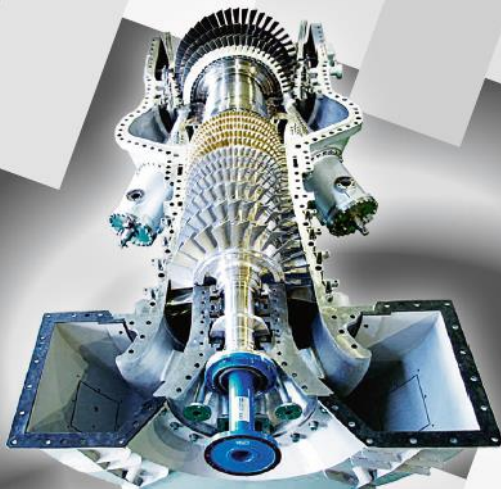


# Two Specialists

## No Compromise



## KAWASAKI Gas Turbine Europe GmbH

**Energynomics – 28<sup>th</sup> January 2021,  
“Investments for the energy transition” conference**

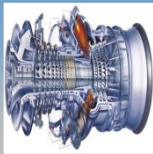
 **Kawasaki**  
Powering your potential

# Agenda



**1**

**Kawasaki Heavy Industries (KHI)**



**2**

**Kawasaki Gas Turbine Europe (KGE)**



**3**

**Kawasaki Products & Services**



**4**

**Financing solution by KGE**

# Kawasaki Heavy Industries – Sections

## Kawasaki Heavy Industries, Ltd.

**Ships & Offshore  
Structure Company**



**Rolling Stock  
Company**



**Aerospace  
Company**



**Energy System & Plant  
Engineering Company**

**Motorcycle &  
Engine Company**



**Precision Machinery  
Company**



**Kawasaki Gas Turbine Europe GmbH**

- Germany – Europe headquarter
- Romania – Representative office responsible for South – East Europe

