INTERNAL BUDGET · 13 NOVEMBER 2026

The Danish plant at 100,000 tonnes: a five-year budget

What the plant earns and costs over its first five years, if everything it produces is sold at the prices in our current price list. Every figure is explained where it appears.

€136.5 m
turnover in year 5, at 100,000 t*

€98.7 m
operating result in year 5*

€42.0 m
most money tied up, end of year 2*

Year 4
the money is back*

Million euro*	Year 1	Year 2	Year 3	Year 4	Year 5	Five years
Rock produced and sold, tonnes	0	25,000	50,000	75,000	100,000	250,000
Turnover	0.0	34.1	68.3	102.4	136.5	341.3
Operating result before depreciation	−1.0	22.3	47.6	72.9	98.7	240.5
Result after depreciation and tax	−1.0	15.4	34.8	54.5	74.6	178.3
Investment	37.1	18.2	2.4	0.0	0.0	57.7
Cash flow of the year	−40.1	−1.9	33.4	55.5	77.6	124.5
Cash, accumulated	**−40.1**	**−42.0**	**−8.6**	**46.9**	**124.5**	

Read this first. The budget shows what one assumption implies: that everything sells at list price. It is not a forecast of sales. The price list holds end-customer prices, on average €1.37 a kg here. The Slovak competitor lands rock in Denmark at €0.15–0.17 a kg, and Denmark imports 400–800 t a year in all. The budget sells 100,000 t a year by year 5. Page 10 shows what happens if the price or the tonnage is lower.

To finance: €42.0 m. That is the most the project owes at any time, at the end of year 2: the site, the building and the first stock. From year 3 the plant pays for its own growth.

After five years the project has earned €124.5 m more than it cost. It breaks even at about 8,300 t a year at list price.

THE THREE SIZES

The same line on two shifts, with twice the stores

The cost document already says how the plant reaches 100,000 t: a second shift on the same line, with no new process building. So the factory does not double. What doubles is everything that follows the tonnage.

THE PLANT

	25,000 t a year	50,000 t a year	100,000 t a year
How the line runs	12.5 t an hour, one shift	25 t an hour, one shift	**25 t an hour, two shifts**
People at full capacity*	26	36	**50**
Site*	3.5 ha	4.5 ha	**6.5 ha**
Bulk store, six months of rock	3,750 m²	7,500 m²	**15,000 m²**
Finished-goods warehouse	1,250 m²	2,500 m²	**5,000 m²**
Retail packing a year	2,500 t	5,000 t	**10,000 t**
Ships a year	2.5	5	**10**

ELECTRICITY, BIOGAS AND MANURE*

	25,000 t a year	50,000 t a year	100,000 t a year
Electricity to be made*	1.49 GWh	2.24 GWh	**4.26 GWh**
Gas engine	190 kW	280 kW	**530 kW**
Methane a year	370,000 Nm³	560,000 Nm³	**1,070,000 Nm³**
Manure a year, 15% deep litter	18,600 t	27,900 t	**53,100 t**
Digester	1,300 m³	1,900 m³	**3,600 m³**
Radius for the manure, at a fifth of it	7.7 km	9.8 km	**14.2 km**
Land inside that radius	135 km²	203 km²	**386 km²**
Slurry tankers	1	1	**2**
Solar on every roof	1.0 GWh	1.6 GWh	**2.6 GWh**
Engine heat against the dryer's gas, MWh	1,565 / 1,125	2,348 / 2,250	**4,468 / 4,500**

The power plant nearly doubles. The engine grows from 280 to 530 kW and needs 53,100 t of manure a year. That is still a small plant by Danish standards.

The manure comes from further away. 14 km instead of 10, and a second tanker. At 14 km the circle reaches Kolding and Vejle, where other plants also collect. One line on two shifts also has no spare.

* our own estimate or assumption

THE THREE SIZES

€14.4 m more to build, twice the turnover

TO BUY THE SITE AND BUILD, MILLION EURO*

	25,000 t a year	50,000 t a year	100,000 t a year
Site	2.3	2.9	**4.4**
Core factory	11.2	15.7	**18.0**
Strategic store	0.5	3.1	**8.4**
Research and development	2.4	2.4	**2.4**
Retail packing	2.7	2.7	**2.7**
Pickup service	1.8	1.8	**2.0**
Biogas plant	2.0	2.6	**4.1**
Solar	1.0	1.5	**2.5**
Fertiliser unit	1.9	1.9	**1.9**
Showroom	0.2	0.2	**0.2**
Engineering, permits, contingency	6.4	8.5	**11.1**
Site bought, plant built	**32.4**	**43.3**	**57.7**

Base case; no quotes. Range for this plant: €38.4–82.4 m. Two years of running with no income would add €15.0 m.

