



LEARN & ACT Teacher's Guide

# Sustainable Consumption and Production

---

## Contents

Introduction	1
1. What is sustainable consumption and production?	3
2. Why is the current consumption-production system a problem?	3
3. Global consumption-production status	5
4. The goal of the international community for sustainable production and consumption	6
5. The most important thing for sustainable consumption and production	8
6. Efforts of the international community	9
7. COVID-19 and sustainable consumption and production	11
8. What can we do for sustainable consumption and production?	11

## Introduction 1: Now is the Era of Consumption, we are "Homo Consumens"



▶ p.03

### • We Homo Consumens:

What do we do to enjoy our leisure time? There are many ways to spend a holiday, such as going on a trip, buying delicious food, going shopping, or grabbing a cup of coffee at a nice café. But what these activities have in common is that they involve consuming goods or services. We as humans are living in an era of consumption where we can consume to our hearts' content and satisfy our needs. Whether humans consume to rest or consume to enjoy the pleasures of life, now is the happiest era for consumers (Homo consumens).



▶ p.04

### • People suffering from shopping addiction, or Affluenza:

"Affluenza" is a grafted term combining affluence and influenza, meaning consumption addiction. It is a newly coined word that has been widely spread around the world recently. People with this influenza purchase and collect as many products as a starving person would fill his or her stomach. Some go bankrupt due to excessive consumption or overwork in order raise enough money. Online shopping, which has become common in the 21st century, is further fueling the spread of Affluenza.

### • Is rational consumption really the best? :

We think rational consumption is when we consume with maximum satisfaction at minimum cost. In other words, if the price is the same, it is considered that you have made a reasonable purchase when you buy a product at larger quantity or higher quality. However, while such consumption may be reasonable, it may be less sustainable. When many consumers purchase a product, they carefully consider the price, capacity, and quality of the product, but do not consider 'who is the producer' or 'what is the sustainability of the ecosystem.' Now, consumption must be directed towards sustainability as well as rationality.

## Introduction 2: The black footprint of consumer life



▶ p.05

### ● What is carbon footprint? :

'Carbon footprint' refers to the total amount of carbon dioxide generated during the entire process of activities, production, and consumption of individuals, corporations, and national organizations. It is derived from the fact that in 2006, the British Parliamentary Office of Science and Technology (POST) was tasked with calculating the total amount of carbon dioxide generated during the production of a product. This is its carbon footprint, through which we can estimate how much impact a particular product has on the global environment in the process of production and consumption.

### ● Carbon Footprint Labeling:

The carbon footprint labeling is a system that grants a certification mark so that companies and consumers can produce and consume eco-friendly products. Phase 1 Certification of Carbon Emissions is a system for marking the total amount of carbon dioxide generated in all processes from production to disposal of products. Phase 2 Certifications of Low Carbon Products is a system for certifying products that have lower than the average carbon emission of similar products and thus reduce greenhouse gas emissions by applying low-carbon technology.

### ● You are increasing your carbon footprint

Most of the things that people consume today, especially those mass-produced in factories, have a high carbon footprint. A large amount of carbon is emitted not only from clothing, food, electronic devices, and automobiles but also from energy production necessary for daily life and industrial activities. According to the 2019 Global Footprint Network survey, the carbon footprint of humankind has steadily increased since the mid-20th century, namely 11 times now as compared to 1961.

# 1. What is sustainable consumption and production?

## 01. What is sustainable consumption and production?



### Sustainable Consumption and production

- ✓ Injecting less resources
- ✓ Getting more output
- ✓ Emitting less pollutants

06

▶ p.06

### ● Consumption and production:

'Consumption' refers to the use or consumption of goods and services necessary to satisfy human needs. 'Production' refers to the production of various goods or services necessary for human life. As society develops and human needs diversify, the types of goods and services required increase, and production and consumption activities become more complex.

### ● Sustainable consumption and production:

Sustainable consumption and production are economic activities aimed at reducing the emission of natural resources and hazardous substances throughout the life cycle of products and services and during their disposal. In other words, sustainable consumption and production mean 'injecting less resources, getting more output, and emitting less pollutants.'

