

# Teaching Unit 4 - Green Strategies for the sector of forestry

## IMPLEMENTATION MANUAL FOR TEACHERS

### Introduction

Following document contains a step-by-step plan to implement all the activities previewed in the Learning Module about Green Strategies for the sector of forestry. The Green Strategies for the sector of forestry learning module is about the rational handling and sustainable conservation and use of forests. Three worksheets are designed to address the contradiction between using forests and preserving them for as long as possible.

The phases represent different working steps that the students should do in order to complete the module. In this document the worksheets can be found from page 8. On page 11 and 13 teachers can find solutions to the previous exercises.

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## Phase 1 Ecological production – Sustainable forest management

### Activity 1

**Watch the following video:** (4) What is Sustainable Forest Management? - YouTube

### Activity 2

**Present the presentation:**

[https://www.canva.com/design/DAF1AXGFCGU/KOuYV-Hbn9v5UUxXLW\\_U1w/edit?utm\\_content=DAF1AXGFCGU&utm\\_campaign=designshare&utm\\_medium=link2&utm\\_source=sharebutton](https://www.canva.com/design/DAF1AXGFCGU/KOuYV-Hbn9v5UUxXLW_U1w/edit?utm_content=DAF1AXGFCGU&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton)

### Activity 3

**Distribute worksheet no 1 (page 8-10)** ( for the teachers 1T – answer key on page 11)

### Activity 4

**Ask students to go to** <https://wordwall.net/pl/resource/64216568> and submit their answers; this way they can check their ideas of activity 3

### Activity 5

**Divide the students into 3-4 groups** and encourage them to justify the need for rational management of forest resources

Here are some arguments justifying the need for rational management of forest resources in accordance with the principles of sustainable forest management and nature protection:

Forests are not only a source of wood, but also perform many other ecological, social and economic functions, such as: producing oxygen, absorbing carbon dioxide, regulating climate, protecting soil and water, maintaining biodiversity, providing recreation and education. Irrational forest management may lead to the degradation or loss of these functions, which in turn negatively affects the quality of people's lives and the condition of the natural environment.

Forests are a renewable, but not infinite resource. Their regeneration takes time and appropriate conditions. The predatory exploitation of forests, especially primary forests, leads to their shrinkage and fragmentation, which threatens their durability and ability to regenerate.

Sustainable forest management involves adapting the intensity and method of wood harvesting to the production and regeneration capabilities of forests, so as not to disturb their natural structure and dynamics.

Forests are part of the global ecological system and influence processes occurring throughout the planet. Deforestation is one of the main causes of climate change because it reduces the ability of forests to absorb carbon dioxide and increases greenhouse gas emissions. Deforestation also affects the water cycle, leading to droughts, floods, soil erosion and water pollution.

Sustainable forest management helps protect the climate and water resources, improving the health and safety of people around the world.

### Activity 6

**What should be done?** Work on the article; you can do it on paper - distribute worksheet 2 ( for the teachers worksheet 2T – answer key), or online <https://wordwall.net/pl/resource/64213631>  
[tps://wordwall.net/pl/resource/64213631](https://wordwall.net/pl/resource/64213631)

### Activity 7

Based on previous exercises make students prepare a short presentation of one chosen action to be done to use forests in a sustainable way. Try to connect it to specific needs of your local/regional environment.

Discussion and reflections are the conclusion of the lesson.

## Phase 2 Efficiency in transport and production

### Activity 1

**Present definition of efficiency in forest transport and production; e.g.**

1. Production efficiency in forestry is the practice of creating and marketing forest products on the basis of their actual ecological sustainability.
2. Efficiency in forestry production refers to the ability to successfully complete tasks without wasting time or energy. It is important to focus on cost drivers and sources such as labour and fleet size, fuel burn per square meter, quality losses from felling and log making. The goal is to increase productivity and reduce emissions.

**Source:** [Collins English Dictionary \(collinsdictionary.com\)](https://www.collinsdictionary.com)

3. Transportation efficiency in forestry is the practice of creating and managing transportation systems that are economical, efficient and environmentally friendly.

