

# **Increasing Renewable Energy Output Through Food Recycling**

**W202105-1**

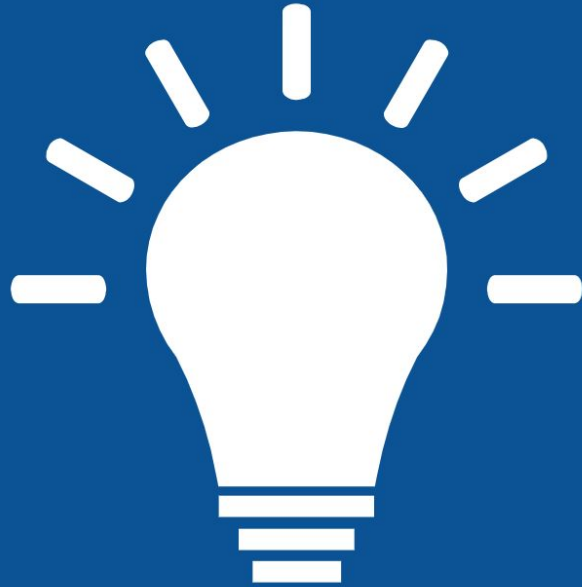
**Kyoto University of Advanced Science  
Junior & Senior High School**

# **Increasing Renewable Energy Output Through Food Recycling**

**W202105-1**

**Kyoto University of Advanced Science  
Junior & Senior High School**

**A huge amount of energy is being used**



# Reserves-to-production ratio

Oil / Natural Gas



**50 years**

Coal



**132 years**

# Waste Fossil Fuel...



**Global Warming**

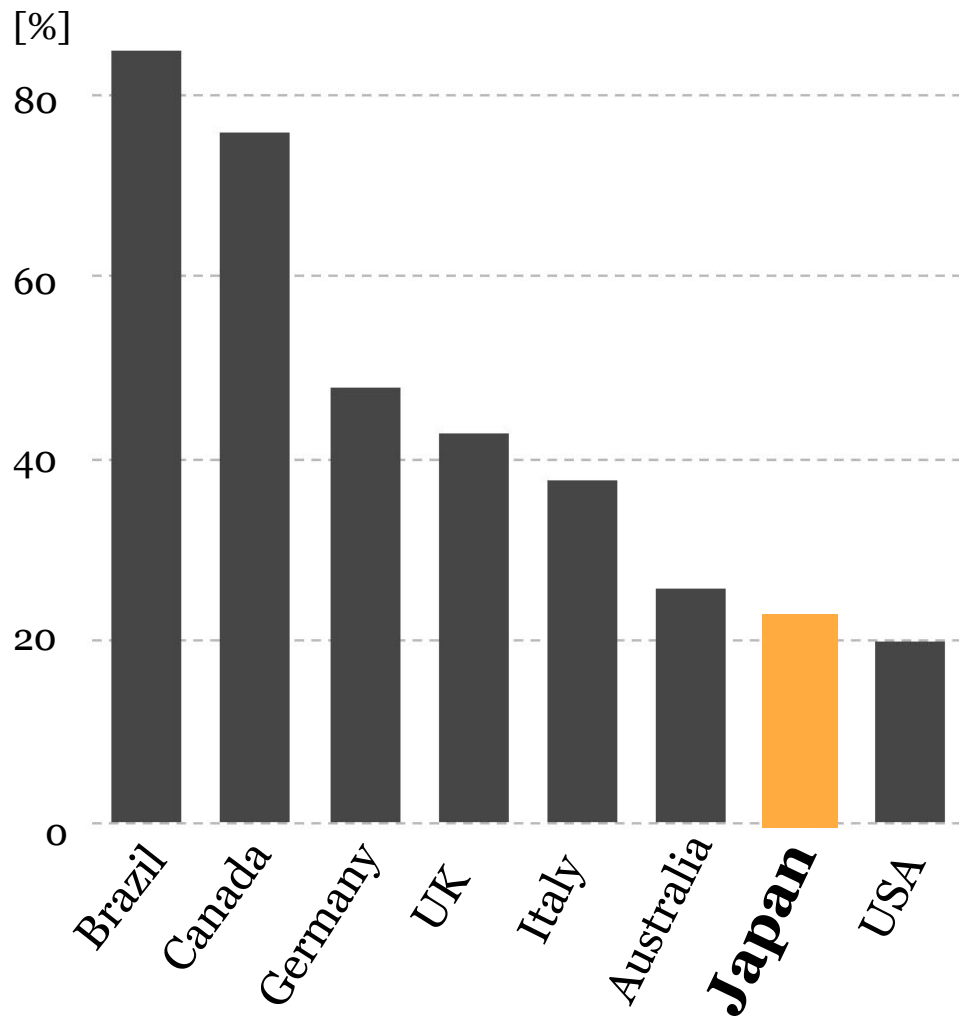


**Impossible  
to Use**

# Renewable Energy

Fossil Fuel





**The proportion of  
RENEWABLE ENERGY in  
total energy  
consumption of Japan  
in 2020 was**

