

Version 0.4.0.0 - [English]

Current riddles :

Residential

Mobility

Agriculture

Industry

Energy

Game version : V0.4.0.0

This version of the eco-dex is destined to be modified and updated during the whole project development.

Please be sure to always download the **version associated** with the current version of your game.

ECO-DEX

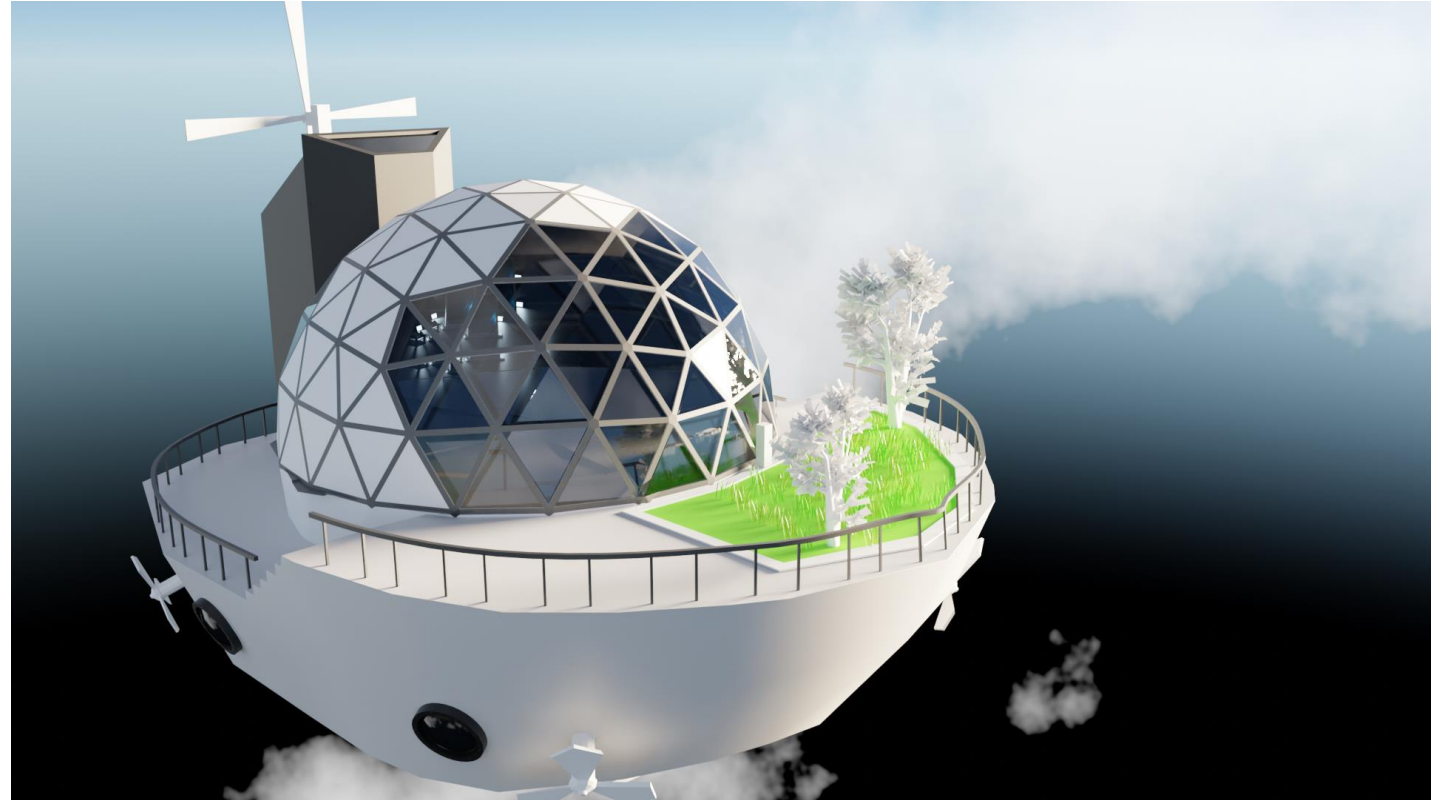
Maintenance Manual of the Flying Station

