



INGENT Co., Ltd.

PYROLYSIS PLANT SOLUTION

Waste Plastic Pyrolysis Plant Business Standard Proposal

With equipment and know-how proven at Korea's largest pyrolysis plant, which we run ourselves, we support you from permits and plant supply to operation and the sale of pyrolysis oil.

Utilization of 90%+

All by-product gas used as fuel

Industry first: ISCC PLUS · PSM

Offtake support

Why pyrolysis, and why now

Turning post-consumer plastic film and plastics back into oil through pyrolysis is regarded as the most environmentally friendly way to recycle them. Policy, demand and technology are now coming together.

01 A business the government supports and promotes

The Korean government aims to treat 10% of waste plastic by pyrolysis by 2030. Regulations are being eased, for example by exempting the business from waste-treatment licensing and allowing pyrolysis oil to be used as refinery and petrochemical feedstock.

02 Refiners competing for pyrolysis oil

Refining and petrochemical companies are planning investments in pyrolysis-oil upgrading facilities and are actively seeking to secure pyrolysis oil as feedstock.

03 Proven plant suppliers have emerged

Plant suppliers have appeared that have overcome technical challenges such as pipe clogging and safe operation, and have proven their competitiveness in commercial operation.

ABOUT INGENT

Korea's largest pyrolysis plant, with the longest operating record

24,000 t/yr

Waste plastic processing capacity

10

Reactors in operation

90 %+

Plant utilization

6

IP rights (incl. 4 patents)

ISCC PLUS

Industry first · International sustainability certification (Feb 2022)

PSM approval

Industry first · Process Safety Management report (May 2025)

GHG methodology

Industry first · Waste plastic pyrolysis carbon reduction (Mar 2023)

ISO 9001

Quality management system (Jun 2020)

MPE Specialist Company

Materials, Parts and Equipment (Oct 2024)

Venture Business

Venture Business certification (Oct 2022)

Plant supply — from permits to offtake

The project owner invests the capital and runs the business. INGENT supports every stage with equipment and operating experience proven at our Gyeongju head-office plant.

STEP 1 Permits	STEP 2 Plant supply	STEP 3 Start-up approval	STEP 4 Operation & offtake
Support for business suitability review, building permits and other approvals	Supply and installation of pyrolysis equipment proven in commercial operation	PSM, facility inspections and operating permits ahead of trial operation	Contract operation for 5 years after completion, support for supplying major refiners

01

Utilization of 90%+

Stable operation of Korea's largest plant

We run Korea's largest pyrolysis plant of its kind at a utilization rate of 90% or more. The equipment we supply is proven in full commercial operation.

02

All by-product gas reused

Lower costs by using by-product gas as fuel

A system that reuses all by-product gas from pyrolysis as reactor fuel saves several billion won a year in heating costs.

03

ISCC PLUS · PSM · inspections

Full support for certifications and permits

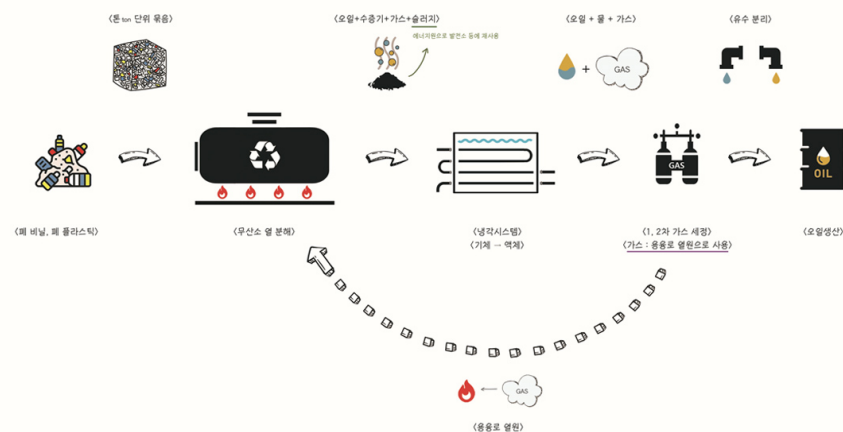
We support the certifications and permits needed to run a pyrolysis plant, including ISCC PLUS, the Process Safety Management (PSM) report and equipment inspections. We were the first in the industry to meet these requirements.

