

# Veolia Korea e-Newsletter

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## Veolia sponsors Renewable Energy World Asia



Veolia participated at **Renewable Energy World Asia 2016** as a Gold sponsor, taken place in KINTEX, Ilsan, Gyeonggi-do, Korea from September 20 to 22. At the event, Veolia successfully demonstrated its expertise and case studies in renewable energy activities such as waste to energy, biomass, biogas, landfill gas to energy, etc. to many industrial and municipal prospects over the 3 days.

It also provided the occasion to exchange regional and global expertise and discuss exciting new technologies and developments in the Asian renewable energy industry.

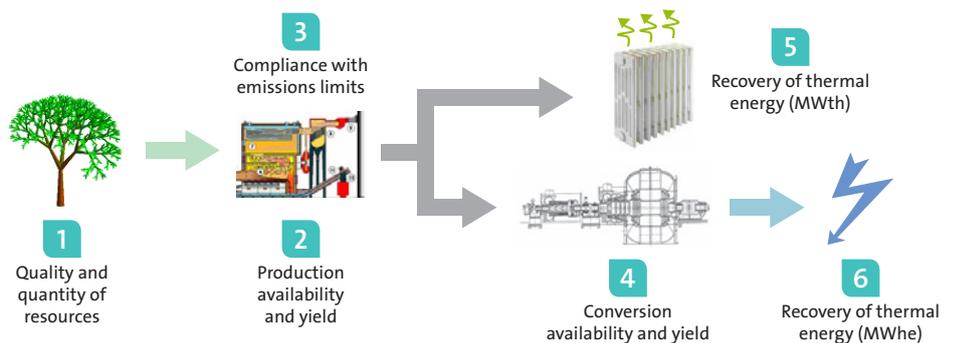
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## Veolia's expertise in renewable energy activities

### Biomass

Veolia produces energy from wood biomass considered as **carbon neutral**, and helps clients to **reduce dependency from primary fuels** and **mitigate risks from energy shortages**.

It is committed to ensuring top quality technical, environmental and financial performance of biomass plants.



### Veolia's presence

#### Wood biomass



175 facilities

108 m €  
Thermal: 85m  
Electrical: 23m

326,243T  
wood biomass

889 MW  
installed capacity

3,420 GWh  
energy produced

#### Non-wood biomass



64 facilities

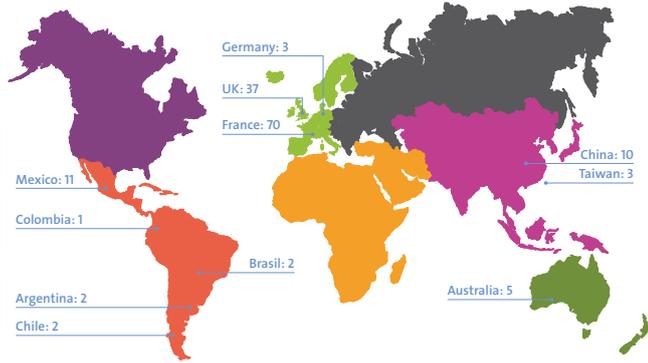


535 MW  
installed capacity

## Landfill biogas

Veolia offers its customers experience know-how on more than 114 units of biogas energy valorization. This sustainable solution **minimizing the impact of methane** includes the provision of heat and energy for local residents.

- 70** sites in operation for NHW
- 60** sites in post-operation
- 1,334,180** MWh of electricity sold
- 4,137,480** Nm<sup>3</sup> biomethane in direct use



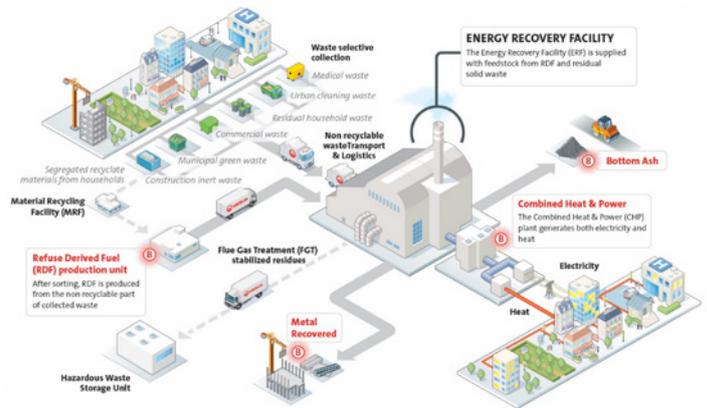
- NHW Landfill treated = **18.8** Mt/y
- 9** biogas valorization contracts
- 152,460** MWh of thermal energy sold

## Waste to energy

Veolia manages the entire process for waste to energy (WTE); feasibility analysis, administrative procedures, feedstock supply securing, constructor choice, landscape integration, assistance for public funding, commissioning, and operator training.