This version of the eco-dex is a prototype

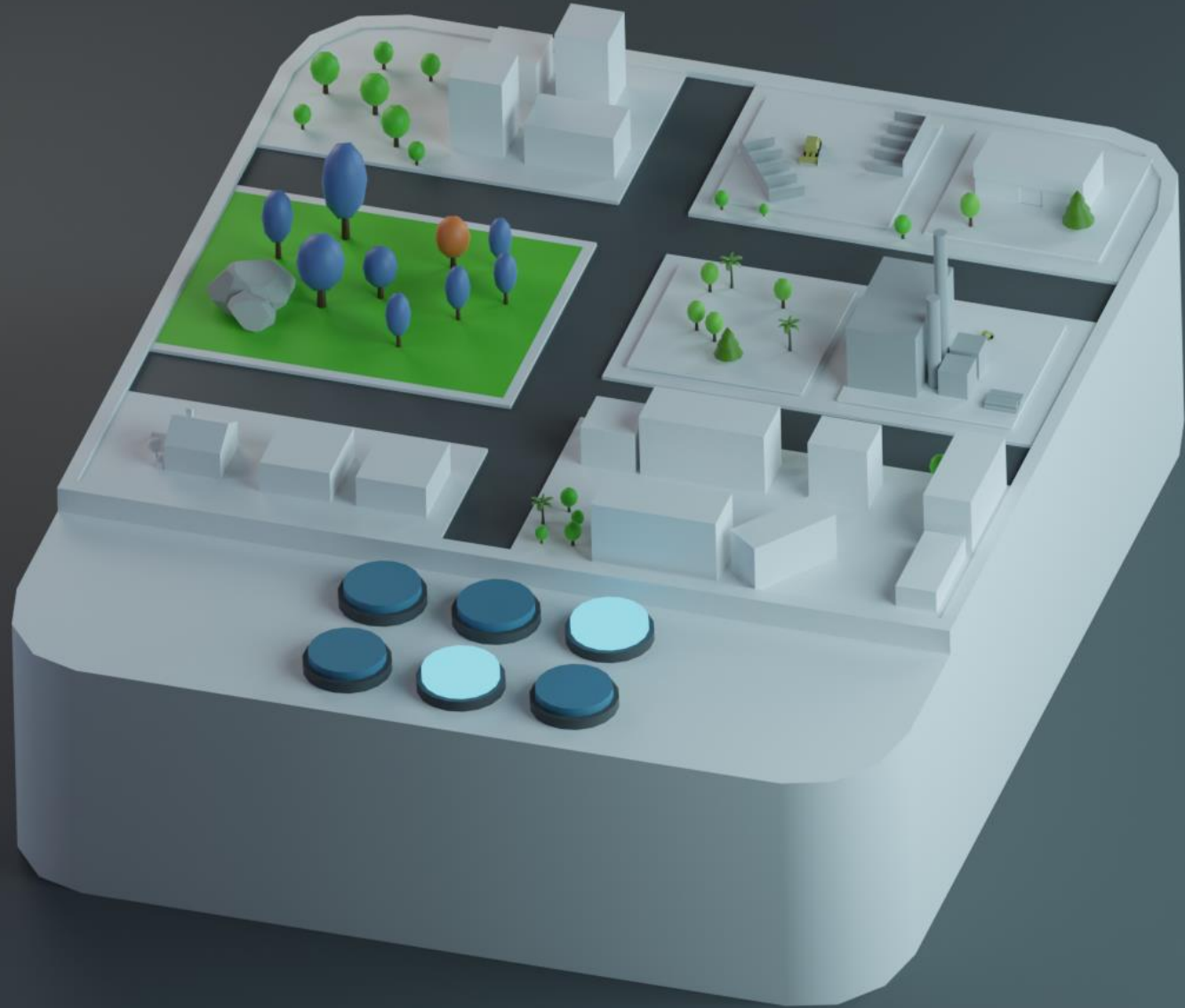
The flying station

The jewel of technology and ecological movement, this autonomous flying vehicle allows to move between territories to improve the ecological situation of our world. Before taking off, don't forget to configure the flight parameters and the desired direction. Thanks to its 5 machines, it allows to apply targeted ecological actions on all important areas of the region.

The document you're reading now is named the **Eco-dex** and is a technical document collecting all the states of the different air quality management machines available in the floating station. It allows to adjust these different machines to imagine the best possible scenario regarding the air quality problems of a region.