### Activity 2

**Factors on which production efficiency depends**

Go to <https://wordwall.net/pl/resource/64540631>

### Activity 3

**Benefits of increased efficiency**

Go to <https://wordwall.net/pl/resource/64539903>

### Activity 4

**Show and discuss the presentation: How to improve efficiency in forest operations**

[https://www.canva.com/design/DAF1QjFvkRI/MPH49YPOxXNksw7uGF OumQ/edit?utm\\_content=DAF1QjFvkRI&utm\\_campaign=designshare&utm\\_medium=link2&utm\\_source=sharebutton](https://www.canva.com/design/DAF1QjFvkRI/MPH49YPOxXNksw7uGF OumQ/edit?utm_content=DAF1QjFvkRI&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton)

### Activity 5

**Hand out worksheet 1: Your experiences with transport in forestry.**  
– individual work

### Activity 6

**Hand out worksheet 2: Positive and negative effects of efficiency in forestry** and after completing it  
**go to** <https://wordwall.net/resource/64548827> to check the answers

### Activity 7

**Assign students or pair of students to discuss the selected effect**

### Activity 8

**Invite students to share** their results with the rest of the class.  
**Facilitate the discussion** and feedback among the groups, and summarize the main points and lessons learned from the efficiency in forestry.

## Phase 3 Green Marketing

The entire phase is presented in the form of presentation:

[https://www.canva.com/design/DAF1Yx96\\_p0/nedsfFfOH9UYmw6K5Jmftg/edit?utm\\_content=DAF1Yx96\\_p0&utm\\_campaign=designshare&utm\\_medium=link2&utm\\_source=sharebutton](https://www.canva.com/design/DAF1Yx96_p0/nedsfFfOH9UYmw6K5Jmftg/edit?utm_content=DAF1Yx96_p0&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton)

### Activity 1

**Watch a film** – presentation slide 2

### Activity 2

**On the basis of the film discuss the definition of Green Marketing**  
then use presentation slide 3

### Activity 3

**Watch the film** - presentation slide 4

**Discuss examples** of Green Marketing presented in the film

### Activity 4

**Present rules** of Green Marketing (presentation slides 5-15) stopping at each one for the explanation

### Activity 5

**Discuss negative effects** of Green Marketing (slides 16-19)

### Activity 6

**Present definition of Green Marketing in forestry, e.g.**

1. Green marketing in forestry is the application of marketing principles and strategies to promote the environmental and social benefits of forest products and services.
2. It is a way of communicating the positive impacts of forest management and use on the environment and society.
3. Green Marketing in forestry can be defined as "the development and communication of product and service offerings that minimize negative environmental impacts and/or improve environmental quality, and which satisfy consumer and organizational objectives".  
<https://fao.org/forestry/trade/en>

Slides 20-21

### Activity 7

**Brainstorm** – Benefits and challenges of Green Marketing and then **go** to <https://wordwall.net/resource/64638826>

Slide 23

### Activity 8

**Hand out the worksheets** to the students; Green Marketing strategy – worksheet 1  
Group work

### Activity 9

**Invite students to share** their results with the rest of the class.  
**Facilitate the discussion** and feedback among the groups, and summarize the main points and lessons learned from the green marketing strategies.





- B. USE REDUCED-IMPACT LOGGING TECHNIQUES**
- C. TRAIN EMPLOYEES & KEEP THEM HEALTHY**
- D. BOOST INCOME AND PROFITABILITY**
- E. HAVE A MANAGEMENT PLAN & HARVEST ACCORDINGLY**
- F. TREE PLANTATIONS HAVE A ROLE TO PLAY**
- G. PREVENT FOREST CONVERSION & PROTECT HIGH CONSERVATION VALUE FORESTS**
- H. RESPECT LOCAL COMMUNITIES & FOSTER ECONOMIC DEVELOPMENT**

1. \_\_\_\_\_

A forest's biodiversity, including its water resources, soils, plant species, and animal population, must be conserved. This means that forest managers minimize erosion and protect waterways; avoid the use of chemical pesticides; properly dispose of waste; conserve native tree species and maintain genetic diversity on their land; set aside part of their properties as protected areas where logging is prohibited (including forestland that is steeply sloped, provides habitat for critical wildlife species, and/or serves a culturally or spiritually significant function in the local community); and take other steps to ensure the integrity of the forest.

2. \_\_\_\_\_

It is required that forest managers protect natural forests against deforestation, reduce the risk of fires, and take particular care to protect "high conservation value forests." The latter term is used to describe forests that contain significant concentrations of biodiversity; are located in or include rare or endangered ecosystems; are critical providers of ecosystem services; or are fundamental to meeting the basic needs or defining the cultural identity of forest communities.

