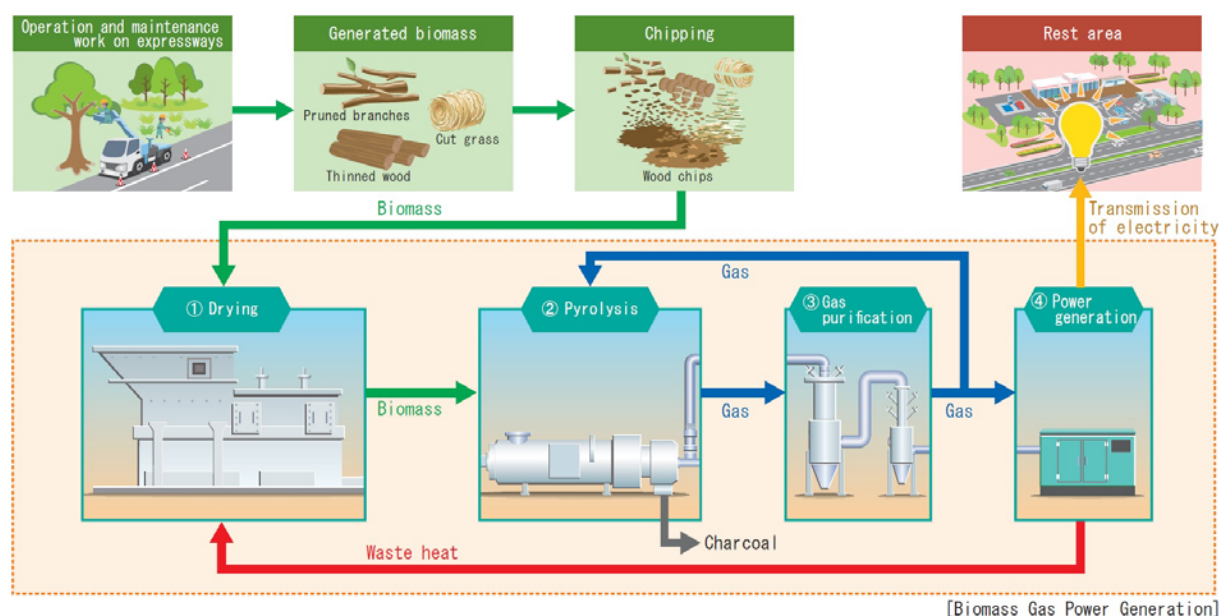


August 4, 2016

East Nippon Expressway Company Limited

## New Challenge Toward Green Recycling ~ Start of Biomass Gas Power Generation at Nasukogen Rest Area on the Tohoku Expressway ~

To contribute to the prevention of global warming and formation of a recycling society, NEXCO East (Chiyoda-ku, Tokyo) has recycled biomass generated from expressways such as mowed grass, pruned branches and thinned wood from trees, etc. as compost and woodchips up until now. As a new challenge towards green recycling, NEXCO East has developed a biomass gas power generation plant at Nasukogen Rest Area on the Tohoku Expressway, and has started supply of electricity to the rest area.



### New green recycling system based on biomass gas power generation

#### **Characteristics of Biomass Power Generation at Nasukogen Rest Area**

- “Carbon-neutral\*” biomass that absorbed CO<sub>2</sub> through photosynthesis is gasified through pyrolysis, and used as electricity and thermal energy.
- Deployment of power generation by using grasses containing a large amounts of moisture, in addition to wood chips, is the first of its kind in Japan at a permanent facility.
- The electricity that is generated from the pyrolysis gas is used for the restrooms and parking lots at the rest area.

- The pyrolysis gas provides thermal energy of biomass as well as electricity. Different from incineration (direct combustion of waste under air), biomass pyrolysis (thermal treatment in the absence of the air) do not generate dioxins in principle.
- Charcoal is the only solid by-product, which has been reduced to 1/10 of the original weight of waste biomass.

### (Reference) Overview of Nasukogen Rest Area Biomass Gas Power Generation Plant

- Address  
2188 Toyoharahei, Nasu-machi, Nasu-gun, Tochigi Prefecture
- Overview of facilities  
Pyrolyzer: Externally-heated rotary kiln (inner diameter: 80cm, total length: 2.4m)  
Generator: Rated output 100kW (dual fuel engine)  
Of which, 50kW is self-consumed by the plant and 50kW is used in the rest area



#### \* What is “carbon-neutral”?

Biomass energy itself is an energy that carbon dioxide in the atmosphere fixed within plants through photosynthesis. Even if the carbon dioxide is released again into the atmosphere by use of the biomass energy, the substantial increase of the carbon dioxide is zero. This is referred to as “carbon-neutral.”