04

5+ years of supply experience

Full support for supplying major refiners

Drawing on our long-term supply relationship with a refiner, we support the process of supplying large companies, from improving oil quality to pre-delivery testing.



Pyrolysis process flow — feeding → oxygen-free pyrolysis → cooling → primary and secondary gas scrubbing → oil production. The scrubbed gas is reused as the reactors' heat source.

Why INGENT

We don't stop at selling equipment: we also provide the credentials and buyers to sell oil at a premium, and an operation that keeps costs down.

01 · EPC + Commercial operation

The only company with both plant EPC and commercial operating experience

The only company combining pyrolysis plant EPC (engineering, procurement and construction) experience with commercial operation of Korea's largest plant. We built our Gyeongju plant (10 reactors) ourselves and run it at 90%+ utilization, so we take responsibility from construction to stable operation.

02 · Selling price

More than twice the price of fuel use

All our oil goes to refiners and petrochemical companies as a crude oil substitute, earning more than twice its price as fuel.

03 · Heating cost

By-product gas fully reused as heat

By-product gas from the process is reused as the heat source, saving several billion won a year in heating costs.

04 · Market access

ISCC PLUS certification

International certification qualifies the oil for sale to major Korean companies and overseas refiners.

05 · Quality

In-house oil testing

Our own testing system cuts costs and lets us respond to refiners' requirements at any time.

06 · Financing

Financial and industry partners

Partnerships with private equity funds and refiners help project owners raise funds.

07 · Extra revenue

Carbon credit certification

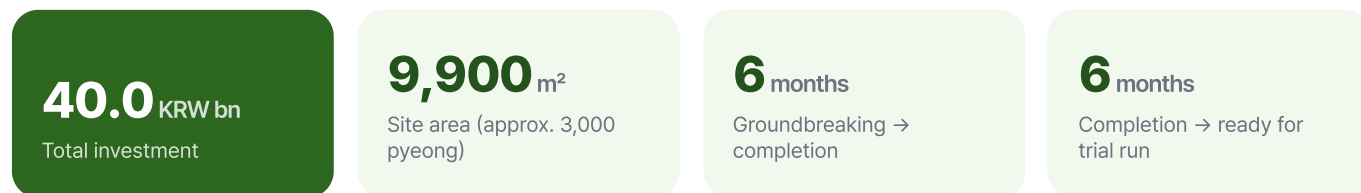
A system in place to be first to earn certified reductions under Korea's external offset program.

Standard operation (10 reactors)

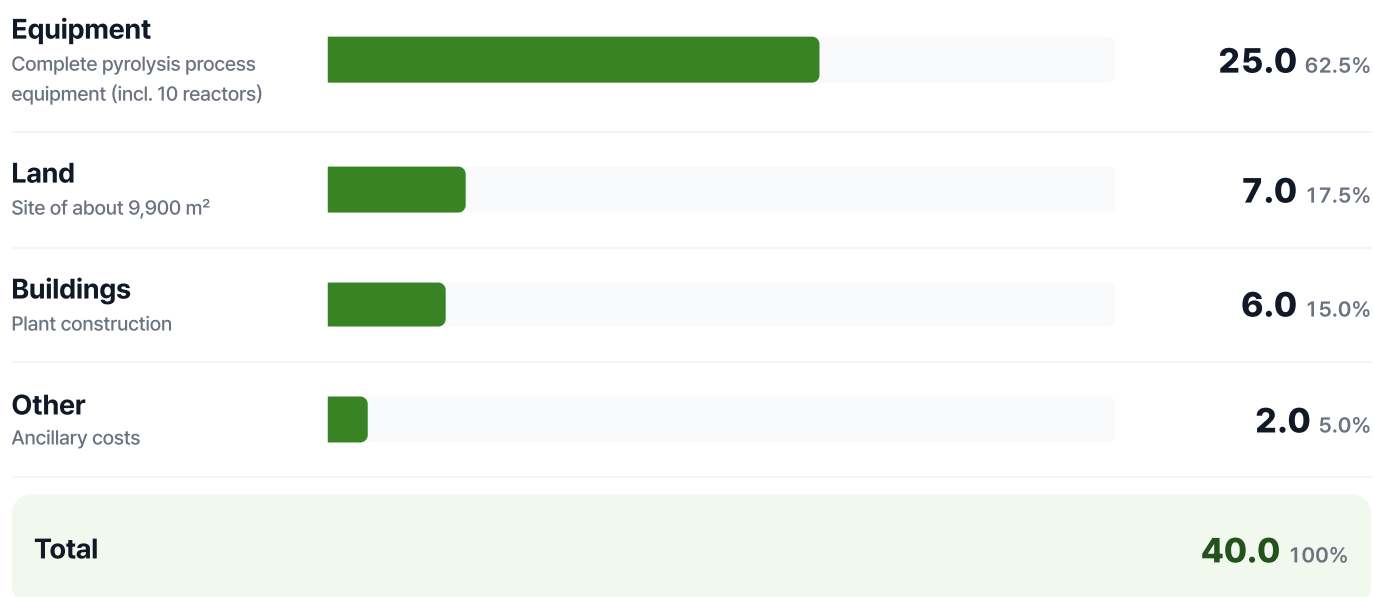
Reactor operation	~10 t per charge · 0.8 cycles/reactor/day (14 h heating, 7 h cooling, 3 h residue removal and feeding)
Annual throughput	About 27,280 t of waste plastic · 26–29 operating days a month
Oil output	About 13,640 t/yr (50% yield)
Staffing	38 in total — 29 on site (incl. 4 maintenance; 3 crews, 2 shifts, 52-hour week), 3 production management, 5 office/lab, 1 plant manager
Maintenance	Pipe cleaning and routine upkeep outsourced regularly, plus preventive maintenance