3. \_\_\_\_\_

Logging activities can take many forms, from selective harvesting to limited, small-scale clear-cutting, which, in temperate forests, can mimic natural disturbances such as fires or landslides. Forestry operations must put into place a clearly mapped management plan that specifies the number of trees that can be harvested, and the frequency at which this can occur, based on the growth and regeneration rates of the species found in that ecosystem. The goal is to harvest in such a way that allows these species the chance to regenerate, and ensures that the forest's overall ecological health is maintained, restored, or even enhanced.

4. \_\_\_\_\_

Sustainable forestry focuses on keeping natural forests standing. However, the establishment of plantations on already deforested or degraded land can improve the health of an ecosystem and help to meet some of the demand for forest products,

taking pressure off of natural forests. Proper plantations must operate according to a management plan that promotes the protection, restoration, and conservation of natural forests.

5. \_\_\_\_\_

Many people associate logging with the image of a bulldozer leaving behind a denuded landscape, but it is possible to harvest timber without causing collateral damage to other parts of a forest. Reduced-impact techniques allow loggers to fell and extract trees in a manner that reduces damage to other trees in the stand. This approach also minimizes erosion, waste, and carbon emissions.

6. \_\_\_\_\_

A forestry business that does not protect its workers is not only unethical, but also unsustainable. Well-trained and healthy employees are essential to ensuring that these enterprises function safely and efficiently. In an examination of community-run forestry businesses, certified enterprises did a far better job of protecting their workers than their noncertified peers. Members of certified enterprises were four times more likely to have taken part in a safety course; 94 percent of these businesses offered regular medical exams to their workers; and 100 percent—four times as many as noncertified enterprises—offered medical attention to their employees when they were injured on the job.

7. \_\_\_\_\_

For forestry businesses to be sustainable, they must operate in harmony with their surroundings. This means more than just the natural ecosystems in which they are located; it also applies to the human neighbours with which they co-exist. It means that a sustainable business must contribute to the social and economic development of a community by offering its members opportunities for employment and compensating indigenous groups for the traditional knowledge that they share regarding forest species and operations. These are not only socially responsible steps, but they also benefit the environment. Providing jobs to local people, for example, can eliminate the incentive to engage in profitable but destructive activities such as wildlife poaching and illegal logging.

8. \_\_\_\_\_

Sustainable forestry should have a positive economic impact on its practitioners. The steps are the same that require the active management of its forestland, teach employees how to work safely and efficiently, and reduce staff turnover, so it's no surprise that these steps can also lead to economic growth.

Source: [What is Sustainable Forestry? | Rainforest Alliance \(rainforest-alliance.org\)](https://rainforest-alliance.org/what-is-sustainable-forestry/)

## Worksheet 1T

### Activity 2: Green Strategies for the Sector of Forestry

#### Solutions for teachers:

1 A

2 G

3 E

4 F

5 B

6 C

7 H

8 D

## Worksheet 2

### Activity 1: Sustainable forestry - definition

**Task 2:** Based on the presentation, the video and your own ideas create the definition of sustainable forest management.

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**Then complete the sample definition using the key words:**

a range of functions  
benefit  
biodiversity  
future generations  
needs of nature  
timber

Sustainable management is to balance ..... people and the economy. The most important condition placed on forests is that they fulfil ....., including ecological, economic, social, for the ..... of present and ..... Sustainable forest management should ensure that forests are used, including ..... harvesting, in such a way that their resources are not diminished while maintaining .....



positive ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

negative ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

1

increasing risk of  
damage to trees

2

increasing  
work efficiency

3

reducing the risk of fires and  
forest pests by enabling quick  
intervention and monitoring  
of the forest condition.

4

destroying and fragmenting  
forest habitats, leading to the  
loss of species and functions  
of forest ecosystems.

5

polluting the air, water and soil  
with exhaust fumes, noise, waste and  
erosion, which negatively affects human  
and animal health and biodiversity.

6

improving the safety  
and working conditions  
of foresters, lumberjacks  
and other forest workers.

7

reducing  
transport costs

8

enabling access  
to remote forest areas, which  
increases the possibilities of forest  
management, nature conservation,  
tourism and ecological education.

9

facilitating the transport of wood  
and other forest products, which  
contributes to the economic and  
social development of forest regions.

10

reducing  
transport time

11

increasing  
employee safety

12

increasing risk  
of accidents

13

increasing risk  
of damage to the  
natural environment

14

changing the forest  
landscape, which may affect  
the aesthetic, cultural and  
historical values of the forest.

15

increasing pressure on forest  
resources, which may lead  
to over-logging, degradation  
and loss of forests.