- **63** facilities (ERF) for **municipal solid waste (MSW)** in operation in 2016, including 4 facilities with Veolia contract ownership < 50%
- 1 facility for sludge
- Average treatment capacity: 150,669 tons per year
- MSW incineration capacity = 10.7 Mt/y
- 2,224,000 MWh of thermal energy sold in 2015
- 3,227,000 MWh of energy sold in 2015

**Ecocycle**, 100% owned by Veolia Korea, provides sorting, treatment, recycling and recovery services as well as produces SRF (Solid Refused Fuel) as a renewable energy at a capacity of 70,000 tons per year.



## Organic waste to energy (O2E)

Organic waste and organic by-products by agricultural and food processing industries and municipalities offers good opportunities for **anaerobic digestion and biogas generation**.

### Veolia's key differentiation

- Implement circular approach at a territorial level
- Curb local environmental footprint
- Offer operational expertise abiding by contract terms and latest applicable regulations
- Address the entire value chain for methanization and side treatments

### New Contract! Food waste treatment facility, Korea

Veolia recently has acquired 90% equity of Dongyang Green Bio who owns and operates the food waste treatment facility located in Bonghwa, Gyeongsangbuk-do Province, Korea.

It is the **first contract in the organic waste treatment operation in Korea**. It is to treat 1<sup>st</sup> dewatered food waste for composting.

An average of 11,000 tons/ day of food waste is disposed in Korea and recycled as composting and animal feeding mainly after treatment.

#### Key figures:

- Contract signed: September, 2016
- Contract type: Acquisition, O&M
- Capacity: 70 t/d (current operation), after the planned extension: 140 t/d (FW 70 t/d, Sludge 70 t/d)



# Veolia to manage Sinopec's Beijing Yanshan Petrochemical's entire water cycle



For this contract, the **dedicated joint-venture between Yanshan Petrochemical and Veolia** has been established and will employ more than 800 people.

Following the mutual trust established through their previous cooperation, Veolia and Beijing Yanshan Petrochemical have chosen to expand the scope of their partnership to the **entirety of the water cycle management, including cooling water, demineralized water, industrial water, drinking water, chilled water, waste water and firefighting water of the Yanshan facilities.**

Yanshan Petrochemical, a fully-owned subsidiary of Sinopec, is **one of the largest production bases** of synthetic rubber, synthetic resin, phenol acetone and high-quality refined oil products in China.

It processes over 10 million tons crude oil and produces 800,000 tons of ethylene annually. It can produce 94 varieties with 431 grades of petrochemical products.

Veolia is also in charge of **upgrading the wastewater treatment facility** to bring it into compliance with the newest and most stringent standard in the Beijing area, and one of the most stringent standards worldwide for water discharge. Finally, the contract also comprises a **comprehensive energy optimization program covering all water production facilities on site.** The achieved reduction in energy consumption per m<sup>3</sup> of water produced will be a major contribution to Beijing Yanshan Petrochemical's efforts to reduce its carbon footprint.



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# Aquavista 5C: Smart Chemical Dosing & Monitoring Technology for Cooling Systems