**22%**

Source: International Energy Agency/2020

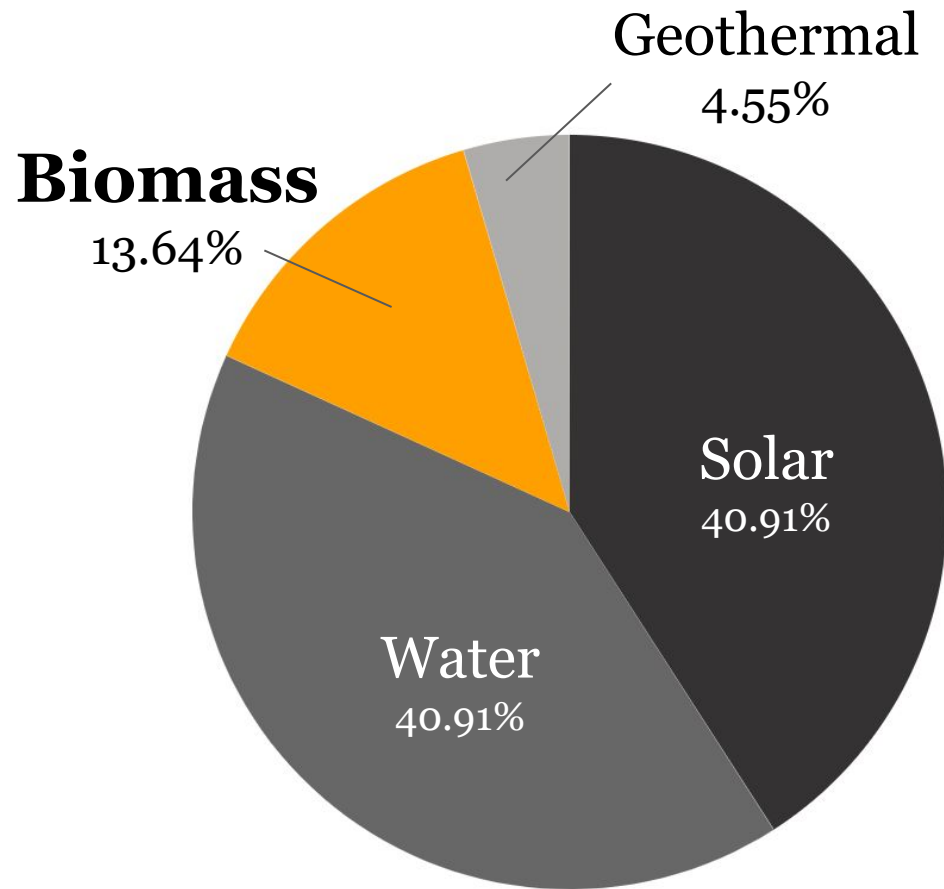
# **Indifference to Renewable Energy**



**Raise**

**Familiarity**

**Biomass**  
**and Geothermal**  
**are Lower**  
**percentages**  
**in Japan.**



Source: IEA/2020

# Amount of Food Waste in our School

**Food waste  
at our school  
cafeteria in a day  
(Nov.5)**

**9.25kg**

**=**

**The amount of  
energy we can  
make**

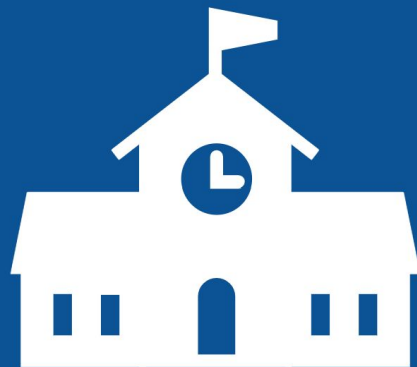
**3kwh**

By BioEnergy Company

3kwh



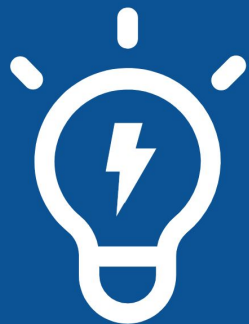
30092  
**Schools**  
in Japan



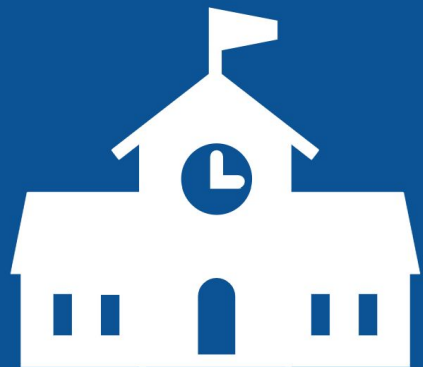
=

**3,160,000 yen**  
**of energy in a day**

3kwh



30092  
Schools



3,120,000 gven

=

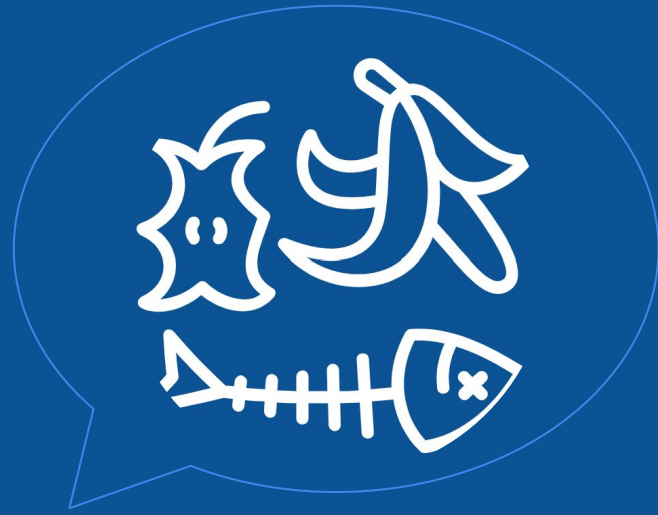
