

An aerial night view of a city skyline, featuring numerous high-rise buildings with illuminated windows. The sky is a deep blue, and the city lights create a warm glow. The ENGie logo is overlaid on the left side of the image.

ENGie

# Northgate District Cooling System



# District Cooling Systems Benefits

*A solution to answer cooling needs while respecting major energy and environmental issues*

*\*compared to traditionnal air-conditioning systems*



**35%**  
Less electricity  
consumption



**50%**  
Improvement in  
energy efficiency



**65%**  
Less water  
consumption



**50%**  
Less CO<sub>2</sub>  
emissions



**80%**  
Less usage  
of chemicals

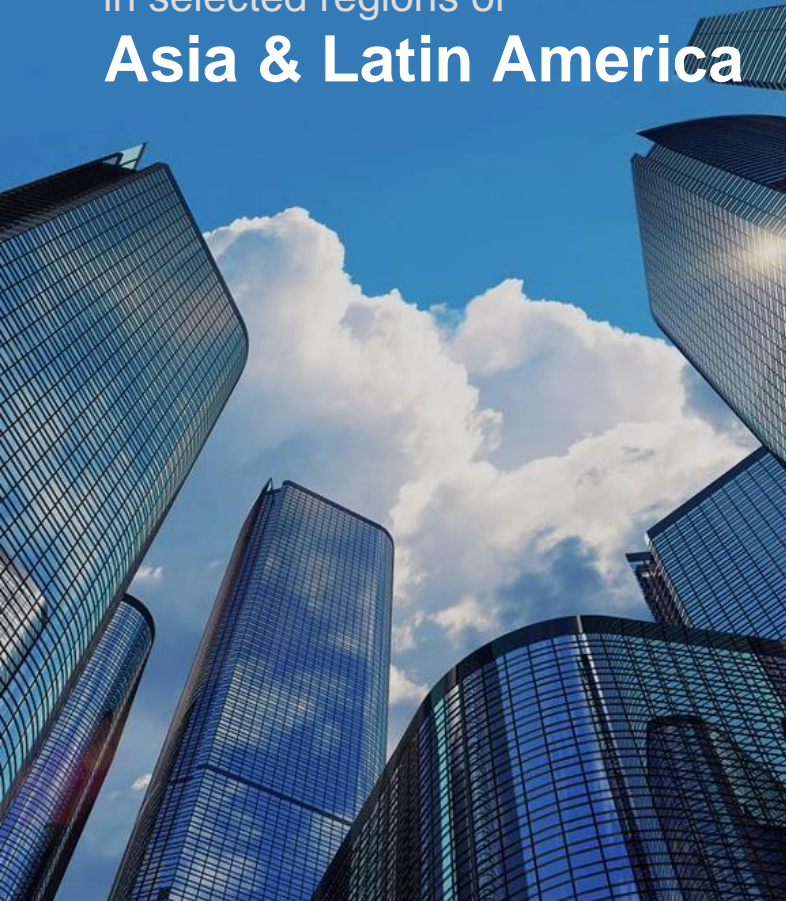
# ENGIE International Operations

Cooling use is set to expand

**625%** by 2050

in selected regions of

**Asia & Latin America**





# Philippine DCS Development Corporation (PDDC)

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a joint venture between  
ENGIE Services Philippines  
& Filinvest Land Inc.



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**Mr. Joseph M. Yap**  
PDDC President  
Filinvest  
Cyberparks, Inc.

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**Mrs. L. Josephine  
G. Yap**  
CEO and President  
of Filinvest Land Inc.

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**Pierre Cheyron**  
CEO of ENGIE  
South East Asia

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**Didier Holleaux**  
Executive Vice-  
President -  
ENGIE

# Shareholder Structure

## FILINVEST



Chilled Water  
Sales Agreement  
(BOOT) for  
20 years



Land Lease  
Agreement

60%

Philippine DCS  
Development Corp  
"PDDC"

40%



Project Management  
Engineering Design

10 years of Comprehensive  
Operation and Maintenance

- *Guaranteed Supply*
- *Guaranteed Efficiency*
- *Latest Technology*
- *Full International Support*

# Project Milestones

**Groundbreaking**  
March 18, 2016



**Topping-Off Ceremony**  
March 13, 2017



**PDDC Launch**  
September 21, 2017



**Buildings Connection**  
August - October 2017



2016

2017



DCS Plant



Underground  
Network Pipe



Energy Transfer  
Station



Equipment  
delivery

**Project Construction :**  
April 2016 – September 2017



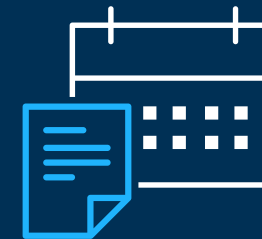
# Northgate District Cooling System (DCS)

Project of PDDC to produce cooling energy to supply within Northgate Cyberzone

*Northgate Cyberzone is an IT park of 18 hectares in Alabang, Philippines*



**Biggest**  
cooling capacity  
installed in the  
Philippines



commissioned in  
**August 2017**



ENGIE and Filinvest  
jointly invested  
**26M€**



## The District Cooling Network



12

buildings  
connected



3.4 kms

network  
length



42 Mw

cool

## Expansion-friendly Plant

+4 

additional buildings to  
be connected by 2020

+410,000   
Sqm cooled by 2020

Able to connect **additional infrastructure** like malls, hospitals or schools in the future



# A Factor of Improvement and Attractiveness for Northgate Cyberzone

A Brownfield DCS with 61% of the existing load connected

**8,640**

buildings peak demand

**12,000 RT**

installed capacity

Improvement of overall reliability and energy efficiency of aged chiller plants

**13 %**

savings for the clients

**20 years**

guaranteed Capex & Opex



# Environmental Performance

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**3.4 kms**

of fully redundant reliable  
cooling network

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**99.8%**

availability guaranteed

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**60%** savings of cooling  
& electrical capacities

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**35 %**

improvement in  
energy efficiency

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**39%** reduction of electricity  
consumption / year

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**11,500 tons**

of CO<sub>2</sub> savings / year

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