Molecular Transformation turns waste into circular value.

Why the Sisak project is a greener, scalable and investable infrastructure versus landfill and incineration.

6
coupled technology pathways

350,550 t/a
PCC waste input in model

55,575 MWh/a
planned grid feed-in

308,000
tCO2e/a credit basis

Sources: project assumptions, FFG application, web/messages/de.json

Landfill and incineration handle disposal, but not circularity.

The difference is not only emissions. The question is whether material value is destroyed or converted into products, energy and CO2 management.

1 Landfill

Methane and long-term risk
Land use and groundwater protection needs
Recyclable materials leave the economic cycle

2 Incineration

Project comparison: approx. 2.5-3.0 tCO2/t waste
Only approx. 0.6-0.8 MWh power/t
Material value turns mainly into flue gas, ash and residues

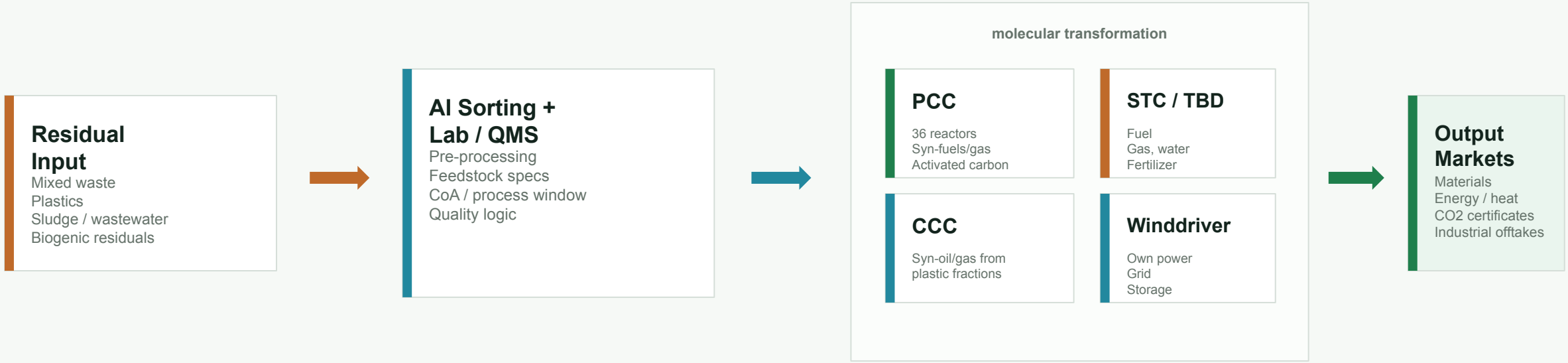
3 Molecular Transformation

Residuals are used as feedstock
Outputs: syn-oils, gas, activated carbon, regranulate, power/heat
PFAS/furans/dioxins are addressed in-process

Sources: European Commission Landfill Waste; project material web/messages/de.json

The park closes the loop through coupled technology pathways.

Not a single plant, but an industrial material-flow stack: sorting, lab, catalytic conversion and energy integration work together.



Material flow is qualified step by step, transformed and routed into multiple output markets.

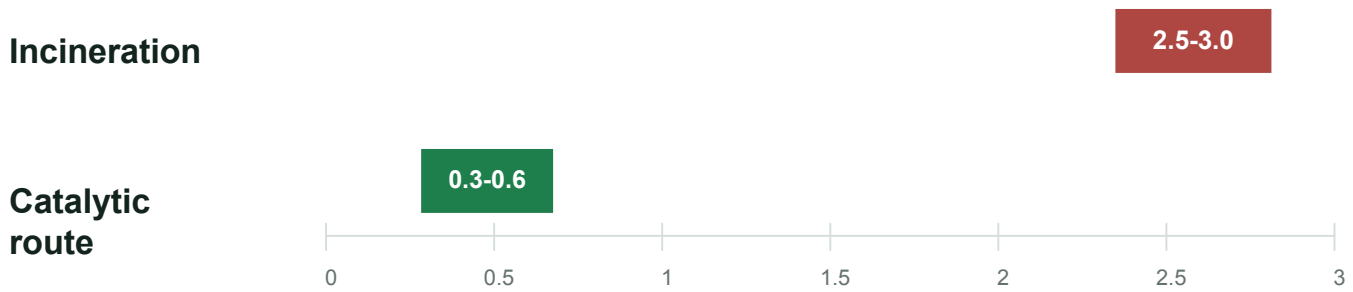
Sources: web/app/data/products.ts; FFG application work packages

CO2 emissions fall because mass is valorized rather than burned.