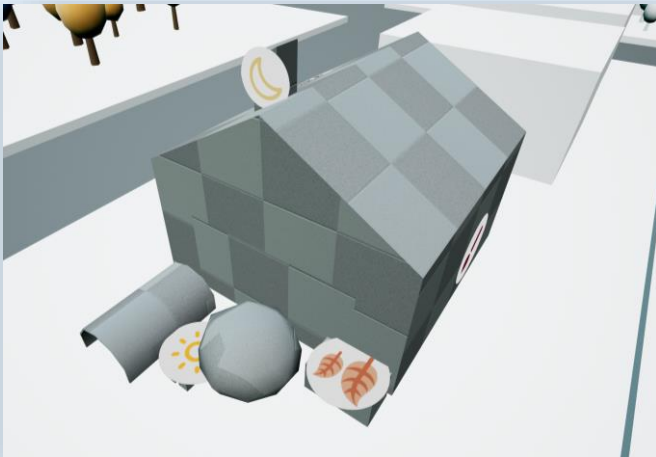


Residential sector



The district is divided into three types of zones:

Housing



Public green spaces



Facilities











→ Review each type of zone to set up the necessary improvement incentives or actions **thanks to the available buttons.**







Advice or action buttons for decision makers: among the 14 buttons, 6 are available and 4 have to be activated

If one element later shows the usefulness of the button, **activate it !**

1

Housing and gardens	
	Encourage the installation of ecological heating systems in homes
	Avoid burning biomass in gardens.
	Install solar panels.
	Have environmentally friendly insulation.
	Use of non-emissive materials for construction & renovation.
	Encourage the use of very dry wood for wood heating.



















Green area	
	Avoid and treat green spaces against allergenic plants.
	Promote and apply good practices concerning wildfire.

Facilities	
	Develop biomass combustion plants.
	Develop support structures for the renovation of buildings.
	Develop communication around health risks due to air pollution.
	Add green spaces and parks close to public structures.
	Develop green waste disposal areas.
	Develop communication around selective sorting, recycling and zero waste lifestyles.

Housing and gardens

→ Check the current state of the house and garden parts and activate buttons accordingly for your territory.

Example: If a polluting heating is used, and if the heating improvement button is present, activate it!

Chimney		Combustible storage		Garden		Roof		Wall linings	
	Recent and/or efficient wood heating (less fine particles emissions in the air).		Moist wood.		Smoke from green waste combustion.		Heat loss, insufficient insulation.		Lining supplies emitting indoor air pollution.
	Oil heating (emitting greenhouse gases).		Well dried wood				High humidity inside the house, poor or too watertight insulation.		Unknown lining supplies, probably emitting indoor air pollution.
	Gas heating (emitting greenhouse gases).		Everything OK. Nothing to report about combustible		Use of a heat pump.		High performance insulation.		Renovation in progress with lining without emission of pollutants in indoor air.
	Inefficient or old wood heating (high emissions of fine particles in the air).		Oil				Good conditions for solar panels (but no one installed)		
			Gas						

Green spaces: allergy and fire risk management

Allergic risk

Policymakers can avoid allergenic trees and plants in green spaces.

If allergenic trees or plants are present and the corresponding action button is available, activate it.

Fire risk

In order to avoid the risk of forest fires, which generate large amounts of fine particles, decision-makers must ensure the maintenance of the massifs (size, presence of cuts).

In the resort, a green space can be considered safe the index remains below 10. Please estimate the risk of fire with the table opposite. If the risk is proven and the corresponding action button is available, activate it.

Color of the tree or plant	Allergic risk	Fire risk
Green	No	Level 0 (+0 per item)
Blue	No	Level 1 (+1 per item)
Orange	Yes	Level 0 (+0 per item)
Red	Yes	Level 1 (+1 per item)

Facilities

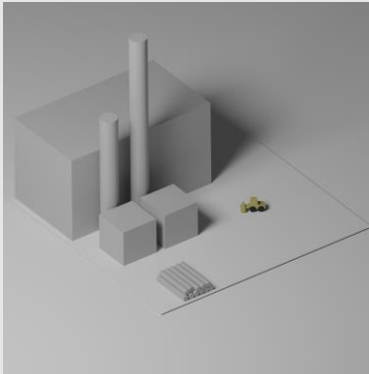
→ Check if these facilities exist in the district. For each missing, if the corresponding button to build it is available, activate it!