**Kawasaki Gas Turbine Asia Sdn. Bhd.  
(Malaysia)**

**Kawasaki Gas Turbine Asia Sdn. Bhd.  
- Jakarta Representative Office**

**Kawasaki Heavy Industries, LTD  
- Bangkok Office**

# KGE cogeneration market

## ➤ Industry

### Pulp and paper



### Medicines and cosmetics



### Refinery / Chemistry



### Food and beverages industry



### Automotive and tyres



### Ceramics

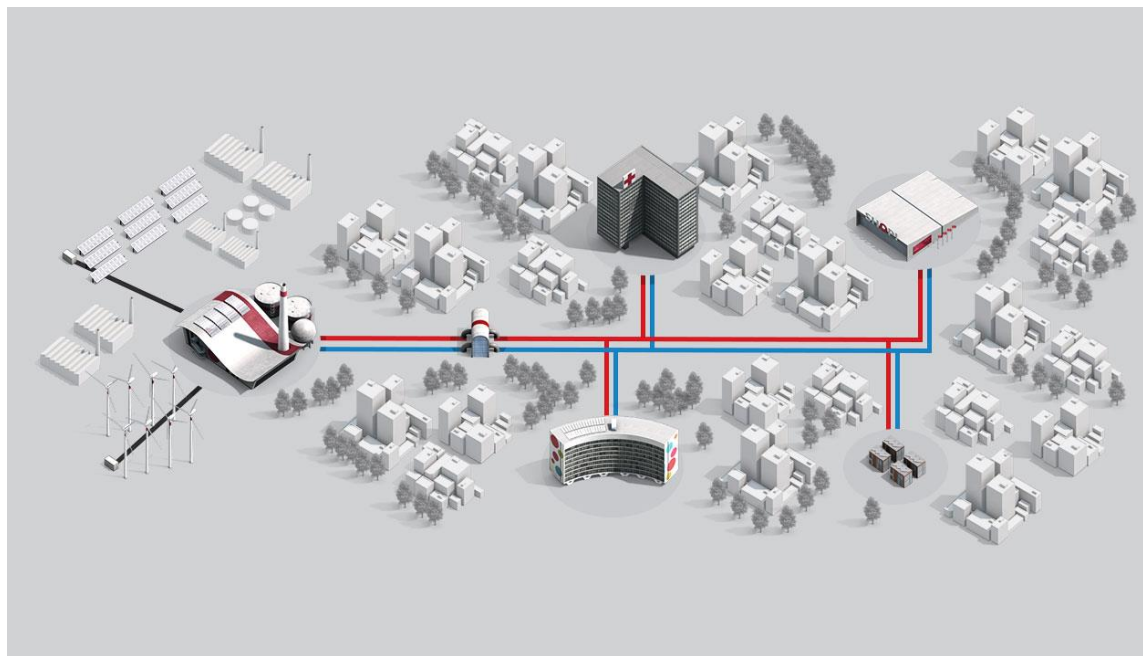




# KGE cogeneration market

## Potential clients of cogeneration

### ➤ District Heating



### ➤ Services with own small cogeneration unit:

Universitary campus

Hospitals

Hotels

Airports

# Kawasaki Products & Services

## Kawasaki Gas Turbine Europe · Kawasaki Heavy Industries



### Products



### Services

#### Gas Turbines

**M1A-17D**  
1,816 kWel  
 $\eta = 28.1 \%$

**M5A-01D**  
4,720 kWel  
 $\eta = 32.6 \%$

**M7A-03D**  
7,810 kWel  
 $\eta = 33.6 \%$

**L20A-01D**  
18,500 kWel  
