

Practical case 1.

GMO bacteria against heavy metals

Case outline: Waste Bioterminator Inc. proposes to reclaim industrially polluted soils using Genetically Modified Organisms (GMO's). More specifically, the project involves bacteria which have been genetically modified to metabolize heavy metal compounds. The soil would be treated directly on site by loading batches of soil inoculated with GMO bacteria in heated fermentors with bacteria and finally returned to the site when the level of heavy metals would be back to normal. Each fermentor could treat ten tons of soil per week.

Defense team: Waste Bioterminator Inc. top Management executives

Head of the Research & Development department: You are the technical expert, the scientist. You have supervised the work leading to the patenting of the invention. Your role is to demonstrate that the project is safe, that you have the technical know-how to produce and control your product to the highest standards of environmental safety.

Corporate Lawyer: Your role here is to make sure that the company is not breaking any regulations. Accordingly, you must check what the current regulations are about polluted soil reclamation.

Chief Executive Officer: You run the company. You must be able to demonstrate that your product is economically viable (how much do you charge per ton of soil treated?). By training, you are an engineer; therefore you must be able to answer practical civil engineering questions (how long does it take? What kind of equipment is needed?)

Prosecution team: European GMO Homologation commission officers

Scientist: Your role is to assess whether the technical arguments of the opposing team are realistic and sound. Ask technical questions. Demand facts and figures, not opinions.

Lawyer: Your role is to check whether the project obeys all current laws and regulations.

Mayor of Kerpenlann sur l'Aff: You would be the end-user of the product (there is a one hectare land reclamation project in your town, an old steel mill has polluted soil and heavy metals are seeping in the local river). You want both value for the public money, public safety, and above all, to be re-elected. Ask practical questions (how much would it cost? How long would it take? How could the land be used afterwards?)

Practical case 2.

GMO Maize against pests

Case outline: InnovaCorn Inc. announces it is ready to commercialize in Europe the seeds of SuperCorn®, genetically modified maize which is resistant to pests. The modified Maize synthesises pyrethrine (a natural insecticide produced by Asteraceae of the genus Pyrethrum) in green tissues but not in flowers or fruits. As a result, SuperCorn® does not require spraying insecticides in the fields.

Defense team: InnovaCorn Inc. top Management executives

Head of the Research & Development department: You have supervised the scientific work leading to the patenting of the invention. Your role is to demonstrate that the project is safe, that you have the technical know-how to produce and control SuperCorn® to the highest standards of environmental safety.

Corporate Lawyer: Your role here is to make sure that the company is not breaking any regulations. You must be aware of current EEC regulations about GMO crops.

Chief Executive Officer: You run the company. You must have figures at your fingertips demonstrating that your project is economically viable. You must be able to establish a pricing.

Prosecution team: European GMO Homologation commission officers

Scientist: Your role is to assess whether the technical arguments of the opposing team are realistic and sound. Use technical questions.

President of the European Maize growers association: The growers you represent would have to use the product. Your role is to defend their interests. Ask user-oriented questions. Think about possible consequences to GMO growers. Be practical. For example, ask about the extra-cost per hectare of the GMO maize compared to the cost of a traditional seed.

President of a Consumer association: You would be the end-user of the product. You want the respect of the law but above all you want public safety. Ask about evidence of product safety.

Case 3.

Nile perch farming in the Couesnon valley

Case outline: Fishmeat Inc. plans to install fish farming facilities in a shallow valley near a river, by diverting part of the river into rearing tanks and then treating the effluent on site before sending the water back into the river. The farm (2 hectares) would be used to farm the Nile perch for the fish transformation industry (fish filets, nuggets etc.).

Defense team: Fishmeat Inc. engineers and top executives

Landscape planner and engineer: You are the technical expert. You have supervised the plans of the rearing facilities (concrete tanks, piping networks and pumps, mini water treatment plant) that would be installed on the site near the river. Your role is to demonstrate that the project is safe for the environment. Prepare a map.

Corporate Lawyer: Your role here is to make sure that the company is not breaking any regulations. You must be aware of current French regulations about freshwater fish farming as well as about exotic species. Find out what these regulations are.

Chief Executive Officer: You run the company. You must have figures at your fingertips demonstrating that your project is economically viable. You must be able to establish a pricing. You must also be able to convince the local Mayor that this plant is good for Penploubalay sur Couesnon.

Prosecution team: Ille & Villaine DDE and veterinary inspection officers

Scientist: Your role is to assess whether the plant may represent a threat for the environment, especially local fauna and flora, as well as health.

DDE engineer: You must assess the possible problems the plant may pose in terms of landscape planning and flood damage.

Mayor of Penploubalay sur Couesnon: You are the mayor of a peaceful community. Above all, you want to be re-elected. Ask questions to better estimate the advantages and disadvantages of such a project within the limits of your city (employment, financial resources, environmental risk...).