Urban heat islands reduction

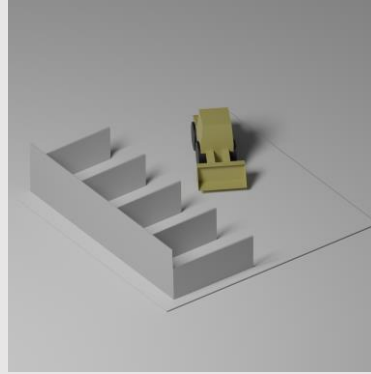


Urban green spaces

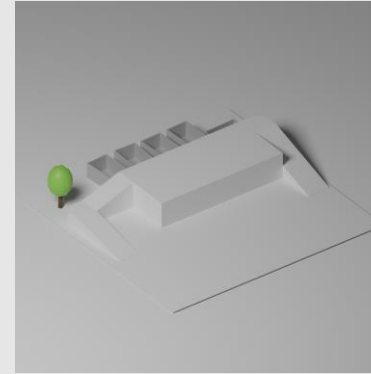
Waste management



Biological waste disposal producing biogas for energy production (avoiding unefficient wet waste transport and burning)

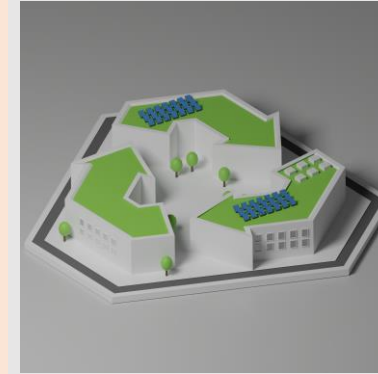


Green waste disposal (avoiding the large emission of particules green waste burning)

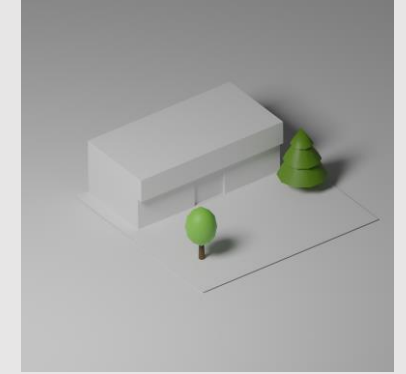


Sorting and recycling plant

Sensibilisation



Communication center around recycling, selective sorting & zero waste lifestyles



Temporary installation to raise citizens' awareness about air pollution and its associated health risks.

Mobility machine



Mobility machine

You help the technician to make the pawn reach the destination (little flag). Paths are represented by 2 shapes. It will be necessary to choose **the best choice** of transport according to the **air quality cost** of the road taken.

Remember that every path as a cost corresponding to an impact on air quality. Unless specified, every **recommended** mean of transport (see next page) for a specific path **costs 1**.



Walk



Car



City car
renting



Carpooling



Electric /
Hydrogen
Car



Tram



Bicycle



Bus





















Train

⚠ Warning : You have a maximum amount of moves you can make to go to your destination. If you reach this threshold, you will have to restart from the beginning !

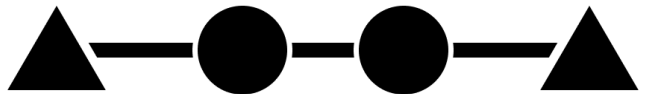
Road guide

This table gathers every type of paths you can encounter on the machine and allows you to select the best combination of path to get to the destination.

Start	Road description	Destination
	Road of less than 500m belonging to an urban area. Use of walking or cycling recommended!	
	Road used by many users. We advise you to use carpooling. If these two locations are both in a "Low Emission Zone", disable the selected button for 2 movements	
	Dense urban area! We recommend the use of the Tramway or City Car Renting service.	
	Due to the lack of additional transport devices, this road is only accessible by personal car, consuming 2 movements.	
	Presence of an electric vehicle charging station, its use is recommended.	
	Road under 3 km long. Presence of many bike paths. Use of the bike recommended.	
	Area served by buses. If the arrival has a neighboring location of the same shape, reusing the "Bus" button does not consume additional trips.	
	Road usable by renting a city car.	
	Due to the lack of additional transport devices, this road is only accessible by personal car, consuming 2 movements.	