Standard investment (10 reactors)

Standard investment for building a new 10-reactor pyrolysis plant on a site of about 9,900 m² (3,000 pyeong). Actual figures depend on how the site is secured, its location and the plant size.



Breakdown (KRW bn)



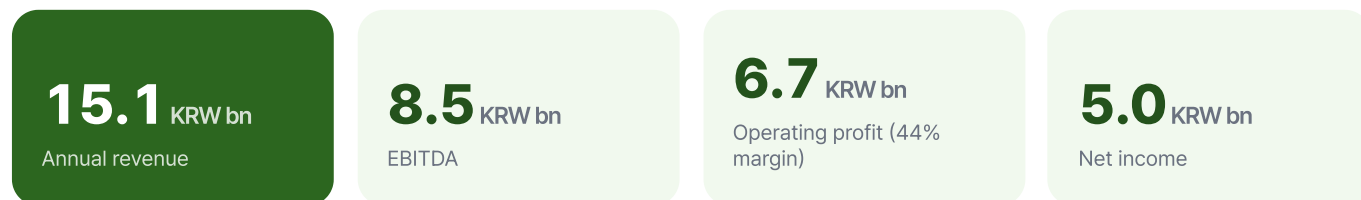
Notes for reviewing the investment

- Land costs vary widely by location and drop out of the total if you already own a site.
- The standard earnings model on the next page shows annual revenue of about KRW 15.1 bn and EBITDA of about KRW 8.5 bn at normal operation.
- After start-up, annual maintenance capex is needed (about KRW 0.66 bn in year 1, assumed to rise 5% a year).
- Through partnerships with private equity funds and refining and petrochemical companies, INGENT helps project owners raise funds.

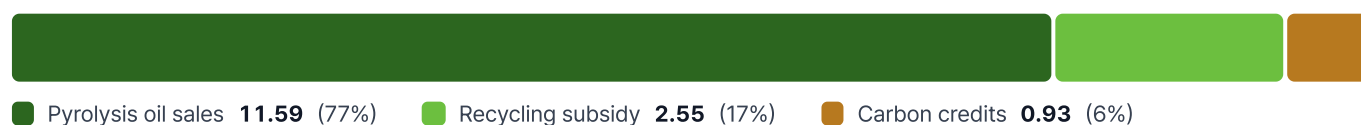
* The standard investment is an estimate for business review. Actual investment depends on the site, design and contract terms.

Standard earnings model (10 reactors · annual)

Standard annual profit and loss for one year of normal operation. These are estimates based on the assumptions below and vary with the site, region and contract terms.



