



**KGID  
2025**

**Green Growth:  
The Path to  
Sustainable Jobs**

# Circular Economy based on Waste Landfill and International Emission Reduction Project

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**SUDOKWON Landfill Site  
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# Past of Landfill on SUDOKWON



## NANJIDO Waste Dumping Site

- Location : Nanjido, Seoul
- Type : Open Dumping
- Period : 1978 ~ 1993 (15 yrs)
- Scale : 98m(height), 271ha, 91,972,000m<sup>3</sup>

### Major Environmental Issues

- Huge scale of unsanitary waste dumping
- Leachate Leakage to Han River  
(BOD 72mg/L(24 times more) , COD 605mg/L(151 times more))
- Fire, Odor, Air Pollution caused by Landfill Gas emission
- Many Scavengers and Insects living on dumping site



# Past and Present of Landfill

**Past  
(1980s)**

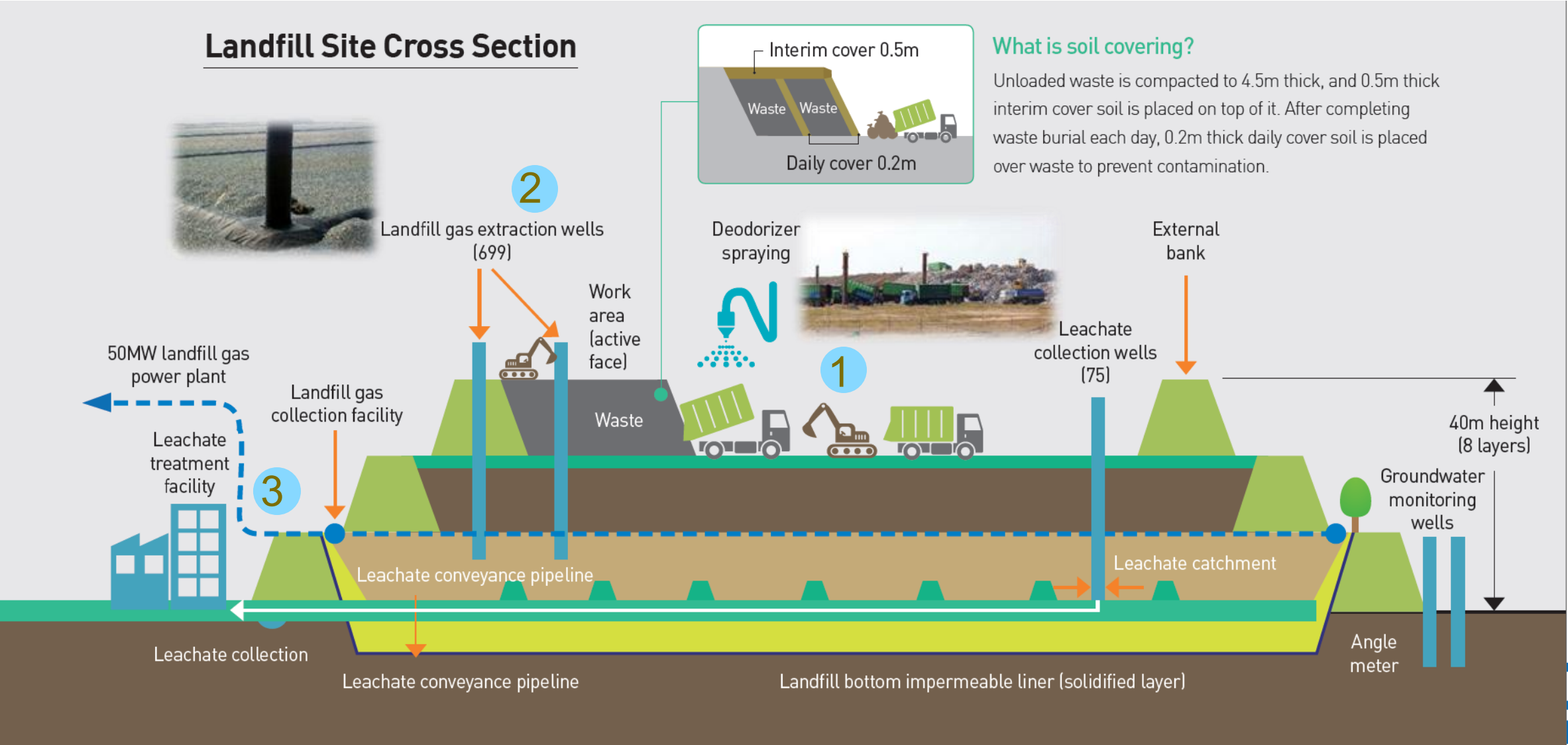


**Present**



➡ **Solution for Environmental Problems + Economic & Social Benefits**

# Landfill Based GHG Reduction





# Landfill Gas Power Generation (50MW)



## Renewable Energy (Power Generation)

Approx.  
**100,000** households per year  
Approx.  
**350** million kWh per year



Approx. 100,000 households  
(based on four-member  
household(330kw))



Import substituting  
effect for approx. 400,000  
barrels of crude oil

## Carbon Emissions Reduction Credits

Approx.  
**800,000**  
tons of CO<sub>2</sub> per year



## Power Sales Revenue

Approx.  
KRW **35** billion per year



CDM Project through  
LFG-to-Energy

Korea's first UNFCCC CDM project  
for utilizing landfill gas



### Landfill

- 1,024 locations including vertical gas collection pipes
- Using vacuum pressure, gas leakage/emission prevention