The green thesis is based on avoided burn, material substitution, local energy integration and measurable CO2 impact.

Emissions range in project comparison

tCO2/t waste, indicative



80-85% less CO2 than conventional incineration

1. **Catalysis instead of mass burn**

   Carbon is converted into products and energy carriers.

2. **Material substitution**

   Activated carbon, bio-char, regranulate and syn-oils replace primary materials.

3. **Sector coupling**

   Own power, Winddriver and heat use reduce external energy dependence.

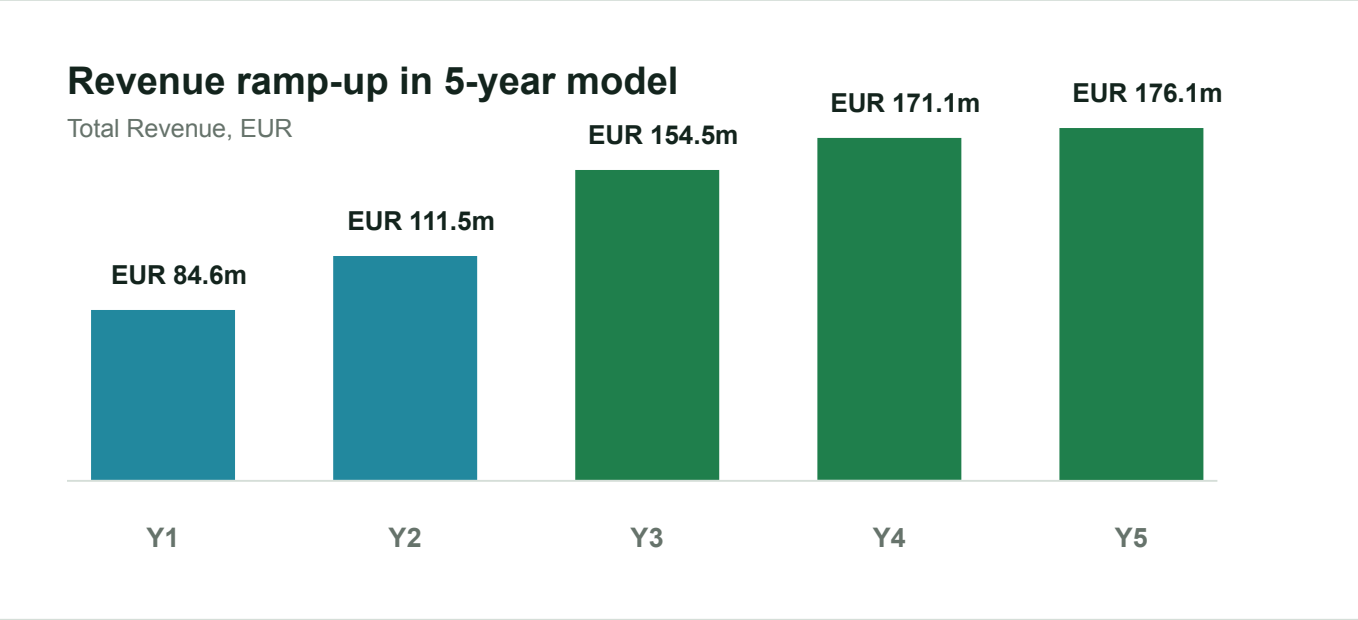
4. **MRV instead of guesswork**

   308,000 tCO2e/a credit basis is managed as measurement and verification logic.

Sources: web/messages/de.json; docs/funding/Assumptions_de.md

The green thesis also creates diversified cash flow.

The park does not only earn from disposal: every material-flow upgrade creates additional revenue options and reduces dependence on a single output category.