The Train

The "Train" button allows to connect two nonadjacent places of the same type, if and only if they are **separated by two different similar shapes**.

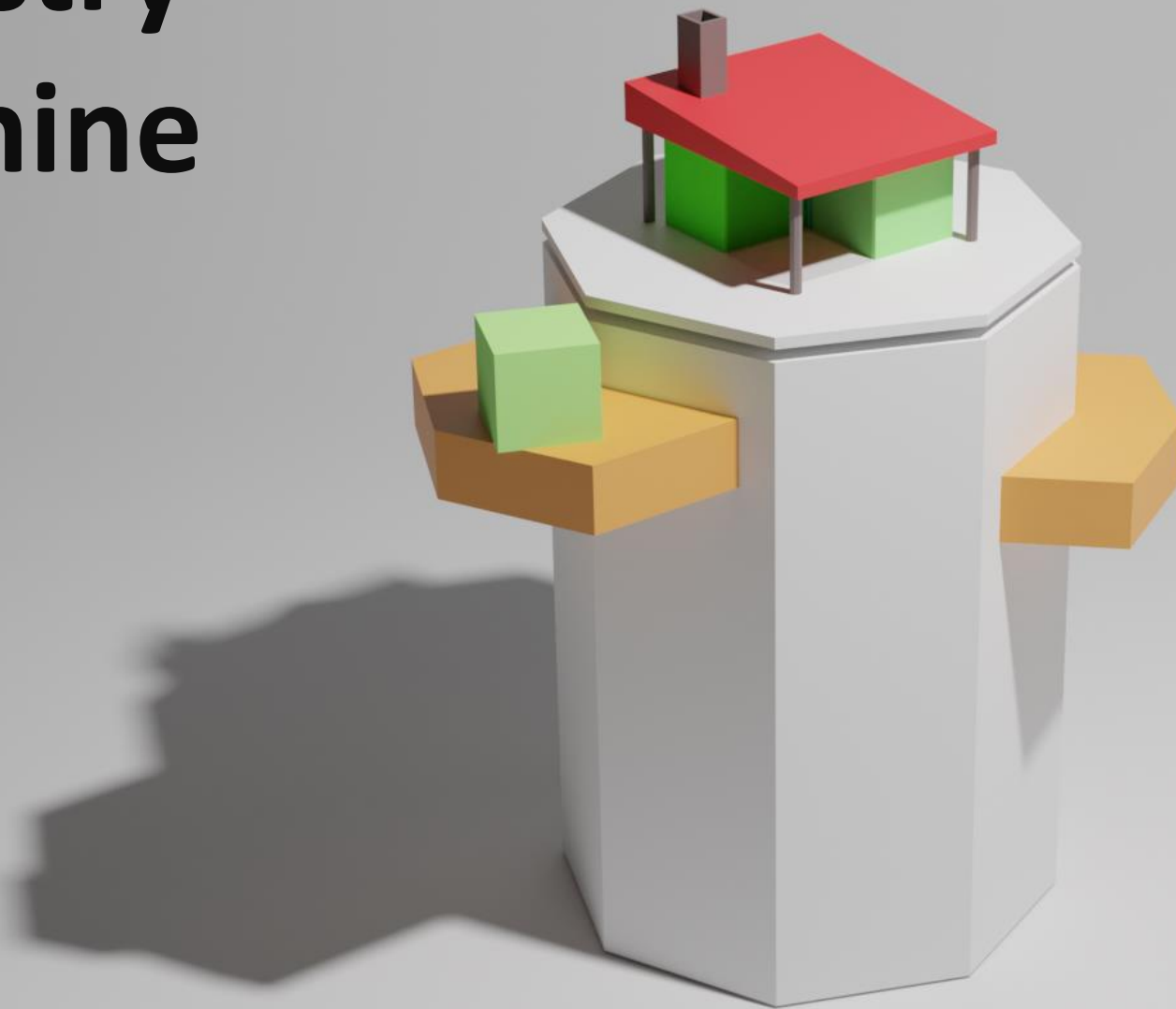


Example : Going from the first triangle to the other costs 1 move.