Case 4.

Manure drying plant at Cochonnec

Case outline: The Drycrap Unlimited Co. is planning to build a large (1ha) plant to dry pig manure and turn it into fertilizer pellets to be used in agriculture. The plant would drain the whole of Brittany. Manure would be carried to the plant by tank trucks then pumped into dehydration towers. The plant would be situated on an old 1 ha marshland used as a rubbish dump for several years. The site would be cleaned and landscaped first.

Defense team: Engineers and executives of the Drycrap Unlimited Co.

Engineer: Demonstrate that the process is good for the environment and that the functioning of the plant (which is more than 1km away from the nearest city) would not cause inconvenience.

Lawyer: check what kind of regulations this plant would have to obey and try to foresee legal issues that opponents may try to use to stop the project.

Chief Executive Officer: Show that the project is economically sound. Try to figure out the maximum price you can pay per ton of manure collected at a farm (considering that you pay for transport), depending on the cost of treatment per ton and the price you can sell the ton of final product (assume a dehydration rate of 90% i.e. one ton manure gives 100kg pellets, assuming which are the equivalent of a complete organic fertilizer). Find convincing arguments showing the advantages of this project compared to the current situation.

Prosecution team: Ille & Villaine DDE and Veterinary inspection officers

Scientist: anticipate any problem the process may cause to the environment at each step and ensure that they have been taken into account.

Lawyer: check that the proposal meets the requirements of the law. Are you convinced by the case put forward by the defense ?

Mayor of Cochonnec sur Couesnon: The plant would be installed 1km from your city, on a land belonging to your city. Think about your re-election and try to figure what are the advantages and disadvantage of the plant for the local economy and your re-election.

Practical case 5.

Micro-hydroelectric dams on the river Ixe

Case outline: PowerStream Inc. is specialised in the building of miniature hydroelectric dams (each sufficient for a 1,000 person village). It plans to build a series of such dams, each 500m apart, in the flood-prone river Ixe, a small affluent of the Loire.

Defense team: Engineers and top executives of PowerStream Inc.

Hydroelectric engineer: Show that your project is technically feasible and explain how you would ensure that negative impact on the environment would be minimal.

Lawyer: study the authorisation process necessary to build such a project and try to foresee the legal issues that might be raised to stop it.

Chief Executive Officer: Demonstrate that the benefit for the community would more than compensate for possible inconvenience. Prepare arguments to win to your cause the likely opponents to your project.

Prosecution team: DDE, Prefecture and Veterinary inspection of the Loire Atlantique

Scientist: You must assess the kind of impact this series of dams might have on the environment, and check that they have been taken into account.

Préfet of the Loire Atlantique: It is your privilege to authorise or forbid the building of such installations. Check that the law is obeyed and that no trouble to the public order is to be expected.

Mayor of Perpignac sur Ixe: the project would be built on the territory of your city. You want to be re-elected. Demand a clear demonstration that the benefit to your community would be superior to the damage. You are also the President of the local trout anglers association. Think about their interests too.

Practical case 6.

An écoparc at Ploubencrac'h

Case outline: Eköparken Gmbh is a company designing pedagogic leisure parks to discover ecology and have a good time in open air. It is planning to create such a park among a 5 ha oak stand (run through by a small stream), last remnant of the medieval forest of Ploubencrac'h. The park would feature a one acre artificial pond (which would have to be dug) fed by the stream, complete with open-air swimming pool, a discovery path in the trees ("acrobranche") and on the ground for jogging activities, a café-snack sitting 100 clients would also be built on the site. The attendance is forecasted at 500 visitors per day in peak season (June-August), which would come by car (a 300 slots parking lot would be built).

Defense team: Engineers and scientific counselors of Eköparken Gmbh.

Scientific supervisor: Show that your project is ecologically sound since you have taken all the necessary steps to ensure minimum disturbance to the area.

Lawyer: check what kind of regulations this park would have to obey and try to foresee legal issues that opponents may try to use to stop the project.

Chief Executive Officer: Demonstrate that the benefit for the community would more than compensate for possible inconvenience. Prepare arguments to win to your cause the likely opponents to your project.

Prosecution team : Scientist, Prefect of the Finistère, Mayor of Ploubencrac'h (also president of the Ploubencrac'h birdwatching society)

Scientist: You must assess the kind of impact this park might have on the environment, and check that they have been taken into account.

Préfet of the Finistère: It is your privilege to authorise or forbid the building of such installations. Check that the law is obeyed at the local and European scale.

Mayor of Ploubencrac'h: the project would be built on the last bit of forest of your city. You want to be re-elected. Demand a clear demonstration that the benefit to your community would be superior to the damage. You are also the President of the local birdwatchers association. Think about their interests too.