

We Live the City

NINEWATT Co., Ltd.

The easiest way to save energy

We create insights of energy efficiency and net zero of buildings & cities.



2050 Net Zero target

International goal for **reducing CO2 in building sector**



Building sector accounts for 38% of the total CO2 emission

A dark blue world map is visible in the background, showing the outlines of continents. The map is centered on the Atlantic Ocean, with North and South America on the left and Europe and Africa on the right.

Global Trends for Reducing CO2 Emissions in Public and Private Sector Buildings by Country

Republic of Korea

Mandatory green remodelling regulation is expanded step by step
Public - Private | Large - Small

France

DPE should be provided in the real estate transaction process and Mandatory energy renovation of the buildings with classes F and G by 2022

Challenges for all



Is it possible to quantify CO2 emissions and saving potentials in millions of buildings?

Is it manageable for experts to diagnose the millions of buildings manually?



We offer data-driven building energy solutions for each level of data collection



WATTI

Public data based building
energy efficiency level
diagnosis and renovation solution



SAVE-E

Monthly building energy consumption
and bills dashboard at city
and portfolio level



INSIGHT-E

Real time energy consumption
data based automatic analysis
and reporting system

3D map based building energy renovation platform WATTI

By combining GIS, building register(year of construction, use type, material) and EnergyPlus simulation, WATTI diagnoses current energy efficiency level and offer energy renovation scenarios

Public data

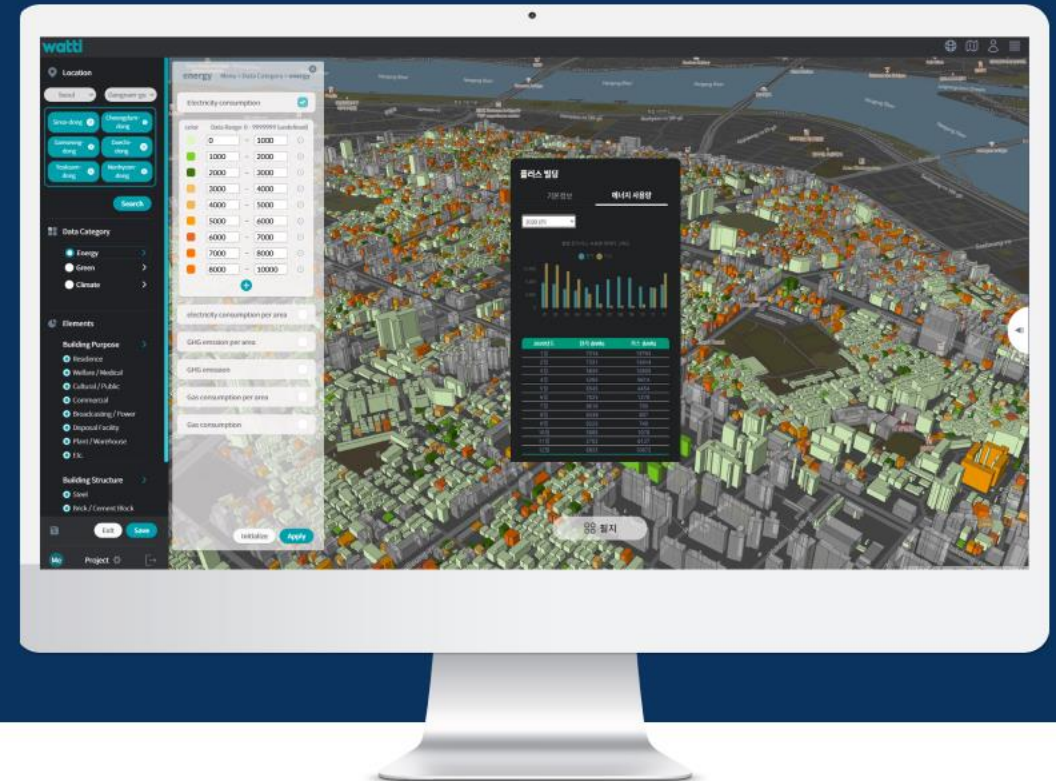
Building register

Simulation



Targeting Local Governments

- ✓ Monthly energy load
- ✓ Energy performance level of each building component
- ✓ Required construction, estimated construction cost, ROI
- ✓ Reflect detailed building characteristics entered by users



Building Energy, Environmental Data Analysis and Visualization Solutions, SAVE-E

Gangnam-gu Carbon map

Visualize and analyze CO2 emissions based on building data and energy usage



Main function

- Ranking CO2 emission of the public buildings
- Monitoring electricity, gas consumption and CO2
- Carbon emissions growth compared to the previous year
- Regional Carbon Emissions Comparison