THE FIVE-YEAR BUDGET, MILLION EURO*

	25,000 t a year	50,000 t a year	100,000 t a year
Turnover in year 5	34.1	68.3	**136.5**
Operating result before depreciation, year 5	22.7	47.8	**98.7**
Result after tax, year 5	16.3	35.4	**74.6**
Most money tied up	27.9	33.4	**42.0**
Cash after five years, above what was put in	7.3	42.9	**124.5**
The money is back in	year 5	year 4	**year 4**
Break-even, tonnes a year	5,000	6,500	**8,300**

Twice the rock costs a third more to build and 1.4 times as much to run. That is why the result more than doubles: the second 50,000 t use a factory that is already paid for.

It also doubles the assumption. 100,000 t a year is 8% of all natural zeolite mined in the world, and 125 to 250 times what Denmark imports today. Everything on the last page applies with twice the weight.

HOW THE BUDGET IS BUILT

Every assumption, and where it comes from

	Assumption	Where it comes from
Sales	Everything produced is sold in the year it is made	Your assumption
Prices	The current price list, excl. VAT, unchanged for five years	Cost workbook, sheet “pricelist”: 70 products priced per pack in kg
Production	Year 1 is building. Then 25,000, 50,000, 75,000 and 100,000 t	Ours*. 100,000 t is the plant on two shifts
Product mix	Shares by pack size, page 5	Ours*, set by what the packing lines can do
Rock	€160 a tonne landed in bulk	Ours*. The cost workbook has €177 by container
Packaging	The workbook's bag prices; three times that for printed packs of 5 kg and under	Cost workbook, sheet “Parameters”; the factor is ours*
Selling	10% of turnover: sales, marketing, delivery, payment fees, losses	Ours*. The price list does not say who pays delivery
Running costs	Staff, maintenance, energy, port, trucks and the rest, line by line on page 7	The Danish plant report, chapter 9*
Investment	€57.7 m, in the order of building	The Danish plant report, chapter 9*. No quotes
Stock	Six months of the coming year's rock, at most 50,000 t	Your decision of 13 November
Depreciation	Buildings over 30 years, machines over 12, land not at all	As in the cost document
Tax	22% of the profit; earlier losses are set off first	Danish corporate tax rate

HOW TO READ THE TABLES

- **Turnover** is what customers pay, without VAT.
- **Operating result before depreciation** is turnover less everything paid out to run the plant in the year.
- **Depreciation** spreads the cost of buildings and machines over their life. No money is paid out for it.
- **Cash flow** is the money that comes in or goes out in the year.

WHAT IS IN THE PROJECT

The site and the whole plant with every module, and buying, processing, packing and selling the rock.

> **Not counted as income:** fertiliser pellets and payment for work at water sites (no prices yet); electricity sold (netted against what is bought). **Left out:** inflation, interest, grants.

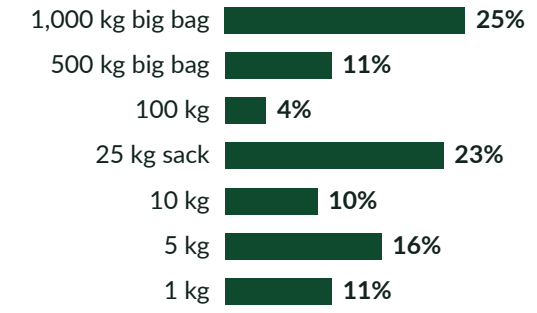
PRICES

From the price list to €1.37 a kg

The price list has 70 products priced per pack. The price per kg depends far more on the pack than on the product, so the budget takes the middle price of each pack size and weighs it by a product mix.



Median list price, euro per kg, excl. VAT.



Share of the turnover from each pack size*.

Pack	Products	Lowest	Median	Highest	Tonnage*	Turnover
1,000 kg big bag	16	0.75	**0.76**	3.85	45%	25%
500 kg big bag	14	0.74	**0.75**	3.85	20%	11%
100 kg	14	0.75	**1.16**	13.08	5%	4%
25 kg sack	6	1.07	**1.55**	4.32	20%	23%
10 kg	8	1.90	**3.29**	5.11	4%	10%
5 kg	6	3.51	**5.55**	155.10	4%	16%
1 kg	5	6.69	**7.56**	381.77	2%	11%
Average			**1.37**		**100%**	**100%**

Products: how many lines of the price list have that pack. Lowest, median, highest: euro per kg, excl. VAT. Tonnage and turnover: each pack's share in the budget.