## 2. Why is the current consumption-production system a problem? (1)

### 02. Why is the current consumption-production system a problem? (1)



mass production

mass consumption

mass disposal

07

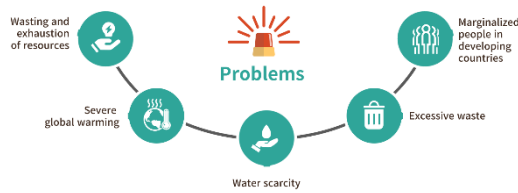
▶ p.07

### ● Unsustainable 'mass production-consumption-disposal' system:

Countless products were mass-produced in the systematic factory system after the Industrial Revolution, and the products poured into the market were consumed in large quantities and discarded after their lifespan. This 'mass production-consumption-disposal' system that has supported modern society has emitted a huge amount of greenhouse gases to the earth over the past 100 years, which causes global warming, leading to climate disasters.

## 2. Why is the current consumption-production system a problem? (2)

02. Why is the current consumption-production system a problem? (2)



► p.08

### ① Waste and exhaustion of resources :

Most products manufactured and distributed in the global village are made from raw materials from all over the world: for example, wood is a raw material for paper, plant fibers and petroleum by-products are needed to make clothes, and grains are used to make various food products. These resources used to manufacture products are increasing every year. According to the United Nations Development Program (UNDP), global resource demand has increased from 10 billion tons in 1950 to 70 billion tons in 2010 and is projected to reach a maximum of 270 billion tons by 2050.

### ② Severe global warming, a crisis of reaching the 1.5-degree critical point that threatens human survival by the year 2040:

Greenhouse gases are emitted at all stages of manufacturing and distribution of products, to produce energy used by humans to obtain resources, fossil fuels used to transport them, and energy needed to make and package products. These greenhouse gases raise the global temperature and threaten the survival of the entire global village. According to a report published by the Intergovernmental Panel on Climate Change (IPCC) in August 2021, the Earth's surface temperature has risen 1.09 degrees Celsius above pre-industrial levels. The report warns: "If greenhouse gas emissions are not reduced, the global average temperature rise will reach 1.5 degrees between 2021 and 2040."

### ③ Water scarcity, 51% of humanity in 2050 will suffer from severe water shortage:

According to the World Wide Fund for Nature (WWF)'s Living Planet Report published in 2020, the current trend of water scarcity will continue. By 2050, 51% of the world's population will experience severe water shortages. According to the United Nations Development Program (UNDP), agriculture uses the most amount of water in the world. According to the Water Footprint Network (WFN), an international environmental organization, it takes 15,415 liters of water to produce 1 kg of beef, 17,196 liters to produce 1 kg of chocolate, 790 liters to grow 1 kg of bananas, and 237 liters to grow 1 kg of cabbage.

#### ④ Excessive waste:

Disposable items used for convenience by humankind, packaging materials due to excessive packaging, outdated clothing, leftover food, and industrial products that are discarded without even reaching the shelves have caused serious waste crisis worldwide. According to a report by the World Bank, global waste generation is expected to increase from 2 billion tons in 2016 to 3.4 billion tons by 2050. In particular, the problem of plastic waste is the most serious, with more than 1 million plastic bags being thrown into garbage cans every minute worldwide, and more than 500 billion plastic bags being used every year.

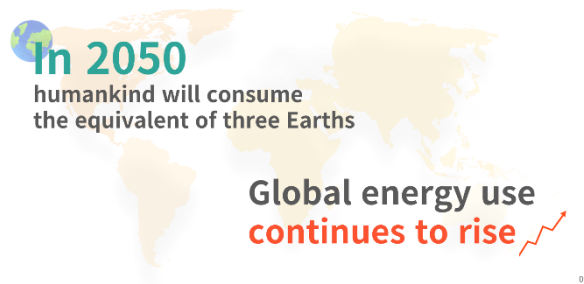
#### ⑤ Marginalized people in developing countries:

Global companies set up factories in developing countries to save labor costs and offer numerous products at low prices to consumers around the world. However, a very small share of the huge profits that global companies take goes to workers in developing countries. This is also a factor that deepens global inequality.

It is also a big problem that a significant amount of toxic waste produced in developed countries is dumped in developing countries. Poor countries such as Bangladesh, South Africa, and Haiti are carrying toxic waste from developed countries, posing a very serious threat to human health and the environment.

### 3. Global consumption-production status (UN data) (1)

03. Global consumption-production status (UN data) (1)



- **In 2050, humans will consume the equivalent of three Earths:**

If the global population increases to 9.6 billion in 2050, three Earths are needed to supply the natural resources necessary to maintain the current lifestyle.