Note to the expert: If one of the places from which you leave or arrive is located in a circle, it is part of a Low Emission Zone (LEZ). All "Cars" or "Carpooling" trips will cost 1 additional value.

Tip : Means of transport in the table are the **recommended** ones, but you can decide to use something else, however, it might cost a little more.

Industry machine



Modules guide

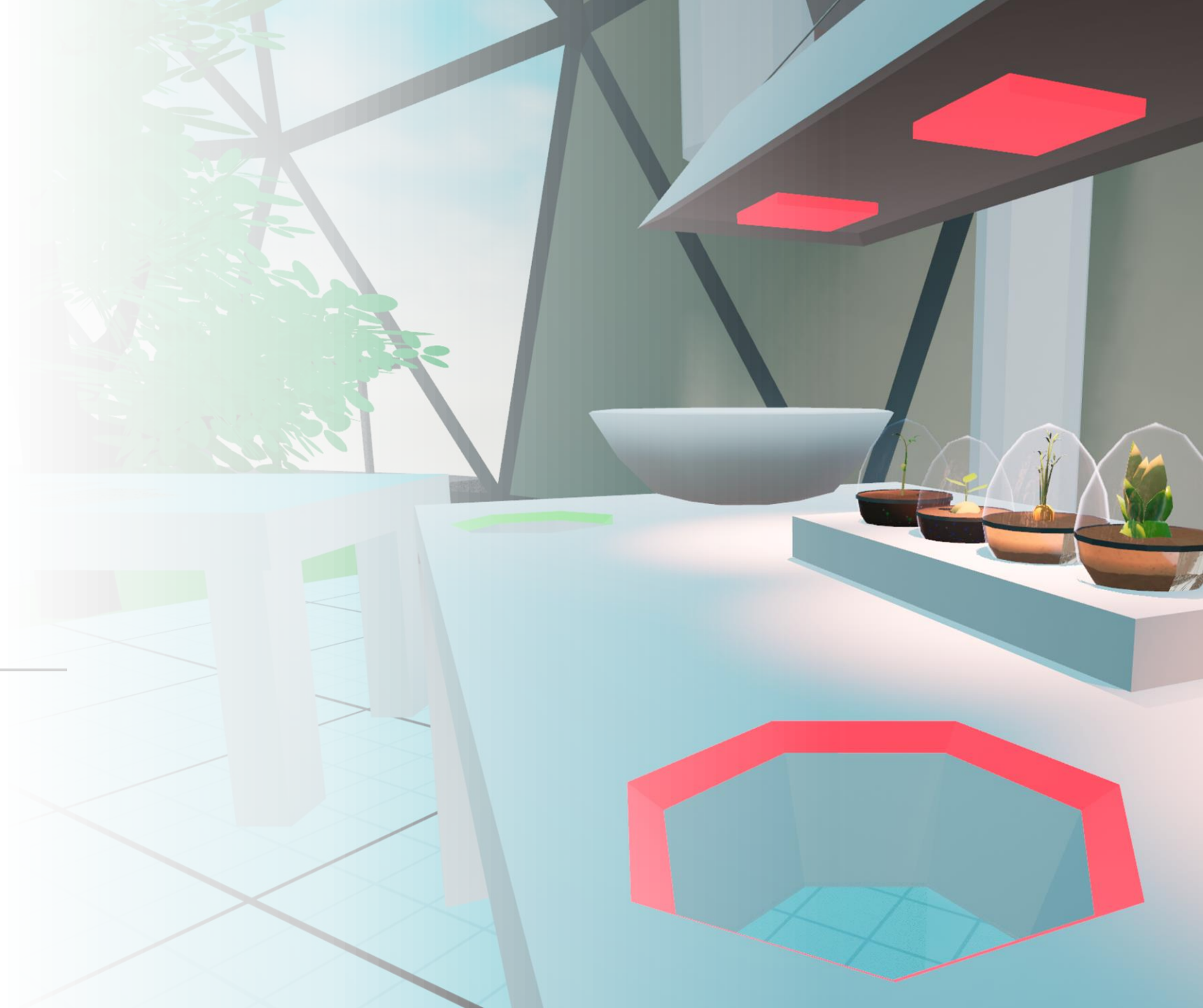
Remember, your role is to understand which modules are **available** to the technician so that you can choose together the ones you want to plug to your industry machine.