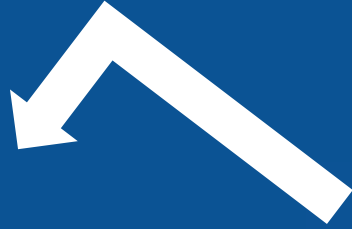
of energy in a day

# The most important



# Our Project of biomass

# Factory Tour

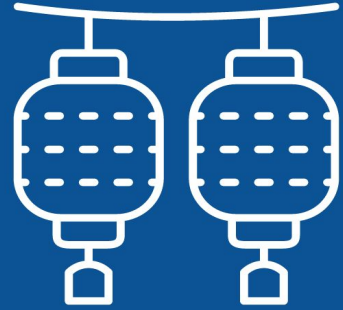




# Exciting Area

## Lanterns

**Light with Biomass energy**



## Food Stalls

**Sell food that could be turned into biomass energy**



**Lastly**

**Thank You for  
Listening!**

# References

- **International energy Agency/Energy Statistics 2020**

<https://www.iea.org/reports/key-world-energy-statistics-2020/final-consumption>

- **Toukyu Power Supply/Questionnaire: Creating a Smart and Environmentally Friendly Community**

[https://primes.jp/main/html/rd/p/000000039\\_000020242.html](https://primes.jp/main/html/rd/p/000000039_000020242.html)