Gate fees
Residuals are accepted as feedstock

Power / heat
55,575 MWh/a PCC grid feed-in in model

Material products
Activated carbon, bio-char, regranulates, syn-oils

CO2 certificates
308,000 tCO2e/a credit basis

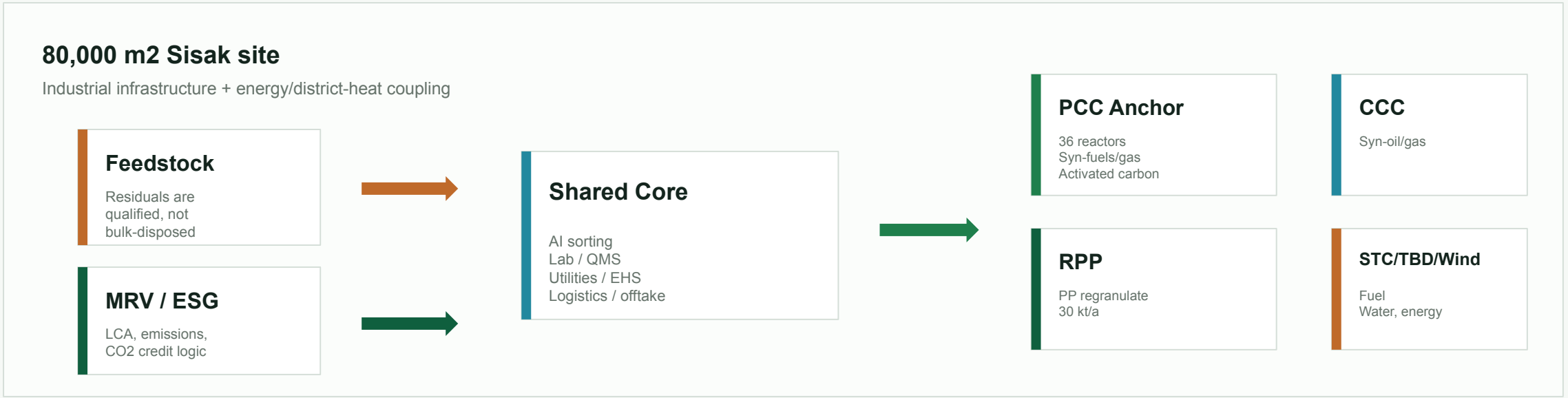
Investor core

Impact becomes measurable and scalable.

Sources: Projections_Revenue_5y.csv; docs/funding/Assumptions_de.md; web/app/data/roi.ts

Sisak reduces technology risk through a park model.

Shared infrastructure removes complexity from individual plants: one site, one feedstock and quality system, multiple markets.



Why investor risk improves

A failure or price cycle in one output path does not tip the whole platform: the park can optimize streams across product, energy and carbon logic.

Sources: FFG application; web/app/data/products.ts; CAPEX_Consolidated.csv

REGULATORY TAILWIND

EU regulation works for this thesis, not against it.

Capital is looking for projects that connect the waste hierarchy, climate goals and industrial execution. Sisak translates these requirements into concrete plant pathways.

EU pressure	What the market needs	Sisak answer	Investor signal
Landfill exit	less landfilling, less long-term risk	Residual upgrade into products/energy	**Asset follows waste hierarchy**
CO2 neutrality 2050	low emissions plus MRV	80-85% less CO2 vs incineration in model	**Impact can be measured**
55% plastic packaging recycling 2030	recyclate quality and industrial buyers	RPP: PP regranulate and quality system	**Demand is policy-supported**
PFAS / phosphates	real destruction / separation	PCC/TBD workstreams with proof logic	**Funding and compliance fit**

2030
Residual waste halving / PPWR

2035
municipal waste recycling targets

2050
climate neutrality

Sources: European Commission recycling/landfill pages; EEA residual municipal waste; project material

Investing means: turning waste management into a circular value platform.

The green idea is not an add-on. It is the industrial logic: less landfill, less incineration, more valorized molecules.

Impact

Low-CO2 residual treatment, PFAS/pollutant logic, less lost material value.

Optionality

Six technology pathways create multiple product, energy and carbon markets.

Proof Path

FEED, HAZOP, LCA/MRV, CoA, offtakes and performance tests make the green case verifiable.

ULTIMATE CIRCULAR ECONOMY PARK

Molecular Transformation replaces disposal with the logic of value creation.

Sources: local project material; LCA/MRV and offtakes as next verification milestones