ID	Description	
MOD-001	Support professionals in the implementation of energy-efficient buildings.	-5
MOD-002	Installation d'un guichet afin d'accompagner les professionnels dans la mise en place de processus éconergétiques.	-2
MOD-003	Use eco-responsible services or products.	-3
MOD-004	Purchases of products that do not comply with eco-responsible rules.	3
MOD-005	Cooperation with federations & producers to promote energy efficiency processes.	-3
MOD-006	Space for burning biomass & waste in the open air.	2
MOD-007	Deposit for biomass & industrial waste.	-2
MOD-008	Installation of mechanical recycling infrastructure. Check its compliance.	0
MOD-009	No communication around recycling and/or reducing the consumption of natural resources.	6
MOD-010	No treatment of wastes at the end of the production line.	4

ID	Description	
MOD-011	End-of-line treatment to reduce emissions of polluting gases.	-3
MOD-012	Integrate selective sorting into your lifestyle & use non-recyclable waste recovery companies.	-5
MOD-013	Reintegrate communication between Citizen & Companies.	-5
MOD-014	Do not take into account the opinion of consumers.	5
MOD-015	Adopt a "zero waste" lifestyle	-5
MOD-016	Maximum use of natural resources to boost productivity.	5
MOD-017	Use of harmful products without post-consumer waste management.	5
MOD-018	Installation of chemical recycling infrastructure. Check its compliance.	-5
MOD-019	Installation of an organic recycling infrastructure. Check its compliance	0
MOD-020	No promotion of the circular economy.	5



Agriculture Machine



Fertilizers & Good Practices

Please ask the technician for description of the soils in the eggs to define which types of fertilizer is used.

Combinations of fertilizers are possible!

ID	Description.
ECT-01 ECT-42 ECT - 11	Composition: Nitrogen, nitrate. Distinguishable by small white balls in the soil. Dangerous!
ECT-02 ECT-14 ECT-22	Composition: Phosphate and nitrogen. Distinguishable by small green triangles in the soil. Dangerous!
ECT-03 ECT-13	Composition : Slurry and Potassium. Distinguishable by small blue cubes in the soil. Dangerous !
ECT-04 ECT-18	Composition : 100% natural elements. Total absence of particles in the soil..
ECT-05 ECT-19	Composition : 100% natural elements. Dried plants in the soil.
ECT-06 ECT-27 ECT - 33	Composition : No synthetic fertilisers. Small variation in soil colour in strips.

If two different wrong fertilizers are used in one egg, it is considered as 2 defaults.

List of good agricultural and agroecological practices:

- Encourage short circuits & local agricultural projects.
- Presence of Agroecology infrastructures.
- Distance between fields and dwellings greater than 20 metres.
- Avoid all stubble burning on crop land.
- Less than 30% of food for cattle is imported from countries outside UE.
- Promote good farming techniques: Permaculture, agroforestry, etc.