- **Ministry of Education, Culture, Sports, Science and Technology Japan**

[https://www.mext.go.jp/content/1413836\\_001\\_001.pdf](https://www.mext.go.jp/content/1413836_001_001.pdf)

- **BP/Statistical Review of World Energy 2020**

<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>

- **Ministry of Environment/Methane gasification facility maintenance manual**

[https://www.env.go.jp/recycle/waste/3r\\_network/7\\_misc/metangasu\\_full.pdf](https://www.env.go.jp/recycle/waste/3r_network/7_misc/metangasu_full.pdf)

- **Agency of Natural Resources and Energy/Feed-in tariff system**

[https://www.enecho.meti.go.jp/category/saving\\_and\\_new/saieue/kaitori/fit\\_kakaku.html](https://www.enecho.meti.go.jp/category/saving_and_new/saieue/kaitori/fit_kakaku.html)

- **Bloenergy company**

<http://www.bio-energy.co.jp/introduction/>

- **Ministry of Environment**

[https://www.env.go.jp/earth/ondanka/lca/lca\\_guideline04\\_01kaitei.pdf](https://www.env.go.jp/earth/ondanka/lca/lca_guideline04_01kaitei.pdf)

**A huge amount of energy is being used**



# Reserves-to-production ratio

Oil / Natural Gas



**50 years**

Coal



**132 years**

# Waste Fossil Fuel...



**Global Warming**



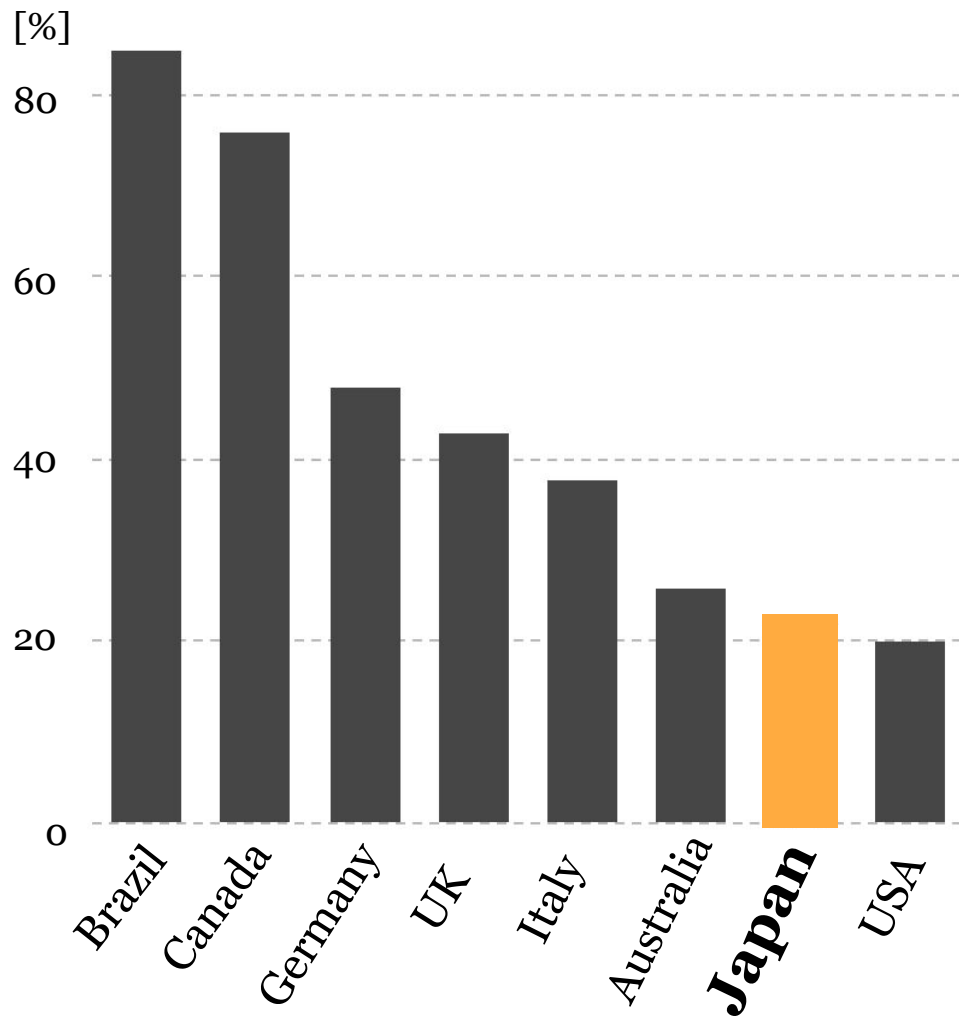
**Impossible  
to Use**

# Renewable Energy

Fossil Fuel







**The proportion of  
RENEWABLE ENERGY in  
total energy  
consumption of Japan  
in 2020 was**

**22%**

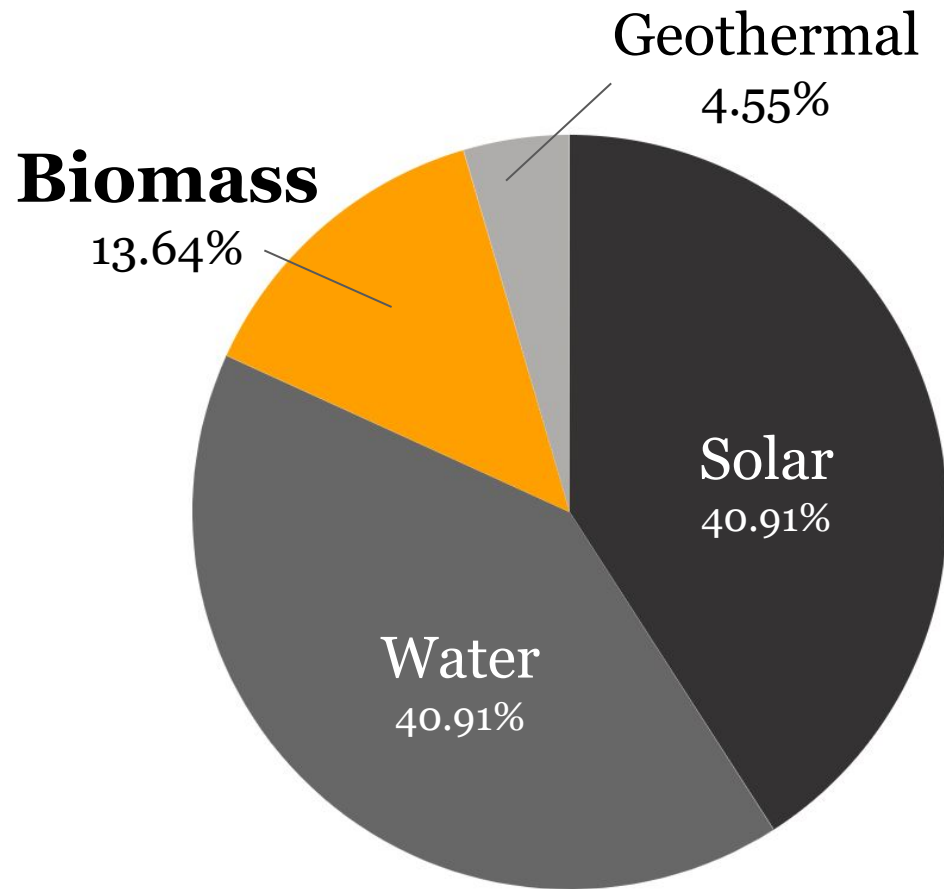
Source: International Energy Agency/2020