### Landfill Gas Collection/ Transfer

- Use of high-pressure blower.
- Approx. 308km-long gas conveyance pipelines



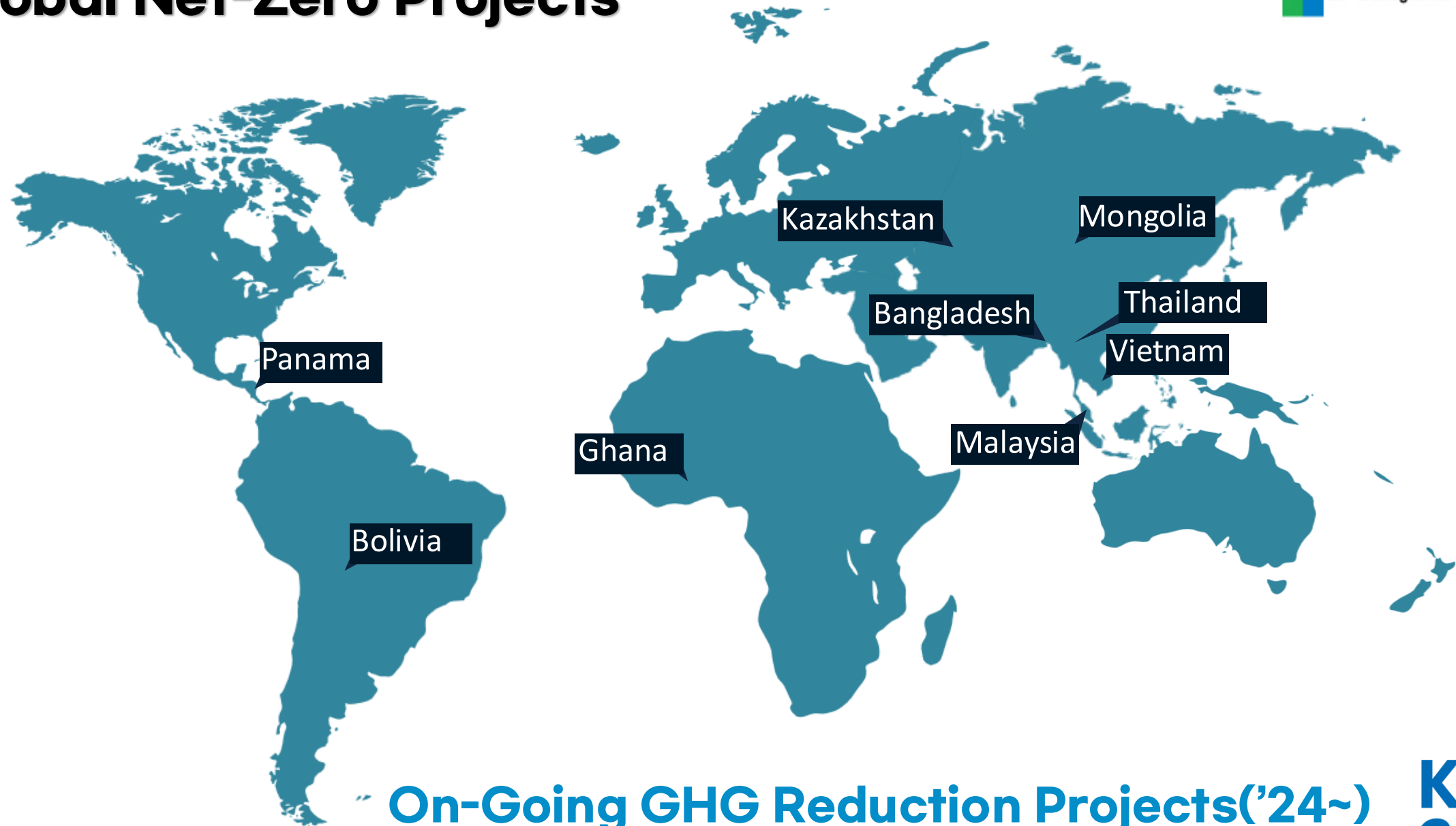
### 50MW Landfill Gas Power Generation

- One 50MW unit, 1.2 million kWh/day power generation
- 6 units in total, 680m<sup>3</sup>/min. gas combustion



### Power Transmission

# Global Net-Zero Projects



On-Going GHG Reduction Projects('24~)



# Global Net-Zero Projects



## NEDS landfill Greenhouse Gas Reduction Project, Mongolia

- **Project Outline**

- ✓ Period : Nov 2022 ~ Aug 2036 (14 years)
- ✓ Target Area : Narangiin landfill site(NEDS) in Mongolia (36ha)
- ✓ Budget : \$12 million

- **Aims**

- ✓ Responding to Climate Change and Paris Convention Article 6.2
- ✓ Designing and Constructing LFG flaring and monitoring system

- **The Role of SLC in the Project**

- ✓ Designing, Constructing LFG Flaring Facility and O&M
- ✓ Obtaining ITMO\* and contributing to achievement of NDC\*

\* ITMO : Internationally Transferred Mitigation Outcomes, NDC : Nationally Determined Contribution

- **Future Plan**

- ✓ Constructing LFG Facility
- ✓ Conducting O&M for Monitoring flared LFG and Obtaining ITMO('25~'36)





# Q&A

# THANK YOU