Why the median. A few products are priced far above the rest. The highest 1 kg and 5 kg lines are the stream teabags and boxes, which are sold per unit and not per kg of rock. The middle price is not moved by them.

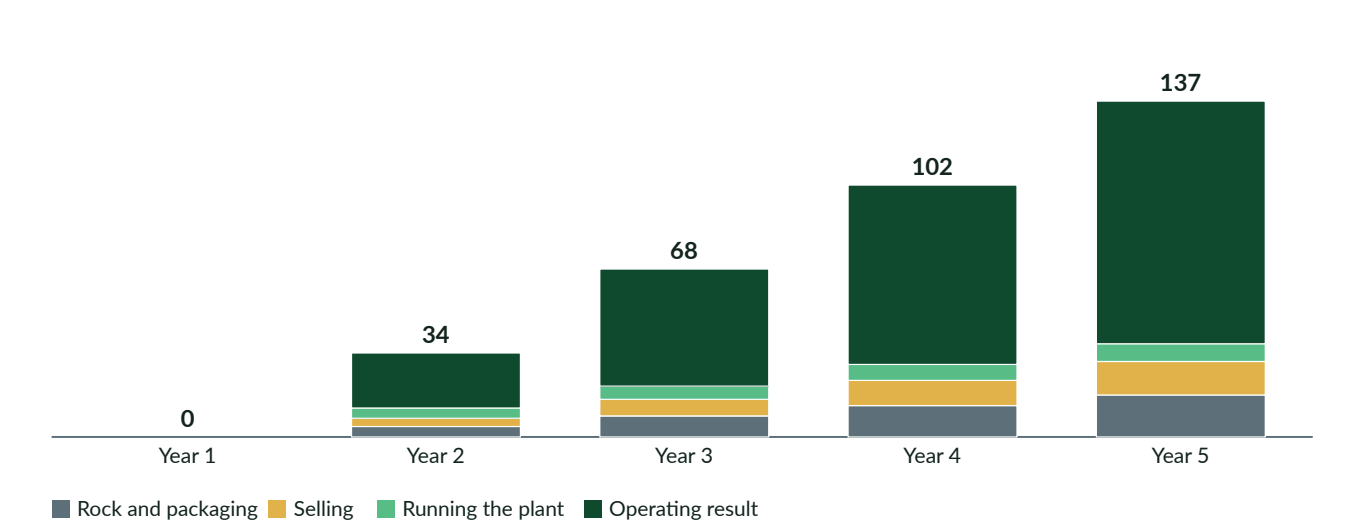
Where the price list comes from. Each price was set at 60% of what competitors charge end customers, or at twice our cost if that is higher (cost workbook, sheet “salesprice”, checked 23 October 2026).

The mix decides the turnover. A tenth of the tonnage in packs of 10 kg and under brings 37% of the money. That tenth is 10,000 t a year at full capacity, which is what the retail line can pack on two shifts. With everything in big bags the average is €0.76 a kg and the turnover is 45% lower.

The mix is ours*. No market study stands behind it. Change the shares in the model and the whole budget follows.

TURNOVER

From nothing to €136.5 m a year



Turnover by year, million euro*, and where it goes. Year 1 has no turnover: the plant is being built.

	Year 1	Year 2	Year 3	Year 4	Year 5
Rock produced and sold, tonnes	0	25,000	50,000	75,000	100,000
Share of the plant's capacity	—	25%	50%	75%	100%
People	8	28	36	46	50
Average price, € per kg	—	1.37	1.37	1.37	1.37
Turnover, thousand euro	**0**	**34,134**	**68,268**	**102,402**	**136,536**

HOW THE TONNAGE GROWS

The plant makes 100,000 t a year on two shifts. The budget takes four years to reach that, a quarter more each year. The first two producing years are the same as in the cost estimate.

> **The tonnage is ours*, and it is the largest assumption.** The business plan's researched base case is 3,800 t a year in year 5; its middle case is 30,000 t.

WHAT A TONNE BRINGS AND COSTS*

Per tonne sold	Euro
Price at the average mix	1,365
Selling, 10%	−137
Rock	−160
Packaging	−10
Port dues, trucking from the quay, dryer gas	−15
Left to cover the plant	**1,043**

The plant's fixed costs are about €5.7 m a year at full size, and depreciation €3.0 m. They are covered at about 8,300 t a year.