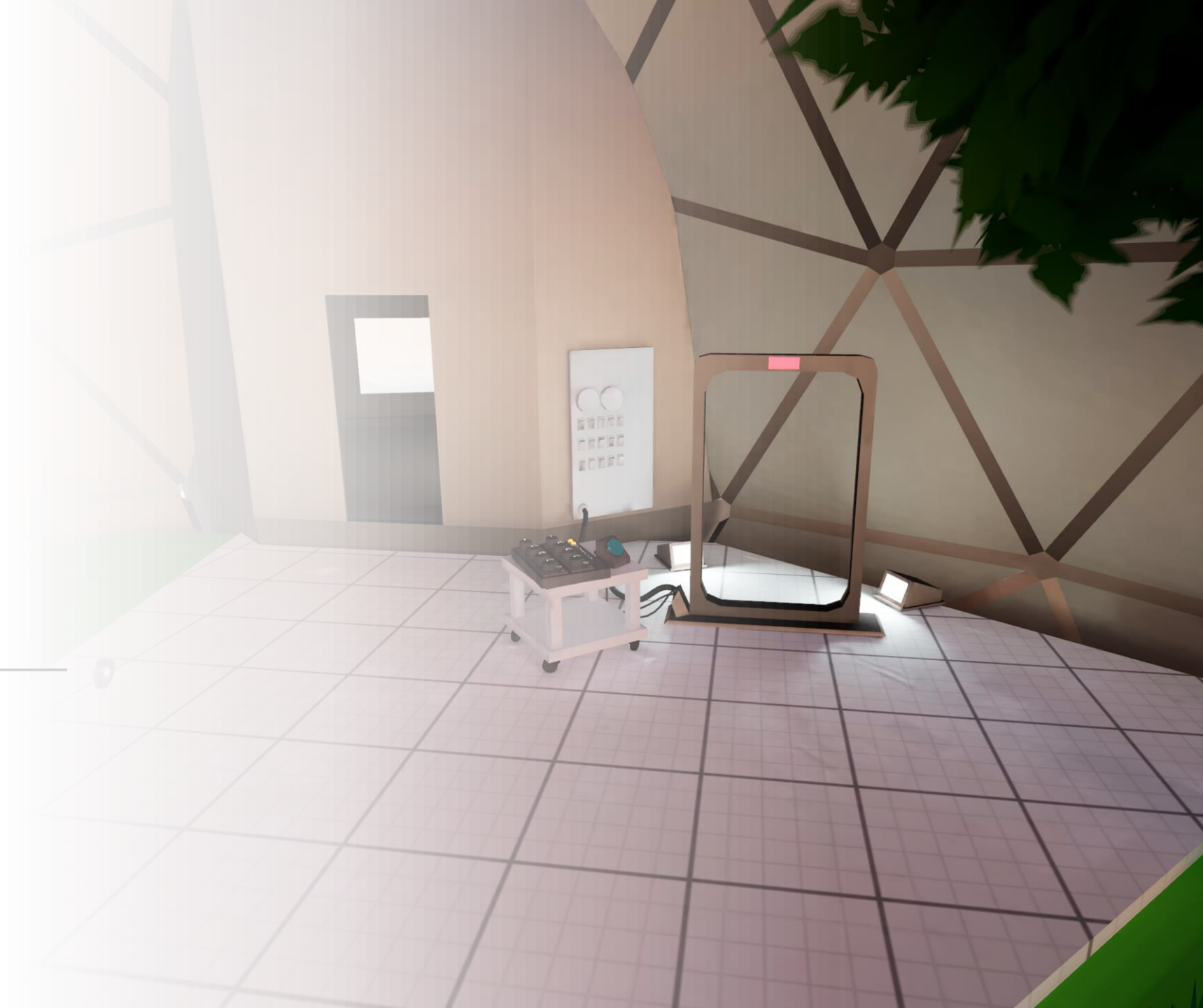
Tips : Remember that 3 wrong steps are enough to consider a farm profile as defective.

Harvest period in *normal** conditions

Name	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Carrots	X	X	X	X	X	X	X	X	X	X	X	X
Mandarins	X	X									X	X
Strawberries						X	X	X				
Endives	X	X	X	X								X
Potatoes	X	X	X	X	X	X	X	X	X	X	X	X
Beans						X	X	X	X	X		
Coliflowers	X	X	X						X	X	X	X
Tomatoes						X	X	X	X	X		
Apples	X	X	X			X	X	X	X	X	X	x

**In case of no human intervention*

Energy Production machine



Production means

Using the portal of the machine, you can observe the territory you are overflying in details and define its state.

You have to open the portal and visit the territory.

IMPORTANT NOTES :

- The portals might not work properly after we have used it to travel to a dangerous land.











What to do in this case ?

- You can setup the portal again by using potentiometers
- The goal is to match almost exactly the **energy demand** without exceeding the **emission threshold**. (both represented by LEDs on the machine)

Production means

Potentiometers represent production means and help you choose how much energy you want to produce using each tool.

The territories do not all have the same means of production!

Symbols	Prod. mean	Emissions (kgCO2e/kWh) (FRANCE)	Emissions Multiplier (kgCO2e/kWh)
	Nuclear	0.006	1
	Hydro electricity	0.006	1
	Wind Turbine	~0.015	2.5
	Biomethane	0,0163	2.7
	Photovoltaïque	0.0439	7.3
	Geothermal energy	0,045	7.5
	Natural Gas	0,243	40.5
	Propane/butane	0,2715	45.25
	Oil-fired power plant	0,73	122
	Coal power plant	1,06	177