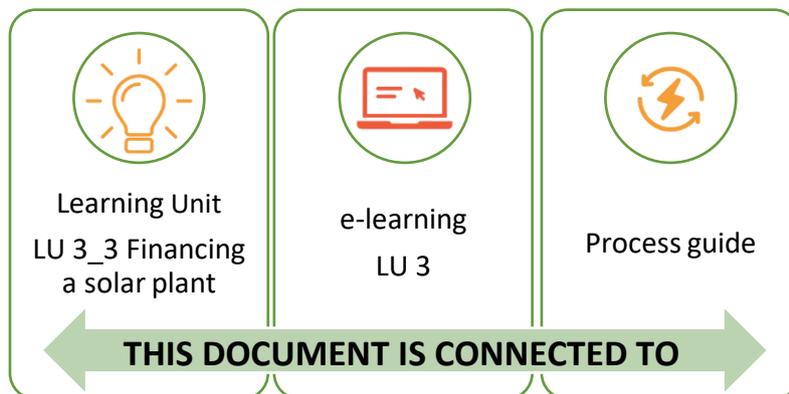




# Our Solar Town

## Role play 3.3

### Financing a solar plant



**akazyon**<sup>0</sup>  
WEBTOOLS • UMWELT • FÖRDERUNGEN



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### Role play 3.3 – Introduction

## Financing a solar plant

**TARGET GROUP:** students aged 10-13.

**PLACE:** school, e.g. classroom

#### **THEORETICAL FRAMEWORK:**

The teacher presents a scenario to the students. Its subject treats the solar thermal energy and the ways in which we can use it. The roles are briefly defined and described. The students choose the role they will impersonate. The teacher does not play any role but works as an animator in order to create the appropriate atmosphere so that students feel free to express themselves.

The focus is on student awareness of a real situation and its complexity, through a pleasant learning process. The teacher does not focus his/her attention on the theatrical abilities but on students' arguments.

#### **OBJECTIVE:**

Through the role play, students will understand the interdependence and conflict of the involved roles and attempt to come to a decision that will highlight the usefulness of solar thermal energy and its applications.

#### **PROCEDURE:**

- Teacher's preparation (*connection with the output*)
- Recording the needs
- Theoretical and practical preparation of the students (*connection with the output*)
- Definition and description of roles – students choose their roles
- Game implementation (Role rotation and integration of experiences)
- Conclusion - Evaluation

#### **DURATION:**

The procedure, depending on the time that can be allocated according to the Curriculum, can last from two to twelve learning sessions. When there are plenty of hours available, these can be distributed throughout the school year. Below there is an indicative timetable for project implementation:





Steps	Duration
Teacher's preparation (connection with the output)	2h
Recording the needs	1 h
Theoretical and practical preparation of the Students (connection with the output)	6h
Definition and description of roles – Students choose their roles	1h
Game implementation (Role rotation and integration of experiences)	1h
Conclusion - Evaluation	1h

## ROLE PLAY 3.3: INTRODUCTION





## Role play 3.3 – Steps for implementation

### ROLE PLAY 3.3: STEPS

#### STEP 1: Teacher`s preparation (connection with outputs)

The teacher`s preparation before entering the classroom to run the role play includes the following:

- Thoughts, ideas, object of solar thermal energy companies.
- Information on the legal framework of these companies.
- Information on issues of economic activity.
- Personal research on the above issues and gathering of information on the industry.
- Informing the class about the intent to implement an RPG.
- Setting a timetable.
- Examining the likelihood of joint co-operation of several classes within the school unit.

#### STEP 2: Recording the needs.

The teacher records the needs for the implementation of the RP, which are generally the following:

- What infrastructure will be needed (laboratories, offices, computer room, ...).
- When these facilities will be used.
- Required consumables and stationery.
- Expenditure budget.
- Communication with a real business.
- Check of the laboratory and the computers to be used.
- Communication and discussion with the stakeholders involved in the construction of such a plant (Public Swimming Pool, Municipality, ...).

#### STEP 3: Theoretical and practical student preparation (connection with outputs)

- Organization of a classroom meeting.
- Presentation of the idea and a possible scenario to the students.
- Presentation of solar thermal energy and its applications. (output)
- Assignment of research - presentation of results of group research.  
e.g. A) Investigation of solar thermal energy applications on the web.  
B) Running of simulation programs for the application of thermal energy.
- Visit to a real business and discussion with a representative or a business representative's visit to the school.
- Basic business organization and operation issues.





#### **STEP 4: Definition and description of roles – Ss choose their roles**

The teacher presents the different roles and the students decide which one interests each of them the most. The teacher is the one who will make the final decisions. Finally, the students with the teacher`s help create the role cards.

#### **STEP 5: Game implementation**

Before the debate, the teacher asks each group of students to assemble in parted places, where they will be able to think about the situation, analyse it and plan their future behaviour. In other words, each group of students is called to decide what their attitude will be when the debate time comes.

Students now impersonate their roles. They speak in the first person - analyses and comments are not allowed at this stage. The "theatrical performance" will be completed when the issue under discussion is resolved. The teacher at this stage acts as a coordinator. He/she does not control the debate or judge what is said. This creates ideas to proceed the discussion. He/she intervenes, when necessary, to bring back the discussion to the subject or to give floor to a student who is discouraged to speak. Besides, one of the objectives of this activity involves making students feel responsible for their decisions and their consequences, as well.

