

DRAFT DOCUMENT

urbEN PEDAGOGICAL METHOD ELEMENTS

This document is intended for urbEN game masters. It supplements the rules of the game but does not replace them.

PRELIMINARY NOTIFICATIONS

As in any game, educational or purely for fun¹, players have to stick to the rules. Games are a simplified allegory of reality. But they are not the reality which is too complex to be encompassed in the underlying model of a game intended to be played over a very short time. Consequently players must accept the rules as they are even if they find them arbitrary and over simplistic. This does not prevent discussions about such-and-such aspect of reality in the case of an educational game.

The art of being game master is to keep the role playing game running smoothly even if unpredictable incidents occur, whatever their nature (computer, Excel application, documents...).

In this regard, it is important for the organizers to make sure that they have downloaded the up-to-date versions of documents and Excel application from the Lotus website.

SPATIAL LAYOUT OF THE ROOM

The game board, the cards and the tokens (roles and actions) must be placed on a table in the centre of the room, so that the players can move around freely. Experience shows that role-playing and interactions really start when the participants stand up and begin chatting with each other around the game board.

DATA MANAGEMENT

Security warning: at the end of every term of office don't forget to make a back-up with a different name so that you can go back to it in case of any problem.

¹ Very ancient games such as chess were originally educational games (chess was reportedly invented to teach the art of War to an Indian prince).

Monopoly is an allegory of capital accumulation without any regulation. Risk is about power accumulation towards empire extension through annexation of territories.

TIME MANAGEMENT

The game master is also the “master of time”. They ensure that the time limit of each phase of the game is respected.

In general, it is better to take the time necessary for the initial presentation with the slideshow and to do this a few days in advance.

The game itself requires a minimum of 3 to 5 hours (including the final assessment).

Here is an indicative grid for time management:

Stage	Phase	Time (mn)
Initial presentation	Basic notions and rules of the game	40
Term 1	Team formation	5
	First election of the Local Authority and other roles assignment	5
	Guidelines analysis by each team	20
	Strategy and program announcement by the Local Authority	5
	Chance cards draw and plots auction	10
	Actions implementation	40
	Term 1 assessment	10
	TOTAL TERM 1	95
Following terms	Election of the Local Authority and roles switching	10
	Strategy and program announcement by the Local Authority	5
	Chance cards draw and plots auction	10
	Actions implementation	30
	Term assessment	5
	TOTAL TERM (not including Term1)	60
Final assessment	Participants oral feed-back	15
2 term-game	Total time (not including initial presentation)	170 (2:50)
3 term-game	Total time (not including initial presentation)	230 (3:50)
4 term-game	Total time (not including initial presentation)	290 (4:50)

The action implementation stage is the longest. The risk is that teams who have made their investments quickly may lose interest while latecomers try to finalize complex arrangements.

It is then up to the game masters to manage time in a directive manner by announcing the duration of this implementation stage in advance (for example, 40 minutes maximum for the first council mandate and 30 minutes for the following ones) and then enforcing it.

GAME'S PROGRESSION

STAGE	CONTENT
1. Election	Election of the Local Authority according to proposed renewable energy goal and tax raise forecast.
2. Chance cards	7 Chance cards (grants, plots for auction...) drawn from the pile.
3. Actions implementation	<ul style="list-style-type: none"> - Only by actor having the ad-hoc know-how and expertise; - Possible subsidy from the Local Authority; - Possible co-investment by another actor; - Possible land purchase or lease from another actor; - Authorization by the Local Authority.
4. End of the term of office	Assessment of: <ul style="list-style-type: none"> - Percentage of renewable energy in local consumption; - Players' financial situation; - Public opinion. Local Authority's council's election for the next term of office.

Local Authority election

In the first round, if no team applies to the Local Authority's role, the game masters will appoint one automatically.

Chance cards

The land cards that did not find takers during the auction are placed back at the bottom of the pile.

Grants cards are entrusted to the Local Authority. Those that have not been used at the end of the term of office will be placed back at the bottom of the pile.

Actions implementation

The game must take place in a limited time, so complicated arrangements (which are often done in reality) should be avoided.

For each action, there is only one project owner (investor) and no more than one (potential) co-investor.

If more co-investors are necessary to complete the financing, this specific case may be dealt with using the "Goal, Rate, Transfers" worksheet. But the players must remember to pay the Recurring pay-out every following term, which is why this should be discouraged.

Only the project owner (investor) pays the rent to the plot's landowner (if the latter is separate from the former).

One-time money transfers can be made on the "Goal, rates, transfers" sheet. For recurring transfers that are not provided for on the "Action implementation" sheet, do not forget to repeat these transfers for each new term of office.

Term assessment

At the end of every term, the following points (in the worksheet “Result term ...”) are assessed:

- Has the Local Authority achieved its goal in terms of percentage of renewable energy (compared with local consumption)?
- What is the LA’s approval rate after the NGO has influenced the popularity (within -3 and +3 points)?
- Is there any bankrupt team (meaning negative financial capacity)? This team cannot be candidate for the next election.
- Other informational points may be mentioned:
 - o The available storage capacity;
 - o The number of jobs created (including “green” jobs in renewable energy);
 - o The renewable energy production capacity created during the term of office (both continuous and intermittent);
 - o The energy saving actions and their influence on the current local energy consumption.