Gyeonggi-do Urban Environmental Planning Support Service



Main function

- Photovoltaic power estimation
- Carbon Storage and Absorption Map
- Building Energy Management
- Support for strategic installation of EV charging stations

Automatic analysis and reporting system of energy consumption, Insight-E

Offering optimal guide to save electricity bills

past final electricity consumption, outdoor temperature, Time of use tariffs analysis

Quantifying Potential Savings Energy and Costs

Analysis Combining Energy tariff System and Usage Patterns

Adapting diverse analysis module

Optimal time for peak shifting, System efficiency recommendation

No need to install hardware devices

1 hour final electricity consumption data only required



Smart Energy Insight
- Premium report -




Table 1. 전기소비현황

구분	계량기 번호	전기요금 코드
계량기 번호	94000000	
계량기 종류	일반계량기(상용)	
계량기 용량	300kVA	
계량기 사용 목적	제조업	
계량기 사용 지역	충청남도 천안시 동남구	
계량기 사용 연도	2022년 12월	

본서 기간(2022-04-01~2023-03-31) 내 고객 건물에 청구받은 총 284,939원 (1829kWh)의, 평균전압 1300V(중) 조류는, 건물용서, 전기요금(전기) 청구 금액 중, 조류 요금을 의미합니다. 계약전압 1300V(중) 건물 용서, 별도 청구 가능해 보입니다.




Table 2. 연도별 전기요금

연도	전기요금	연간평균	연간최고	연간최저
2022년	2,849,390원	142,469.50원	1,424,695.00원	14,246.9500원
2023년	2,849,390원	142,469.50원	1,424,695.00원	14,246.9500원

고객 건물의 과거 전력사용량을 기반으로, 연도별 전기요금 추이를 사용패턴(전압 코드) 및 전기요금 사용패턴(계량기)을 분석하여, 전기요금 절감 방안을 제시합니다.

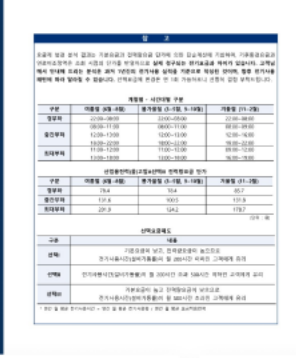


Table 3. 시간대별 전기요금

구분	시각	전기요금	시간대별 평균
일반	00:00~06:00	100.0000원	100.0000원
	06:00~11:00	400.0000원	400.0000원
중과	11:00~18:00	1000.0000원	1000.0000원
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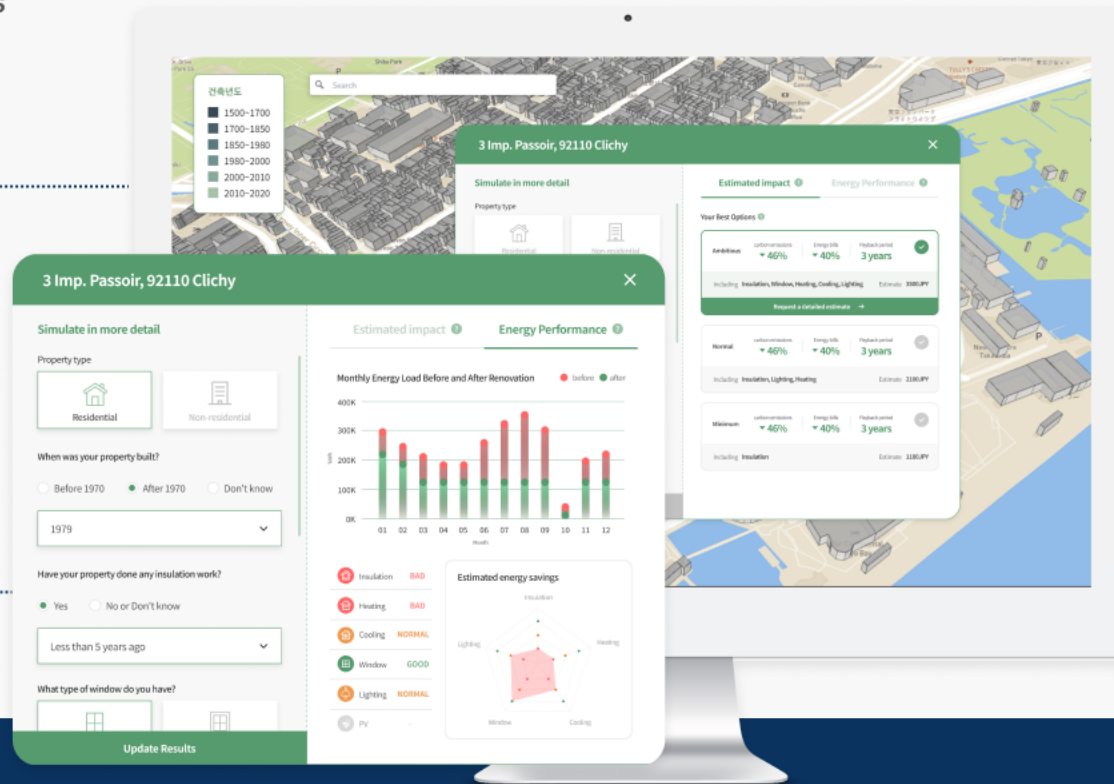
Business idea for the Global market