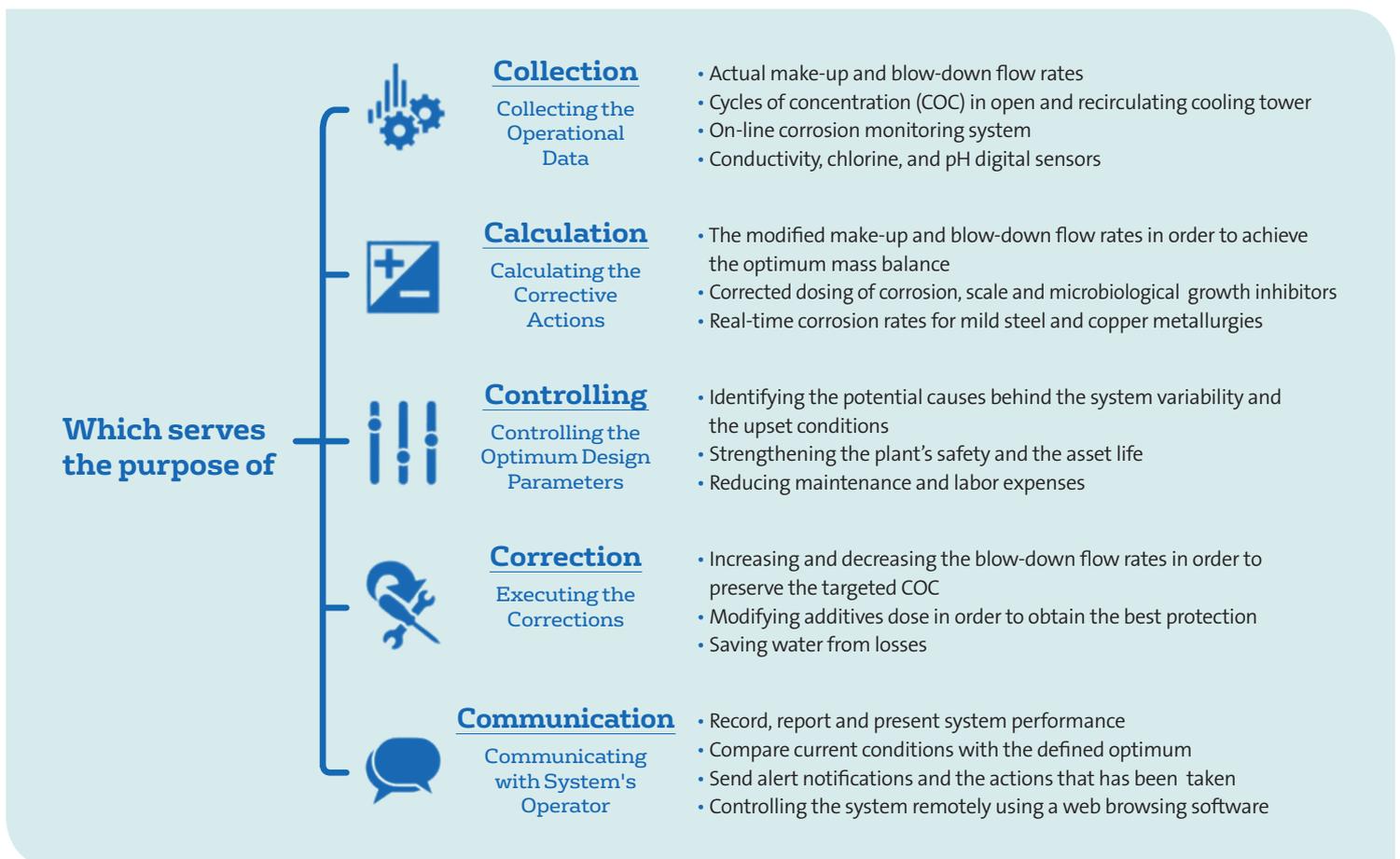
The **Aquavista 5C** is Veolia's automated technology to **diagnose cooling systems conditions** for appropriate chemical response solution, and it provides users with key features and **functions of top-of-the-line cooling monitoring and controlling systems**. This solution can prevent adverse effects like **corrosion, deposits, fouling, and microbiological growth** in cooling towers.

## Benefits

- Minimizing the risk to system assets concerning both **scale and corrosion**
- Optimizing the usage of **clean source water**
- Optimizing **blow-down** water and related discharge charges
- Facilitating reports and operating conditions
- Achieving the peak **efficiency and performance** of your cooling system

- > Remote monitoring from wherever you are
- > 24/7 Managed Service
- > Saving water from losses
- > Reducing maintenance and labor expenses

## What is 5Cs?



[Check Aquavista 5C on Youtube!](#)

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## Participation in Chemistry & Communication Week 2016



To eliminate a vague anxiety about chemicals materials-products, following the incident of ‘Oxy Toxic Disinfectant for Humidifiers’, the Ministry of Environment and Ministry of Public Safety and Security held the **Chemistry & Communication Week 2016** from August 22-23 at COEX in Seoul to set a framework of Chemical Safety society.

In line with the purpose of promoting careful chemical safety policies by the government & public institutions, production of safe chemical products by companies to secure their social responsibility, and the NGO’s role in monitoring the

government and the companies; the seminars, discussions and various programs were held on the importance of safety and chemical management plans.

As the water treatment (wastewater, process water and UPW water) service provider of SK hynix Since 2001, **Veolia introduced its participation in the community chemical safety seminars and its performance as a member of Eastern Zones Chemistry Community with SK hynix within the Han River Basin Environmental Office.**

Also, Veolia participated in the ‘Good practice competition for large and small - medium sized business’ Chemical Safety Community’ which was held to prevent chemical accidents and support safety management, as part of ‘SK hynix joint group members’ (joint group of 2 large companies and 4 medium size companies) and was awarded the first prize.

Veolia will continue to make efforts to strengthen the competitiveness of the chemical materials’ management and safety control.



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## Veolia sponsored 2016 EU Research & Innovation Day seminar



Veolia Korea sponsored 2016 EU Research& Innovation Day seminar organized by the European Chamber of Commerce in Korea (ECCCK) taken place on October 4, 2016.

At this seminar, the up-to-date R&I policies of the European countries, excellence of science, technology and industry to Korea have been introduced.

Veolia Korea also took this opportunity to present on “**Solutions for Sustainable and Resilient Cities**”, which it has an expertise and know-how with various references worldwide.

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