- **Global energy use continues to rise:**

Global energy use is steadily increasing. Global energy consumption has increased by 75%, from 8,000 Mtoe (mega-tons of oil equivalent) in 1990 to 14,000 Mtoe in 2019. Transport, commercial and residential uses account for the largest share of energy use.

### 3. Global consumption-production status (UN data) (2)

03. Global consumption-production status (UN data) (2)



One-third of all food goes to the trash



2 billion people are overweight



High carbon emissions at home



High carbon emissions from the food industry

▶ p.10

10

- **One-third of all food goes to the trash:**

1.3 billion tons of food are thrown away every year. About one-third (worth \$1 trillion) of all food produced each year either rots away in waste bins at consumer and retail locations or is disposed of due to poor management during harvesting and distribution.

- **2 billion people are overweight:**

2 billion people worldwide are overweight or obese due to excessive food intake.

- **High carbon emissions at home:**

29% of the world's energy consumption is consumed at home, and carbon dioxide emitted from homes account for 21% of the total.

- **High carbon emissions from the food industry:**

30% of the world's energy consumption is consumed by the food industry, and the food industry accounts for 22% of the total carbon dioxide emissions.

### 4. The goal of the international community for sustainable production and consumption

04. The goal of the international community for sustainable production and consumption



**SDGs 12. Guarantee of sustainable consumption and production**

Practicing responsible consumption and production is an economic activity that helps to reduce the use of natural resources and hazardous substances in the life cycle of services and products

▶ p.11

11

- **SDGs 12. Guarantee of sustainable consumption and production mode:**

The Sustainable Development Goals (SDGs) were set in 2015 as agenda the UN General Assembly decided to achieve by 2030. The 12th goal is Sustainable Consumption and Production.



## ● What is sustainable consumption and production?

The concept of 'sustainable consumption and production,' which started from the awareness of the environmental crisis caused by the mass production-consumption economic development model, is to reduce the use of natural resources and hazardous substances throughout the life cycle of services and products, reducing economic activity.

### 04. The goal of the international community for sustainable production and consumption



#### | SDGs 12. Indicators

- 12.1 Implement the 10-year framework of programs on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.
- 12.2 By 2030, achieve sustainable management and efficient use of natural resources.
- 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
- 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- 12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.
- 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.
- 12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature. The final goal is to ensure that people accustomed to a society of mass production and consumption based on the exploitation of resources become aware of and shift their perceptions to those of sustainable development.

12

▶ p.12

## ● SDGs 12. Indicators

- 12.1 Implement the 10-year framework of programs on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.
- 12.2 By 2030, achieve sustainable management and efficient use of natural resources.
- 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
- 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- 12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.
- 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.
- 12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature. The final goal is to ensure that people accustomed to a society of mass production and consumption based on the exploitation of resources become aware of and shift their perceptions to those of sustainable development.

**04. The goal of the international community for sustainable production and consumption**



| SDGs 12. Indicators

- 12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.
- 12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.
- 12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.

▶ p.13

13

- 12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.
- 12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.
- 12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.

## 5. The most important thing for sustainable consumption and production

**05. The most important thing for sustainable consumption and production**



- Efficient management of resources:**  
Technology research to induce more results with fewer resources
- Producer Awareness:**  
To pursue high energy efficiency and reduce toxic substance emissions during disposal
- Changing the consumer's perception:**  
To pursue eco-friendly consumption activities
- Reducing 'food loss'



▶ p.14

14

● **Efficient management of resources:**

Representative resources of the earth are water, wood, and mineral ores. Since industrialization, humankind has been recklessly extracting and processing resources to mass-produce, and as a result, the earth is being desolated. Efficient management of resources is needed, such as focusing on technology research for more results with fewer resources, selecting reusable or recyclable resources, and making full use of them.

### ● Transformation of Producer Awareness:

Until now, the goal of a company has been the pursuit of profit. The company's formula for success was to sell as many products as possible to make a huge profit. However, as climate change threatens the survival of humankind, it is difficult for companies that destroy the environment and society to survive. Therefore, companies must change their production system and production mindset. The production process should be operated in consideration of various factors, such as the pursuit of high energy efficiency, exclusion of toxic chemicals, extending product life, improving product recyclability, reducing toxic substance emissions during disposal, and respecting workers. Changes in companies lead to changes in the market, which will soon affect consumers as well.