By the end of the role-play activity, the teacher must be certain that the assembly has come to a solution that satisfies all participants, all "players". Therefore, everyone should be asked whether they feel that the problem has been adequately discussed or they should continue the role play until a solution is found. Determining the right time for the end of the activity involves certain difficulty. Experience has shown that such an activity always takes longer than initial planning. Ultimately though, it turns out that it is better to have a quality ten-minute game than half an hour of moderate exercise.

#### **STEP 6: Conclusion – Integration of experiences - Evaluation**

During the final stage, the participants comment in open discussions on their experience.





## Role play 3.3 – Implementation of the RPG

### Financing a solar plant

*Search for a sponsor to fund a school's solar thermal system*

# ROLE PLAY 3.3: IMPLEMENTATION

#### SCENARIO:

A school with large hot water needs (heated pool, gym) wants to change the water heating system and install a solar power plant to reduce costs. Unfortunately, they cannot afford such expenses with their own funding and therefore they are looking for sponsors to secure the necessary subsidy. They are mainly addressing the media to publicise the issue and raise public awareness. Then they come in contact with some businesses and the municipality and try to convince them to fund the project.

#### ROLES:

1. School representatives
2. Media
3. City council
4. Businesses
5. Some council members

#### PHASES:

1. Preparation by each group
2. Meeting school + media
3. Meeting school + city council
4. Meeting school + businesses
5. Press conference, of all participants to reveal their decision

#### GROUP FEATURES:

##### Neutral

**1. City Council:** Both courteous and ambitious. They are interested in not displeasing anyone and having good relationships with everybody. On the one hand, they want the installation to be actualised because it will reduce operating costs, but on the other hand it will cost them a lot of money. They are not positive from the beginning; they expect to find other sources of funding as well.

**2. Businesses:** Realists, reasonable, restrained. Just as the city council, they favour the installation but at the lowest cost for the company. They will benefit from their participation in the project as sponsors, since their firm will be advertised.





### For

**3. School representatives:** Excited, impatient, warmly support their view as hot water needs are enormous and the existing source of thermal energy is costly.

**Arguments:**

Low operating costs, an installation which is going to approach autonomy. A cleaner environment.

**4. Media:** They cover the subject with enthusiasm as they are convinced about the benefit from the installation. It is also a burning local issue and all citizens are interested in watching the reports about it; many advertising revenues.

### Against

**5. Some council members:** Being aware of the financial situation of the municipality from within, they know that at the given time it cannot allocate the necessary money.

## ROLE PLAY 3.3: IMPLEMENTATION





## Role play 3.1 – Role play cards



# ROLE PLAY 3.3: ROLE PLAY CARDS

### ***Card 1: School representatives***

One of you is the manager of the school, one is the president of the teachers' association and one is the president of the parents' association.

You know better than anyone the school's enormous energy needs and high costs with its existing heat source.

That is why you are excited, impatient and strongly support your point of view.

Your arguments are:

- Low operating costs, as this is an installation that will approach autonomy.
- Solar thermal energy is a renewable energy source and its use contributes to a cleaner environment.
- The cost of installation may be high but the company and the municipality that will bear the costs will be able to place their brand in a prominent place to advertise in this way. Their initiative will be known throughout the community and the media will promote their social sensitivity and interest in a cleaner environment.
- The municipality may pay for the installation costs but then will not have to spend any money on the operation as it is today. In the long run they will be winning.





## ROLE PLAY 3.3: ROLE PLAY CARDS

### **Card 2: Media**

You are representatives of the local media. There was a meeting with school representatives and you were convinced of the necessity and the benefit from the installation. That is why you are covering the subject with enthusiasm. It is also a burning local issue and all citizens are interested in watching the reports about it; many advertising revenues.

You know that if the municipality and company take over the installation there will be media presentations for a long time. So, you are encouraging company representatives and the municipality to make a positive decision on their installation by telling them that they will be advertise through your media.



### **Card 3: City council**

Both courteous and ambitious. You are interested in not displeasing anyone and having good relationships with everybody. On the one hand, you want the installation to be actualized because it will reduce operating costs, but on the other hand it will cost you a lot of money. You are not positive from the beginning; you expect to find other sources of funding as well.

Wait to hear the arguments of company representatives. Of course, you are asking the media to highlight your interest in the environment and win a large part of your constituency.





## ROLE PLAY 3.3: ROLE PLAY CARDS

### ***Card 4: Businesses***

You are realist, reasonable and restrained businessman. You favor the installation but at the lowest cost for the company.

You want your firm to become famous and to become known all over the town. An easy way to spread the reputation of your company is to become a sponsor to school. In addition, if you participate in the project as sponsor you will not spend as much money in order to advertised from relevant companies.

In the discussion you have a cautious attitude because you want to get great advertising on the one hand and highlight your environmental sensitivity on the other. You also want to ensure that the municipality will be involved in the installation costs so that you can get all the benefits with less money.



### ***Card 5: Some council members***

You are one of the Mayor's financial advisors. You have been informed about an application from a local school to the Municipality aiming at having the latter as a sponsor for the installation of a solar power plant. Being aware of the financial situation of the Municipality from within, you know that at the given time it cannot allocate the necessary money because there are other priorities to be covered. Thus, you argue against it presenting data.





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