# Let's Think About SDGs

## Issue 5 Goal 7 Affordable and Clean energy

*Hi there! I'm Mr. S.D.Gees, and I'm here to learn all about SDGs and how I can apply them in my work.*

Carrying on from issue 2, we are looking at SDGs related to Nippon Paper Group business. This issue deals with Goal 7 "Affordable and Clean energy"

*Please check the QR Code to help with studying*

## Goal 7 "Affordable and Clean energy" and its Background

- **(Goal) Ensure access to affordable, reliable, sustainable and modern energy for all**

SDGs have goals and targets. See goal 7 and all its targets at https://bit.ly/2GlNl2q

### Targets (SDG 7 targets related to our group)

See Panel 1

*In Panel 1, let's learn about the kinds of renewable energy.*

- 7.2 Ensure universal access to affordable, reliable and modern energy services
- 7.a Enhance facilitating access to clean energy research and technology, including cleaner fossil-fuel technology

### Background

Since people everywhere use energy (electricity), if they continue to rely on fossil fuels emission of greenhouse gasses will have a major impact on climate. Therefore, it is necessary to develop technologies that can supply energy with low environmental impact, to supply it more cheaply and to encourage its widespread use.

## Nippon Paper Group and Goal 7

About half energy used by our group for domestic production is non-fossil fuel derived from woody biomass such as black liquor (a byproduct of pulp manufacturing), and building waste (1).

We also use the power generation technology developed for paper-making as a (mainly renewable) energy business itself. (2).

**Q** *So, how did a paper-making company get to become involved in the energy business?*

**A** *Traditionally, paper mills gained power-plant experience and technology to supply the power for their own production needs, by using black liquor and other fuels.*
*Our strengths in the energy business include:*

- *experience in power generation and supply technology*
- *ownership of power generation facilities throughout Japan.*
- *a developed biomass fuel procurement network.*

**Positive Impact**

Promote the development, use and supply of energy with low environmental impact

**Increasing Example**

**(2) Power supply by renewable energy**

See Panel 2

**Sustainable Value Chain***

* **Value chain:** *the entire sequence of activities or parties that provide or receive value in the form of products or service*

Raw Material Procurement → Production → Shipping → Sales and Usage → Separation Collection Recycling Disposal

**Negative Impact**

Use and supply of energy with high environmental impact

**Decreasing Example**

**(1)Use non-fossil fuel**

Our Group actively uses black liquor and building waste as energy for production.

See Panel 3

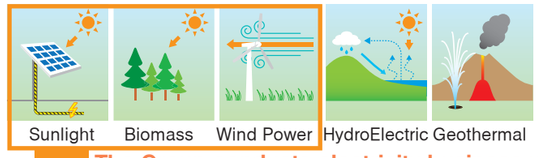
**Decreasing Example**

**(2)Development of mixed biomass technology**

Developing technology to increase the ratio of biomass in coal/biomass mixed power generation facilities in energy business

See Panel 4

## Panel 1 What is renewable energy?




Compared with energy derived from fossils such as oil and coal, renewable energy can use resources repeatedly without depletion. Renewable energy does not emit (or is not considered to emit) carbon dioxide which causes global warming.

**The Group conducts electricity business with renewable energy of sunlight, biomass and wind power**

## Panel 2 Nippon Paper Group's renewable energy project examples

**Solar power**

**Komatsushima Solar Power Station**
Komatsushima is a mega solar project on a major scale, approximately 400,000 m². Located in Shikoku, it is a collaboration with Mitsubishi Shoji Power Co., Ltd. in part of the company owned area in Komatsushima City, Tokushima prefecture.

▶ Business start: Feb. 2015, power generation capacity: Approx. 34,000 kW

**Biomass power**

**Yatsushiro Mill Biomass Power Station**
We made effective use of part of the site of the Yatsushiro mill (Yatsushiro City, Kumamoto prefecture) and established a biomass power generation facility that uses 100% waste wood material such as thinned timber as fuel.

▶ Business start: June 2015, power generation capacity: 6,280 kW

**Wind power**

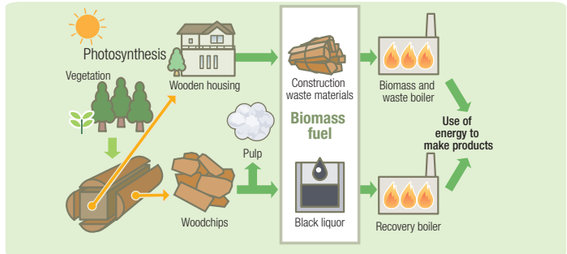
**Akita Mukaijima Wind Power Plant**
In collaboration with Venti Japan Co., Ltd., we established three wind power generation facilities in Akita mill neighboring area (Akita City, Akita Prefecture)

▶ Business start: Jan. 2018, power generation capacity: 7,485 kW (total of 3 units)

## Panel 3

### Biomass energy utilization in the Group

The Nippon Paper Group, one of the leading corporate users of woody biomass energy in Japan, utilizes wood biomass fuel (black liquor, construction waste, etc.). The amount consumed accounts for up to 5%* of non-fossil energy (excluding nuclear and hydroelectric power) used in Japan*.




* *In-house figure by Nippon Paper Industries Co., Ltd. using energy supply information (fiscal 2016 finalized information) published by the Natural Resources and Energy Agency*

## Panel 4

### Development of biomass mixed combustion technology

Trefection technology is a method, developed by our company for manufacturing biomass-based fuels which can replace coal in thermal power generation. The technique semi-carbonizes woody biomass, giving it excellent handling qualities. The resultant woody fuel (Trephide pellets) can be used in place of coal in existing coal-fired power plants.

Currently, we are running a demonstration test in Thailand and a burning test at the Kushiro mill.

Trephide Pellet

*We are looking for opinions from you. Please complete the WEB questionnaire.*

https://bit.ly/2CNaXzG