

INDEPENDENT RESEARCH REPORT



Aduro Clean Technologies Inc. (Nasdaq: ADUR | TSX: ACT | FSE: 9D5)

19 October 2026

Chemistry Before Capacity

Amateur Investing

Market data as of 16 October 2026

ADUR: Pilot Data Back the Chemistry; Chemelot Has to Prove the Economics

KEY POINTS

- **Different chemistry, improving evidence.** Hydrochemolytic Technology (HCT) is Aduro's water-based chemistry platform. In plastics, a cheap clay catalyst breaks the polymer chains, and water reacting with a small share of the fragments supplies the hydrogen that caps the rest. The result is a saturated oil with few olefins, made without hydrogen gas or a hydrotreating step. Company-reported yields have risen from about 84% liquid on the R2 bench unit to 86% liquid in the first NGP pilot campaign (June 2026). A 75-hour campaign in September 2026 reached 88.8-90.8% condensable yield (liquid plus condensable waxes). All were on controlled feeds.
- **More than plastics recycling.** Aduro applies the same platform to cross-linked polymers, waxy crude, bitumen and renewable oils, with catalysts and products suited to each feed. In crude, producers would build and run the units and pay Aduro a share of the value created per barrel. In my base case these four verticals (business lines) make up about 40% of enterprise value.
- **The rules increasingly pay for yield.** The EU's first mass-balance method for recycled content (Decision 2026/1425, for PET bottles) excludes fuel use, so only material that returns to new plastic earns credit. Rules for other plastics are due by 31 December 2026 under the EU's packaging regulation (PPWR). They are not final, but the industry widely expects the same approach. The typical pyrolysis chain modelled by the EU's Joint Research Centre (JRC) turns about 29% of waste plastic back into plastic. At my base-case yield of 80%, HCT would return about 1.8 times as much.
- **The first plant is the key test.** A 10 kt/yr (thousand tonnes a year) first-of-a-kind (FOAK) plant at Chemelot in the Netherlands is targeted for early 2028. Saipem holds a conditional Early Works award and Ebert HERA the permitting contract. Offtake, feedstock and licensing deals are not yet binding. The budget is not officially disclosed, but CEO comments indicate about US\$20m. I expect fewer scale-up problems than a new process usually brings, because the pilot runs on standard commercial equipment whose makers know how to scale it and guarantee its performance at larger sizes.
- **Cash covers the FOAK; growth needs more equity.** Aduro had C\$65.8m of cash and no debt at 31 August 2026, against free cash outflow of about C\$13.8m over the last four quarters. That covers a FOAK budget of about US\$20m. Spending will rise outside plastics: waxy crude is moving toward a field pilot of 5-10 barrels a day, cross-linked polymers and renewables need larger tests, and five verticals need a much larger team than today's 33 staff. With Phase 2 at Chemelot, a share issue looks likely from around the end of 2027. My base case models about C\$85m of new equity in FY2028-FY2029 (about 5.7m shares at US\$12), plus project debt for later lines.
- **The field is thinning.** Since April 2026 Plastic Energy's UK entities entered administration, Carbolig became insolvent, Pryme closed its only plant and Viridor shut the former Quantafuel sites. That leaves fewer rivals for feedstock and buyers, and shows how hard the economics of chemical recycling are.
- **A wide range of values; the market prices little success.** My scenario values are US\$11 (bear), US\$59 (base) and US\$263 (bull) per share, with a blue-sky case at US\$830. The probability-weighted value is US\$235 at a 10% discount rate. Most of it comes from the bull and blue-sky cases, which assume output prices of US\$2,500-4,000/t that no contract supports today. The share price of US\$9.95 implies about a 16% chance of my base case. I give no rating or price target.

KEY STATISTICS

Nasdaq · TSX · FSE	ADUR · ACT · 9D5
Price, 16 Oct 2026	US\$9.95 · C\$14.08
52-week range	US\$9.00-18.19
Avg. volume, 30 days	288k shares
Shares, basic / diluted	35.8m / 40.3m
Market cap (basic)	US\$356m
Cash, 31 Aug 2026	C\$65.8m; no debt
Enterprise value	about US\$309m
Directors and officers	about 32%
Short interest, 30 Sep	9.2% of shares
Fiscal year-end	31 May

MODEL ESTIMATES (BASE CASE)

C\$m	FY26A	1Q27A	FY27E	FY28E	FY29E	FY30E
Revenue	0.2	-	0.1	2.7	14.3	43.2
Adj. EBITDA	(10.7)	(2.7)	(14.0)	(17.1)	(9.4)	11.9

A = actual; E = author's estimate. Fiscal years end 31 May. Adjusted EBITDA excludes share-based compensation.

SCENARIO VALUES (US\$ PER SHARE)

Scenario	Weight	Price /t	US\$/share
Failure	10%	-	US\$0.79
Bear	10%	US\$1,350	US\$11
Base	30%	US\$1,500	US\$59
Bull	35%	US\$2,500	US\$263
Blue sky	15%	US\$4,000	US\$830
Weighted	100%		US\$235

Discount rate 10%, terminal growth 3%. Values are model outputs under stated assumptions, not price targets. See Section 10.