Game session assessment

It is recommended to keep at least 15 minutes at the end of the session to complete the assessment.

The suggested assessment method includes three steps:

- the first is for the players themselves,
- the second for the authors of the educational product,
- the third for the organiser of the session.

First step: role-playing game assessment

In this first step, the participants are invited to look back into the role-playing game and analyse their interactions, to give their feed-back on how it went for them. The Local Authorities teams recall their objectives and strategies and try to explain the differences between objectives and results. The other teams share the problems they encountered because of the Local Authorities’ policies, which they can comment on. This first step must allow the participants to think through the system again and to analyse their mistakes (urbEN is a trial-and-error educational tool).

Second step: educational product assessment

Reminder: the urbEN educational objectives are to understand actors’ strategies and interactions within the energy local system.

In this second step participants must explain whether or not the educational objectives have been met and why.

They may suggest changes and improvements.

Third step: organization assessment

This last step, intended for the organizer, deals with practical aspects of the session:

- the timing of the session within the curriculum;
- and other items like catering, venue, handouts...

A written assessment by the participants can be carried out after the session but preferably without delay so that the participants still have the experience fresh in their mind.

NGO'S LEGAL ACTION

Legal action is one of the NGO's resources (aside from political and economic actions).

Whatever the legal action outcome, its first effect is to postpone any implementation to the next term.

The definitive judicial decision is the game master's responsibility, in accordance with the country's legislation.

They may consider that the action location is not appropriate in terms of sustainable development (for example, dwellings built right in the middle of the rural area, or wind turbines set up too close to houses).

OTHER

In the event of a mismatch between the printed documents (guidelines, list of actions) and the computer application, the latter is always right!

In this regard, it is important for the organizers to make sure that they downloaded the up-to-date versions from the Lotus website.

FREQUENTLY ASKED QUESTIONS

Players may ask technical questions regarding the game design. Some answers are suggested here.

Question: Why the total INVESTMENT (in the sheet "RESULTS TERM X") doesn't take into account plot purchases?

Answer: This is for practical and theoretical reasons:

Practical reason: problem for the game is that at the time when the plot is bought we don't know what its destination will be.

Theoretical reason: contrary to some technical equipment whose lifetime is limited, land is timeless. Indeed it will still be there when the piece of equipment is no longer in use and has to be dismantled (after being financially amortized).

So in the game, land is not considered as a productive investment. Plots are part of a land heritage and are not taken into account in the INVESTMENT column.

But it becomes an operating expense when rented.

Question: Why the Local Authority's operating expenses are so high compared to the financial capacity?

Answer: It's on purpose for 3 reasons:

- the LA has to rely on other actors to implement its strategy towards energy autonomy;
- the LA should seize the Government grants opportunities when they come;
- the LA can always increase the tax rate, but at the cost of a loss of popularity.

Question: Does the storage capacity need to be equal to one month of intermittent energy produced?

Answer: We did not find in the technical literature any criteria on the dimensioning of the storage. So, as a rule in the game, we have decided that it must be equivalent to one month of intermittent energy production.

Reminder: we are not aiming for a scientific model but only a game that reveals the interactions between actors.

Question: Why investment values do not vary over time?

Answer: Investment values are considered to be reconstituted every year through accounting amortization. The latter is in fact already deduced from gross income.

Question: Why does LA's financial capacity increase after actions have been implemented?

Answer: Investments are added to the fiscal base upon which the tax rate is applied. Consequently the fiscal yield benefiting the LA increases.

Question: Why are some investment returns negative?

Answer: Because operating them costs money instead of providing revenues.

Consequently the project owners are not incited to implement them spontaneously except if they get compensation from the LA or from another sponsor.

This is the case for instance of storage systems such as Batteries (BATT), Pumped storage power station (PSPT), Power to gas (PTG), Reinforcement of electricity network (REINFOR), and of other non-profitable actions such as Cycling path (CYCLE), Fish sluice (FISH), Public transportation (PT-THERM, PT-ELEC) or Zero till farming (ZTF).

Question: Why are some figures negative in the "Energy saved" column (K) of the worksheet "Results term ..." (and in red in the List of actions)?

Answer: Because the corresponding investments add up to the local energy overall consumption (and to the greenhouse gases emission) instead of producing or storing energy. This is the case for instance of ordinary dwellings operations (D-AffO, D-

LuxO, D-SfhO), of retail or manufacturing activities (HYPER, SUPER, IND-HT, IND-PR), and of some farming activities (ANIMAL, R-FIELD).

Question: Can the Local Authority (LA) modify the tax rate only at the beginning of a term of office or at any moment?

Answer: The LA can modify the tax rate at any moment in the course of the game, even in the middle of a term of office.