5** is "Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending."

It has two indicators:

"Research and development expenditure as a proportion of GDP"

"Number of Researchers (in full-time equivalent) per million inhabitants"

## **Means of implementation targets:**

**Target 9.a** is: "Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and Small Island Developing States."

It has one indicator: "Total official international support (official development assistance plus other official flows) to infrastructure"