COSTS

What it costs to run, line by line

Thousand euro*	Year 1	Year 2	Year 3	Year 4	Year 5	Five years
Rock, €160 a tonne	0	4,000	8,000	12,000	16,000	40,000
Packaging	0	258	516	774	1,031	2,578
Selling, 10% of turnover	0	3,413	6,827	10,240	13,654	34,134
Staff	680	2,380	3,060	3,910	4,250	14,280
Maintenance, 3% of machines	0	267	559	559	559	1,945
Insurance, IT, laboratory tests, administration	150	400	400	400	400	1,750
Research and trials	100	200	200	200	200	900
Unloading and port dues	0	175	350	525	700	1,750
Trucking from the quay	0	125	250	375	500	1,250
Gas for the dryer	0	79	158	236	315	788
Trucks: fuel, tyres, service	0	90	135	135	135	495
Electricity bought, net	10	50	30	30	30	150
Biogas plant: service and consumables	0	20	60	60	60	200
Land tax and site upkeep	50	50	50	50	50	250
Start-up: commissioning, training, waste	0	300	100	0	0	400
All costs before depreciation	**990**	**11,807**	**20,694**	**29,494**	**37,884**	**100,870**

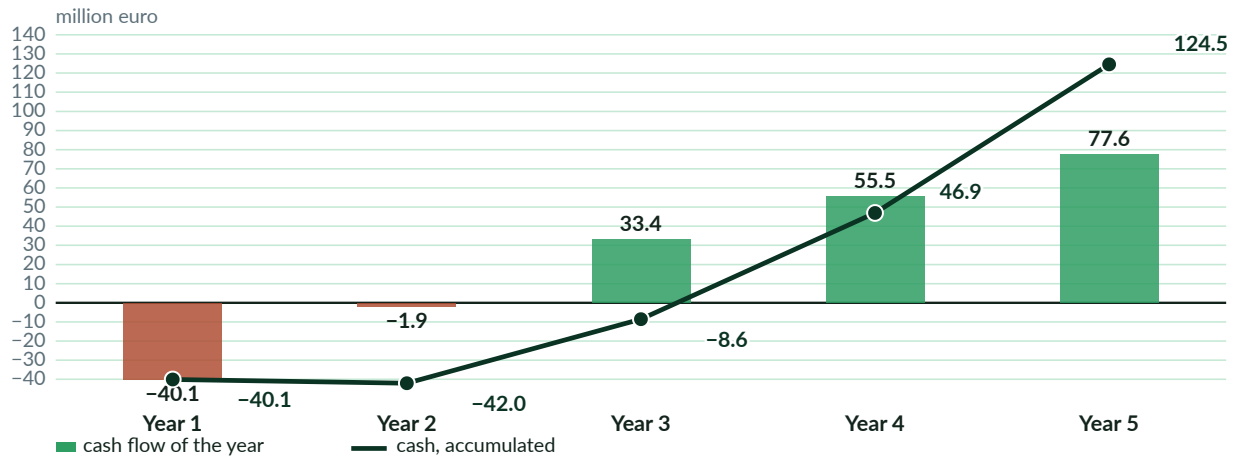
WHAT EACH LINE IS

- **Rock:** raw zeolite landed in bulk at the quay, 10 shiploads a year at full capacity.
- **Packaging:** big bags, sacks and retail packs. Small, because most of the tonnage goes in big bags.
- **Selling:** sales people, marketing, delivery to the customer, payment fees and unpaid invoices.
- **Staff:** 8 people in the building year, then 28, 36, 46 and 50, at €85,000 each (Eurostat 2025).
- **Maintenance:** 3% a year of the value of the machines; half in the first producing year.
- **Port dues and trucking:** €7 a tonne to unload, €5 a tonne from the quay to an inland site.
- **Gas for the dryer:** 45 kWh a tonne. The plant makes its own electricity, so little power is bought.
- **Trucks and biogas:** fuel and service for the 4 trucks and the gas engine.
- **Start-up:** commissioning, training and waste in the first two producing years.

At list price the costs are small against the turnover. In year 5 the rock is 12% of the turnover and all costs together 28%. The price list was set from what competitors charge end customers. It was not set from this plant's costs.

INVESTMENT AND CASH

€42.0 m to finance, back in year 4



Bars: money in or out in the year. Line: the sum so far*. Below zero is money that must be financed.

INVESTMENT*

When	What is built	Million euro
Year 1	Site, core factory, research and development, retail packing, solar, showroom	37.1
Year 2	Strategic store	10.5
Year 2	Pickup service: hall, 4 trucks, boxes	2.5
Year 2	Biogas plant and gas engine	5.1
Year 3	Fertiliser unit	2.4
	All	**57.7**

From the cost estimate: no quotes, range €38.4–82.4 m. Each stage carries its share of engineering, permits and contingency.