Revenue mix (KRW 15.07 bn a year)



Item	KRW bn
Revenue	15.07
Cost of sales	7.31
Raw material (inbound haulage)	0.41
Labor	1.89
Overhead (incl. depreciation 1.80)	5.00
Gross profit	7.77
SG&A	1.09
Operating profit	6.67
Interest expense	0.02
Income tax, etc.	1.66
Net income	4.99

Key assumptions

- Throughput of 27,280 t/yr, 50% oil yield
- Pyrolysis oil price of KRW 850,000 per tonne
- Recycling subsidy (KORA) of KRW 187,000 per tonne (2026), applied to 50% of throughput
- 54,560 t of carbon credits a year, 85% retained, at KRW 20,000 per tonne
- Inbound haulage of waste film at KRW 15,000 per tonne
- All by-product gas used as heat, minimizing external fuel costs
- Depreciable equipment of KRW 18.0 bn, straight-line over 10 years
- Average on-site hourly wage of KRW 13,800, 38 staff
- Income tax, etc. at 25% of pre-tax profit

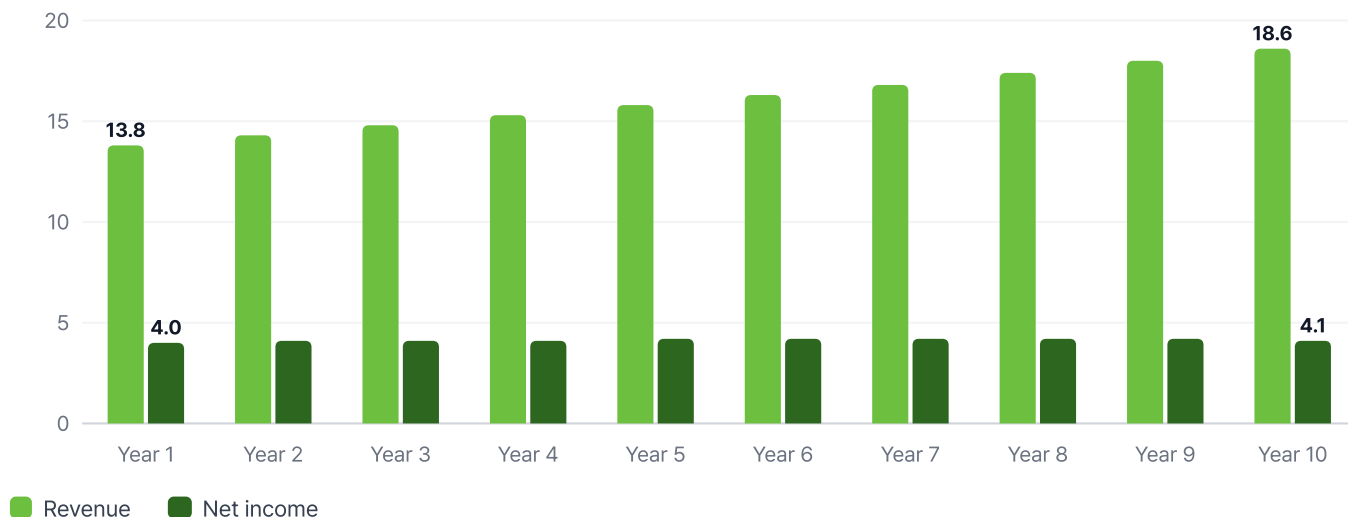
* This model is an estimate based on INGENT's operating results at its Gyeongju plant and does not guarantee actual results. A separate feasibility review is needed before any investment decision.

OUTLOOK

10-year outlook and project schedule

Estimated revenue and net income, operating years 1–10 (KRW bn)

Conservative assumptions: oil price +3% a year, subsidy rate +5% a year, with the share of throughput eligible for the subsidy falling gradually from 50% to 30% by year 10



Project schedule

PREPARATION

Site & permits

Land purchase, then business suitability review, building permits and other approvals

6 MONTHS

Construction

Buildings and pyrolysis equipment installation

6 MONTHS

Start-up approval

PSM, facility inspections and operating permits ahead of trial operation

1 YEAR

Trial run & ramp-up

Gradual ramp-up to normal operation · contract operation (5 years)

Talk to us about a pyrolysis plant

We prepare a feasibility review and a tailored proposal for your site and scale.

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