

From Tohoku  
to the World



**Let's light** It will be the world's first Olympic flame  
that burns with renewable energy.  
**the Olympic flame together!**



Our goal is to have  
the new 2020 Tokyo Olympic flame  
burn with biomethane.



A team led by Tohoku University is now working to have the Olympic flame for the 2020 Tokyo burn with biomethane gas.

When this is accomplished, it will be **the world's first Olympic flame that burns with renewable energy** instead of conventional fossil fuel.

This new Olympic flame will serve as a shining light of our gratitude to the people and athletes from all over the world who have supported Tohoku's recovery from the disaster.

We also want it to be a message to the next generation that a recycling-oriented future can coexist with the beautiful earth environment.

#### Differences between the conventional Olympic flame and the new Olympic flame

Methane gas is a natural gas but as a fossil fuel its resources are limited.  
Using biomethane gas produced from microorganisms' fermentation of organic waste and human waste can reduce the environmental impact.



Add your message to support the Olympic flame fan site!

<http://www.olympic-flame.net>



# Let's light the Olympic flame together!

Our goal is to have the new 2020 Tokyo Olympic flame burn with biomethane.

**1** The world's first renewable energy Olympic flame

**Biomethane is a renewable energy.**

- Fuel source** Organic waste and human waste
- Method** Anaerobic microorganisms decompose and ferment waste, converting it into energy!

**Biomethane is Natural!**  
The principal components are the same as city gas.



**2** An Olympic flame in which everyone can participate Improvement of environmental education

It's not just the Olympic flame runner that gets to participate!  
**Your action can help support the Olympic flame too!**



**The new Olympic flame is fulfilling 4 possibilities**

**It's an ecosystem designed for resource recycling.**

Each day the Olympic flame uses the fossil fuel of 344 households. This system uses organic waste and not only enables waste treatment and energy production but also the use of liquid fertilizer from digestive fluids!



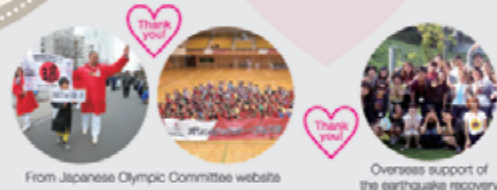
**3** New ecosystem that can Reduce environmental impact



The platform bearing the flame that was used in the 1964 Tokyo Olympics is currently burning with city gas.



**Discover Tomorrow**  
~ Seize the future ~



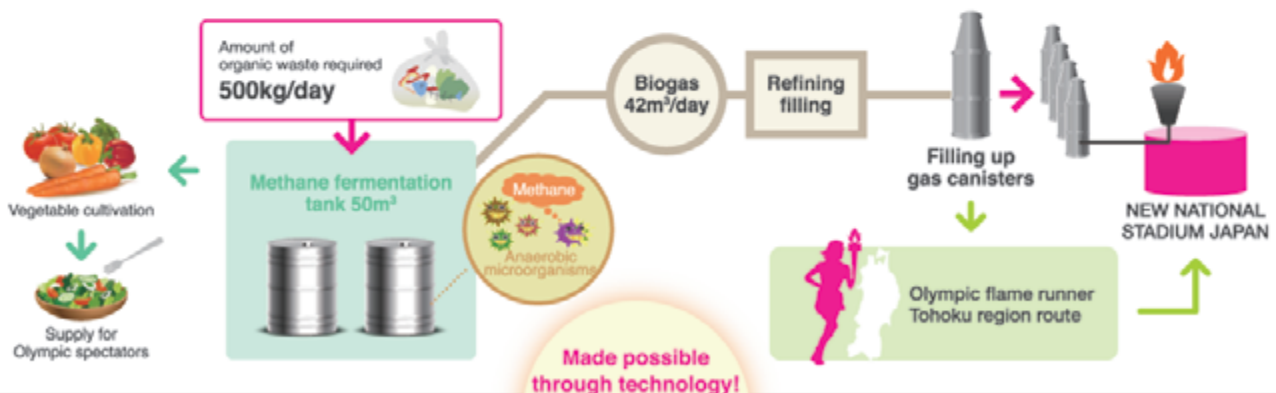
From Japanese Olympic Committee website Overseas support of the earthquake recovery

**A sustainable energy society that uses renewable energy**

**4** Appreciation for the earthquake recovery Light the flames of hope for the future

## How the new Olympic flame works

Tohoku University has already demonstrated fermentation of methane within a 50 m<sup>3</sup> tank located in its field center. Naruko Onsen hot spring and Shiogama have also put this technology into practical use. Biomethane gas refining technology  
→biogas produced by fermentation of methane from sewage treatment plants and organic waste has been refined and introduced into the city gas line.



### Naruko Onsen hot spring

**Next-generation Energies for Tohoku Recovery (NET) Project**

Naruko Onsen Methane Fermentation Energy Tourism

<http://onsenmetha.exblog.jp>

### Shiogama city

**Shiogama Tohoku Ecosystem-Associated Marine Sciences**

Construction of a distributed energy production and regional circulation system through small-scale methane fermentation using exhaust heat

※Now undergoing testing on the premises of Watarai Co., Ltd.

**We look forward to your participation and support of this project.**