 $\eta = 34.3 \%$

**L30A-01D**  
34,300 kWel  
 $\eta = 40.3 \%$

#### Gas Engines

**KG12-V**  
5,200 kWel  
 $\eta = 49.5 \%$

**KG18**  
7,800 kWel  
 $\eta = 49.0 \%$

**KG18-V**  
7,800 kWel  
 $\eta = 49.5 \%$

**KG18-T**  
7,800 kWel  
 $\eta = 51 \%$

#### Engineering

**Concept Engineering**

**Detailed Engineering**

#### Implementation

**Project Planning**

**Customized Packaging**

**Erection Commissioning**

#### Maintenance

**Spare Parts Consumables**

**Full Maintenance**

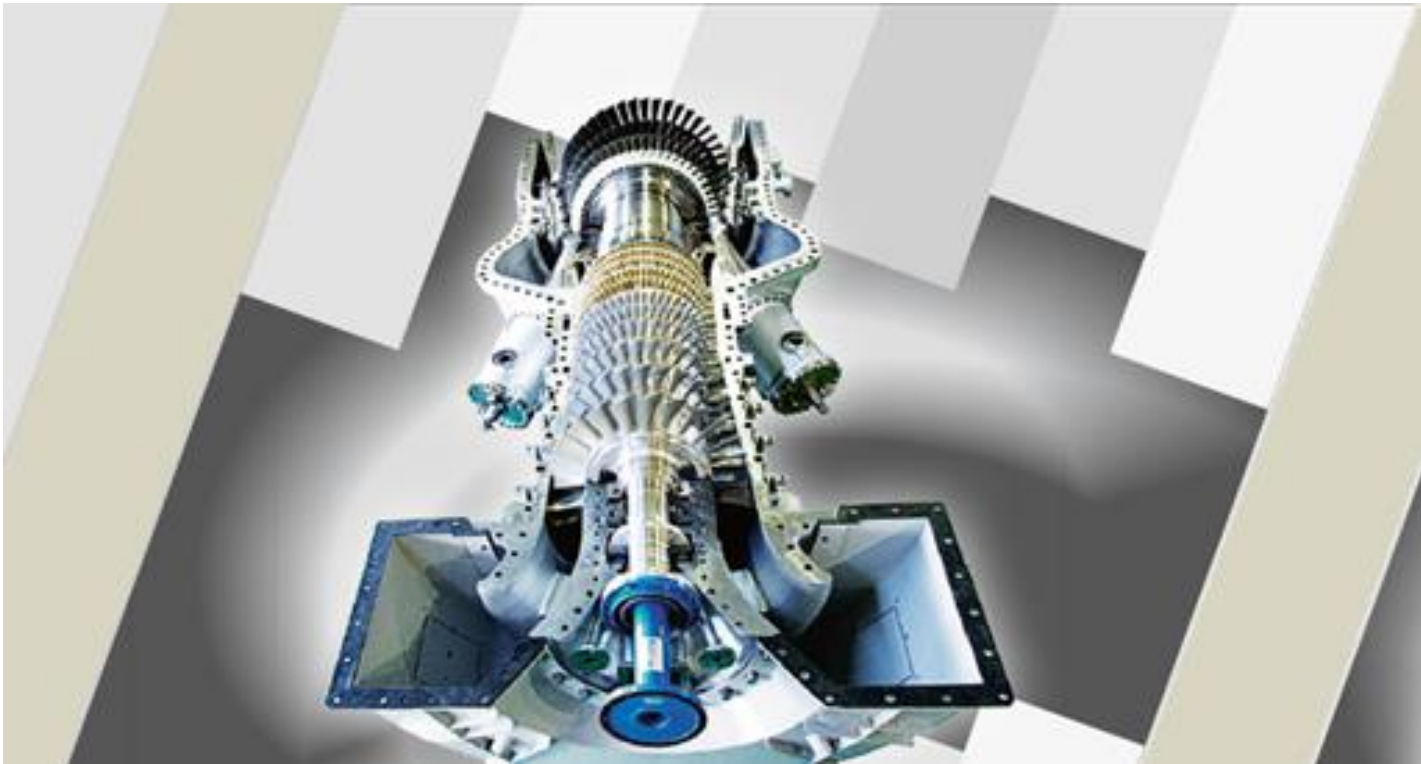
**Remote Monitoring**

### Other Services

**Low-interest loans  
(i.e. governmental loans)**

# Alternatives to classic fuel

## Kawasaki Hydrogen Developments





# Kawasaki Hydrogen Road Map

## KOBE city



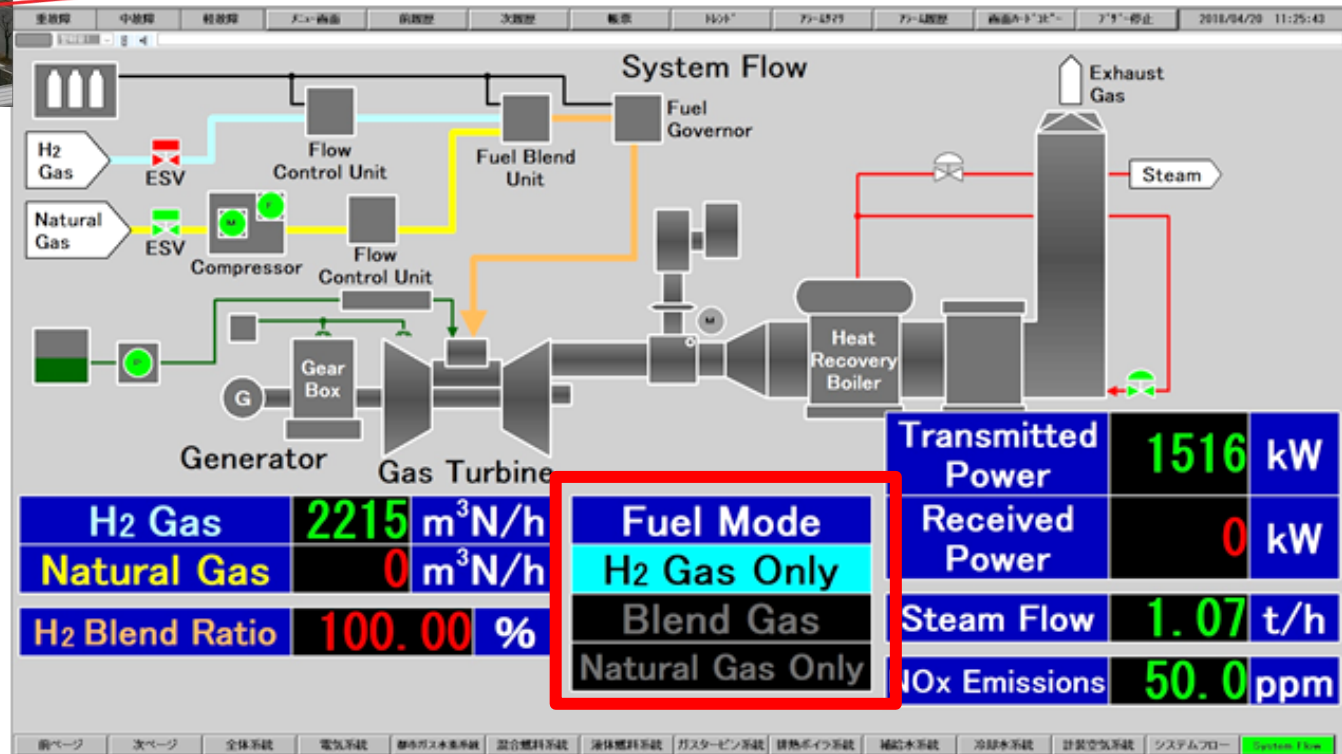
**Development of Smart Community Technology by Utilization of Cogeneration System with Hydrogen Gas Turbine**