### ● Changing the consumer's perception:

Consumers should engage in sensible consumption activities. In particular, consumption culture of consumerism (the attitude of over-consumption because the satisfaction obtained through consumption becomes the purpose of life) and conspicuous consumption (concentrating on consumption that symbolizes wealth for the sake of showing off) should be transformed into a more eco-friendly and moderate consumption.

### ● Reducing food loss:

Food loss refers to food that is wasted even though it is edible. According to the data released by the Food and Agriculture Organization of the United Nations (FAO) in 2011, 1.3 billion tons of food, or about 30% of the total food, is lost or wasted every year. In order to reduce food loss, food-related workers should accurately understand consumer demand and supply appropriate amounts of food to the market. One can actively participate by donating unsold food to the needy in the local community or recycling it for new uses. Using leftover food to make feed for livestock and pets is also another option.

## 6. Efforts of the international community (1. Campaigns)

### 06. Efforts of the international community



#### | 1. Campaigns



Meat-Free Monday Campaign



Zero Waste Campaign



Minimal Life Campaign

15

▶ p.15

### ● Meat-Free Monday Campaign:

Meat-Free Monday is the name of the campaign and the name of the non-profit civic organization that leads it. The campaign, launched in 2009 by Beatles member Paul McCartney with his two children under the slogan "You can change the world in one day a week," recommends a vegetarian diet at least one day a week. This is a campaign to solve the various problems brought about by the global meat consumption culture (animals suffering from factory farming, global warming, deforestation, etc.).

● **Zero Waste Campaign:**

This is a campaign to share cases of reducing waste with the aim of minimizing waste to be close to zero. You can introduce your experience of reducing waste through social media and attach a hashtag such as #Zerowastechallenge. Zero-waste practices include packaging food in individual containers, avoiding plastic straws, using tumblers and shopping carts, cooking with leftovers, and actively reusing and recycling.

● **Minimal Life Campaign:**

It means a way of living in pursuit of psychological satisfaction and happiness with only a few essential items through consumption restraint. It is a lifestyle that became popular around 2010 under the influence of minimalism, an art and cultural trend that pursues the beauty of simplicity with significance in removing unnecessary things and keeping only the essential things.

**6. Efforts of the international community (2. Various ideas)**

06. Efforts of the international community

| 2. Various ideas

- ✔ Sustainability certification, 'sustainable label'
- ✔ 'TerraCycle', eliminating waste through recycling



16

▶ p.16

● **Sustainability certification, sustainable label:**

Sustainable label is a generic term for labels attached to products produced through sustainable and ethical methods. Through this label, consumers can check the production process of the product and practice a sustainable consumption life. Organic cotton grown without pesticides or chemical fertilizers is labeled 'GOTS' or 'OCS,' sustainably caught seafood products are labeled 'MSC,' and tropical crops grown in a fair manner with consideration for the producer's life are labeled as 'Rainforest Alliance.'

● **TerraCycle, eliminating waste through recycling:**

TerraCycle is a multinational company that actively recycles waste in many different ways. TerraCycle makes fertilizer from cigarette ash, bicycles from antiperspirant containers, and new pens from used pens. TerraCycle's founder, Tom Jackie, is actively engaged in a business that finds the value of garbage under the belief of "Let's throw away the concept of throwing away itself."

## 7. COVID-19 and sustainable consumption and production



▶ p.17

- **Coronavirus, Nature's Warning:**

The mass production-consumption system that supports the global economy is bent on destroying our planet. As humankind has infringed on the realm of nature to satisfy their materialistic desires, many diseases that stayed only in the wild spread to human society. The emergence of COVID-19 is urging people everywhere to awaken to the relationship between humans and nature.

- **Post-Pandemic, a Great Shift to Sustainable Consumption and Production:**

Due to the COVID-19 pandemic, it is no longer possible to postpone the transformation of the human economic system in a sustainable direction. In the process of overcoming the pandemic, a harmonious relationship with nature should be considered as the top priority in the entire process from production to distribution, consumption, and disposal. Humanity should actively understand the various risks that humans have caused by reckless use of nature and make a major shift toward considering sustainability in all areas of life.

## 8. What can we do for sustainable consumption and production? (Brainstorm)



▶ p.18