# **Indifference to Renewable Energy**

**Raise**

**Familiarity**

**Biomass**  
**and Geothermal**  
**are Lower**  
**percentages**  
**in Japan.**



Source: IEA/2020

# Amount of Food Waste in our School

**Food waste  
at our school  
cafeteria in a day  
(Nov.5)**

**9.25kg**

**=**

**The amount of  
energy we can  
make**

**3kwh**

By BioEnergy Company

3kwh



30092  
**Schools**  
in Japan



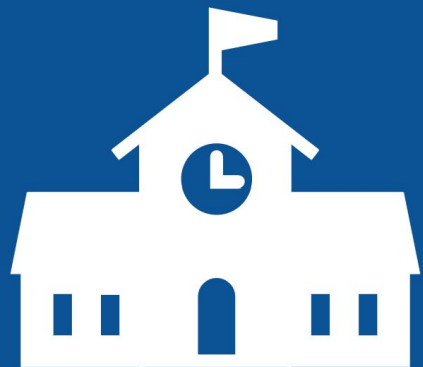
=

**3,160,000 yen**  
**of energy in a day**

3kwh



30092  
Schools



3,120,000 gven

=

of energy in a day

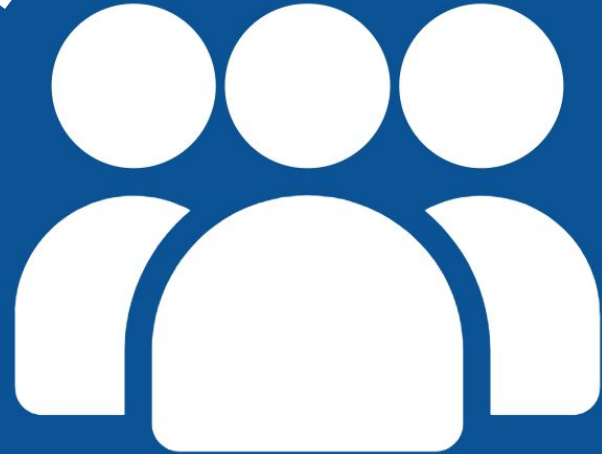
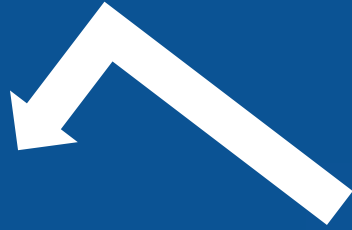
# The most important





# Our Project of biomass

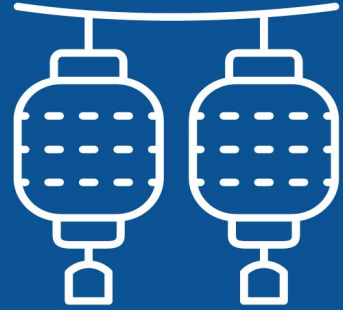
# Factory Tour



# Exciting Area

## Lanterns

**Light with Biomass energy**



## Food Stalls

**Sell food that could be turned into biomass energy**



**Lastly**

**Thank You for  
Listening!**

# References

- **International energy Agency/Energy Statistics 2020**

<https://www.iea.org/reports/key-world-energy-statistics-2020/final-consumption>

- **Toukyu Power Supply/Questionnaire: Creating a Smart and Environmentally Friendly Community**

[https://primes.jp/main/html/rd/p/000000039\\_000020242.html](https://primes.jp/main/html/rd/p/000000039_000020242.html)

- **Ministry of Education, Culture, Sports, Science and Technology Japan**

[https://www.mext.go.jp/content/1413836\\_001\\_001.pdf](https://www.mext.go.jp/content/1413836_001_001.pdf)

- **BP/Statistical Review of World Energy 2020**

<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>

- **Ministry of Environment/Methane gasification facility maintenance manual**

[https://www.env.go.jp/recycle/waste/3r\\_network/7\\_misc/metangasu\\_full.pdf](https://www.env.go.jp/recycle/waste/3r_network/7_misc/metangasu_full.pdf)

- **Agency of Natural Resources and Energy/Feed-in tariff system**

[https://www.enecho.meti.go.jp/category/saving\\_and\\_new/saieue/kaitori/fit\\_kakaku.html](https://www.enecho.meti.go.jp/category/saving_and_new/saieue/kaitori/fit_kakaku.html)

- **Bloenergy company**

<http://www.bio-energy.co.jp/introduction/>

- **Ministry of Environment**

[https://www.env.go.jp/earth/ondanka/lca/lca\\_guideline04\\_01kaitei.pdf](https://www.env.go.jp/earth/ondanka/lca/lca_guideline04_01kaitei.pdf)