# World's First H<sub>2</sub>-Cogeneration Plant at Kobe Port

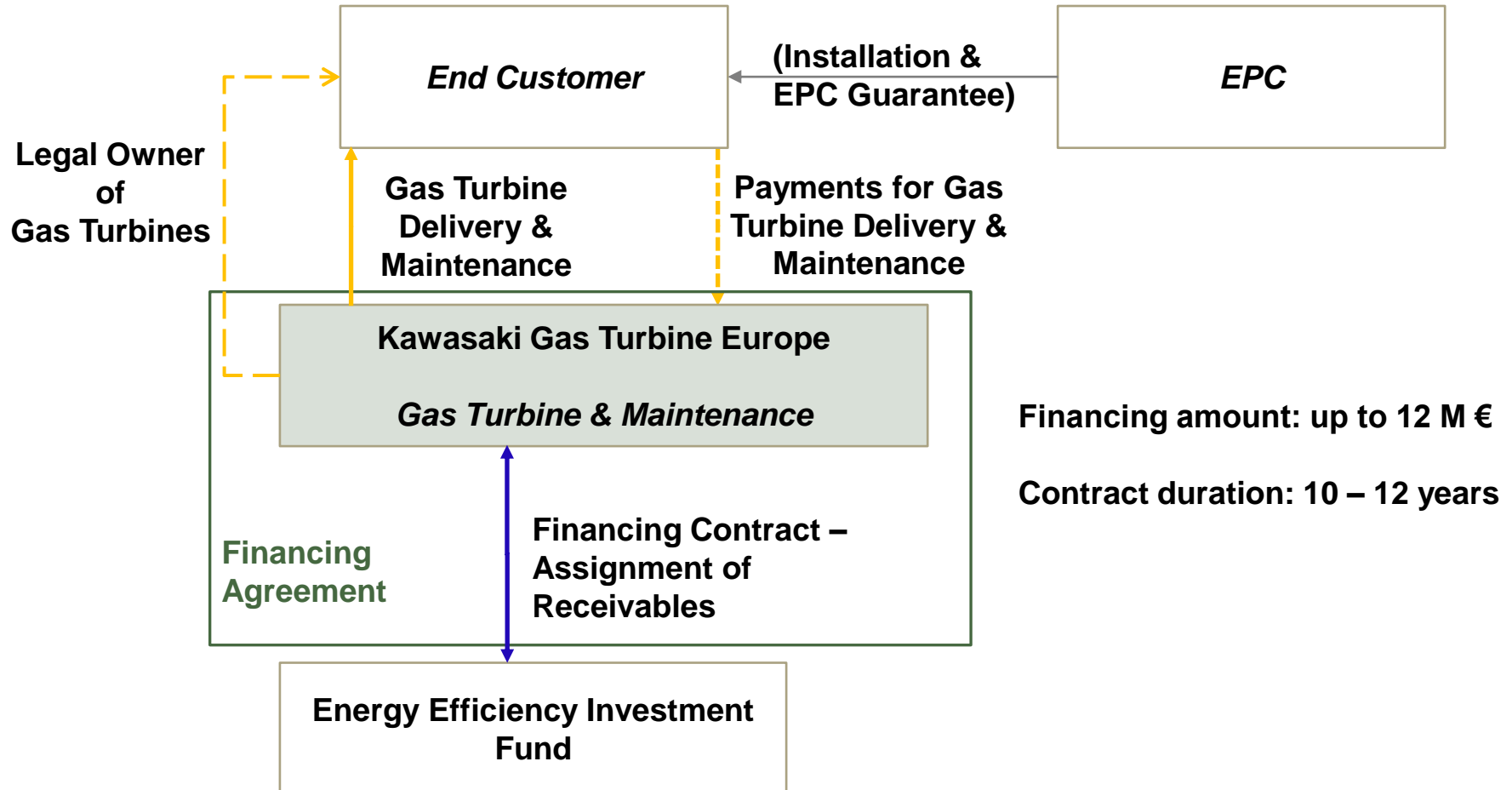


## User Control Interface



# Financing solution by Kawasaki Gas Turbine Europe

## Indicative structure for financing solution by Kawasaki Gas Turbine Europe GmbH / Energy Efficiency Investment Fund



Kawasaki will pursue "manufacturing that makes the Earth smile."

# “Global Kawasaki”