Utilize public data and simulations without relying on user input

Draw optimal energy renovation scenarios

Calculate the impact of energy renovation based on monthly load estimates

EPC index improvement-oriented solution, construction cost-oriented solution, etc

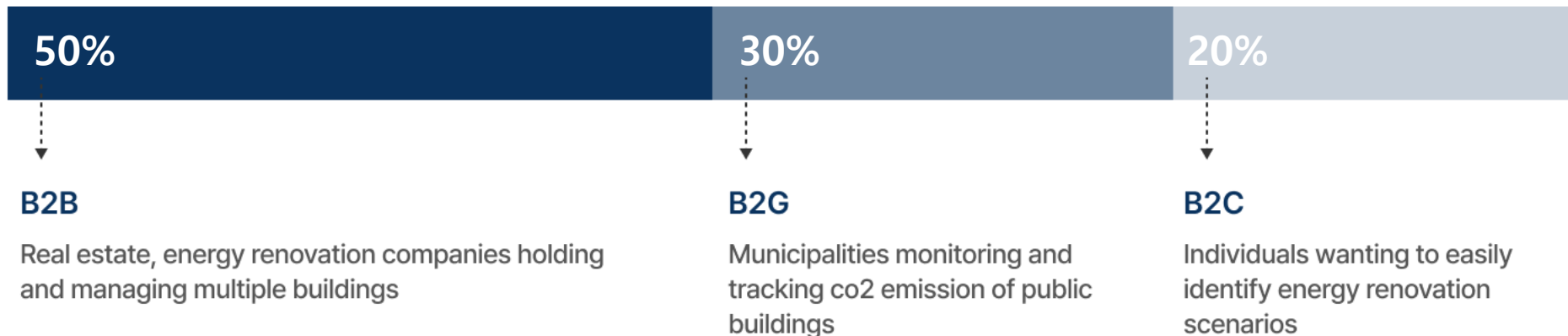


Business Model

Comparison with competitors

Competitors	NINEWATT
Visit the building in person to diagnose energy efficiency	Remote, automatic energy efficiency diagnosis
Workforce, time, and cost incurred	Low cost solution utilizing public or user input data
Not suitable for targeting multiple buildings	Diagnosing multiple buildings at once

Business model



Solving urban issues through D.N.A (Data, Network, AI)

NINEWATT has been finally selected as one of the promising companies for the South Korean Green New Deal, among the 30 companies.

CEO Kim YoungRok

Specializing in architectural engineering, a graduate of a research institute, with expertise in energy-efficient building design and consulting.

Over 200 projects completed by this specialist.

(Korea Bank, Korea Electric Power Corporation (KDN), Itaewon 2nd Techno Valley, Sejong Government Complex)



date of establishment 12.02.2019

Team composition 24 | 6 Researcher, 12 Developer, 4 Management and Planner, 2 Designer

Business boundaries Smart city and building solution

Address (head office) 204 104, Convensia-daero, Yeonsu-gu, Incheon

Partners Relevant research institutes and industries



Team Members



CTO
Park SangLin

Senior engineer with experience in developing and commercializing AI technology at Japan's No. 1 AI research institute company

A Study on Visualization of Building Information

Deep learning-based AI system design

Data processing and analysis

Energy control algorithm design

Energy Analysis Service Development



Full-stack developer
JUNG HONG

Full-stack engineers to analyze and visualize building GIS data



Researcher
Ko YunDam

Previous software developer of an architectural design company and researcher at the Institute of Architectural Physics in Physics



Researcher
Kim Rang

Establishment of Automatic Building Energy Diagnostic Reporting System and General Project Management in Europe



PM
Kim Dahye

Web/App Service Planning and Japan Project General Manager



Thank you