STOCK

The store holds six months of the coming year's rock: 12,500 t at the end of year 1, rising to 50,000 t at the end of year 4, worth €8.0 m. Each year €2.0 m of rock is added.

TAX

22% of the profit after depreciation. The loss of year 1 is set off against the profit of year 2. €50.3 m over the five years.

Why €42.0 m here and €72.7 m in the cost estimate. The cost estimate asks what must be in the bank if the plant earned nothing for two years. This budget assumes everything sells. The difference between the two figures is that assumption.

THE BUDGET

Five years on one page

Thousand euro*	Year 1	Year 2	Year 3	Year 4	Year 5	Five years
Rock produced and sold, tonnes	0	25,000	50,000	75,000	100,000	250,000
Turnover	0	34,134	68,268	102,402	136,536	341,340
Rock	0	4,000	8,000	12,000	16,000	40,000
Packaging	0	258	516	774	1,031	2,578
Selling	0	3,413	6,827	10,240	13,654	34,134
Running the plant	990	4,136	5,352	6,480	7,199	24,158
Operating result before depreciation	**−990**	**22,327**	**47,574**	**72,908**	**98,652**	**240,470**
Depreciation	0	2,857	2,987	2,987	2,987	11,817
Result before tax	−990	19,470	44,587	69,921	95,665	228,654
Tax, 22%	0	4,066	9,809	15,383	21,046	50,304
Result after tax	**−990**	**15,404**	**34,778**	**54,539**	**74,619**	**178,350**
Depreciation added back	0	2,857	2,987	2,987	2,987	11,817
Investment	−37,104	−18,176	−2,372	0	0	−57,653
Rock added to the store	−2,000	−2,000	−2,000	−2,000	0	−8,000
Cash flow of the year	**−40,094**	**−1,915**	**33,392**	**55,525**	**77,606**	**124,514**
Cash, accumulated	**−40,094**	**−42,009**	**−8,617**	**46,908**	**124,514**	

READING DOWN THE TABLE

- Turnover less rock, packaging, selling and running gives the **operating result before depreciation**.
- Less depreciation and tax gives the **result after tax**: the profit of the year.
- Depreciation is added back because no money left the bank for it. Investment and new stock are taken off because money did. That gives the **cash flow**.

READING ACROSS

- **Year 1** builds and buys the first rock. No income.
- **Year 2** earns €22.3 m before depreciation and builds €18.2 m more of the plant.
- **Year 4** brings the accumulated cash above zero.
- **Year 5** runs the plant full: €74.6 m after tax.

> The same table, with the price bands and the cases, is in **report/factory/en/factory_budget_100000_t_en.xlsx**.

WHAT IF

If the price or the tonnage is lower

Case*	€ per kg	Turnover	Result	Tied up	After 5 years	Break-even
As budgeted: all sold at list price	1.37	€136.5 m	€98.7 m	€42.0 m	+€124.5 m	8,300
Through partners at half the list price, no selling cost	0.68	€68.3 m	€44.0 m	€52.7 m	+€18.0 m	17,400
Everything in big bags, at list price	0.76	€75.7 m	€44.4 m	€52.6 m	+€18.7 m	17,300
List price, half the tonnage each year	1.37	€68.3 m	€46.5 m	€50.2 m	+€26.8 m	8,300
List price, selling costs 20% of turnover	1.37	€136.5 m	€85.0 m	€44.7 m	+€97.9 m	9,600

Turnover and result: year 5, the result before depreciation. Tied up: the most money the project needs at any time. After 5 years: cash earned above what was put in. Break-even: tonnes a year.

Every case earns money each year from year 2. In every case the investment is back within five years; the weaker ones in year 5.

The partner case is the business plan's own model. The partner pays twice our cost, about half the list price, and sells on. On that model the plant pays back in year 5.

Break-even is the tonnage at which the full plant's yearly costs and depreciation are covered.

The lowest price in the list is still far above the competitor's. No case here tests a price near €0.15–0.17 a kg. At that price no tonnage covers the plant.

WHAT THE BUDGET DOES NOT SAY

- **That the tonnes can be sold.** At the plan's researched 3,800 t a year, the full plant does not cover its costs at the average price. The lean start, about €4.5 m, is the plant for that case.
- **That the list price holds at volume.** A farmer buying big bags by the truckload will compare €0.76 a kg with the competitor's €0.15–0.17.
- **Interest, inflation, grants** and the cost of the trading company outside the plant.
- **Quotes.** Every cost is our own estimate.