SHARE PRICE PERFORMANCE

	1 month	3 months	YTD	1 year
ADUR (US\$)	-18.9%	-24.5%	-4.0%	-33.6%

Yahoo Finance; to 16 October 2026.

SELL-SIDE COVERAGE

Firm	Rating	Target (US\$)	Date
D. Boral Capital	Buy	46	10 Apr 2026
Roth Capital	Buy	30	27 Jul 2026
Ladenburg Thalmann	Buy	24.75	9 Jun 2026
H.C. Wainwright	Buy	22	23 Sep 2026

MarketBeat, October 2026. Water Tower Research (Aug 2026) publishes without a rating. Shown for reference only.

Contents

1	Investment Thesis	3
2	Company Overview	5
3	Technology: Hydrochemolytic Technology (HCT)	6
4	Commercialization Strategy and Partnerships	10
5	Industry and Regulatory Analysis	12
6	Competitive Landscape	16
7	The Five Verticals	18
8	Unit Economics	21
9	Financial Analysis and Forecasts	23
10	Valuation	28
11	Catalysts and Milestones	31
12	Management, Board and Governance	33
13	Risks	34
A	Appendix: Financial Model Detail	35
B	Appendix: Patent Portfolio	36
C	Appendix: Milestone Log, 2011-2026	37
D	Appendix: Glossary	37
E	Appendix: Sources	38
F	About the Author and Disclosures	38

Report at a glance

88.8-90.8%

Condensable yield, 75-hour NGP pilot campaign (Sep 2026, company-reported)

10 kt/yr

First commercial plant at Chemelot (NL), targeted for early calendar 2028

C\$65.8m

Cash at 31 Aug 2026; no debt; about C\$13.8m free cash outflow in the last four quarters

US\$235

Probability-weighted model value per share (10% discount rate)

Four pillars and where they stand

- **Chemistry.** A clay catalyst breaks the plastic and water supplies the hydrogen. 75-hour pilot runs at about 89-91% condensable yield. **Partly demonstrated**
- **Regulation.** EU rules for PET bottles count only output that goes back into plastic, not fuel, which favours high-yield routes. PPWR rules for other plastics are due by 31 Dec 2026 and widely expected to follow. **Partly in place**
- **Business model.** Own the FOAK, then license 25 kt modules for a share of plant profit. Partners run the crude applications and pay per barrel. No licence signed yet. **Unproven**
- **Balance sheet.** Cash covers a FOAK budget of about US\$20m; Phase 2, work in the other verticals and a larger team need new capital. **Partly funded**

What has to go right

1. NGP pilot runs of several weeks on FOAK-type post-consumer waste, with yields above about 80%.
2. A final investment decision (FID) on the FOAK in 2027, with an official budget near the US\$20m that CEO comments indicate.
3. PPWR rules that accept mass balance for chemically recycled content, excluding only fuel use.
4. A definitive offtake contract priced at a clear premium to fossil naphtha.
5. A first paid licence, using the package from the global engineering (EPC) partner, before FY2030.
6. A producer-backed field pilot for waxy crude, the first step toward per-barrel royalties.

What would break the thesis

1. Saleable yield on real mixed waste well below 70%, or campaigns that cannot run for weeks.
2. A FOAK decision after 2027, or a budget far above estimates.
3. EU rules that exclude or heavily discount chemically recycled content.
4. Funding available only at deep discounts to the June 2026 issue price of US\$15.20.

Where I differ

- **From Water Tower Research (WTR, Aug 2026):** my base case has lower near-term revenue (C\$43m in FY2030 vs C\$225m). I cap crude volumes nearer to current Uinta output and start licensing in FY2031. My bull case is close to WTR's FY2035 numbers.
- **From the market:** I put 80% weight on outcomes at or above my base case; the share price implies about 16%. The gap rests almost entirely on whether the FOAK works.

1 Investment Thesis

1.1 The thesis in five points

The chemistry differs from pyrolysis, and the evidence is getting better. Pyrolysis breaks plastic with heat alone at 450-550°C. It leaves an oil rich in olefins (reactive, unsaturated molecules), which usually needs hydrotreating, a clean-up step with hydrogen gas, before a steam cracker will take it. A steam cracker is the plant that turns naphtha into the building blocks of new plastic. Aduro's Hydrochemolytic Technology (HCT) works differently. In plastics it uses a low-cost mineral catalyst at about 390-430°C with a little water. Water reacting with a small share of the broken chains supplies the hydrogen that caps the rest. Company-reported yields have risen at each step. The R2 bench unit gave about 84% liquid. The Next Generation Process (NGP) pilot plant gave 86% liquid in its first campaign in June 2026, and 88.8-90.8% condensable yield (liquid plus condensable waxes) in a 75-hour campaign in September 2026. The January 2026 patent application reports bromine numbers, a measure of olefin content, of 17-58 across its examples, against 80-110 for pyrolysis oil. All these results come from pilot and laboratory work on controlled feeds.

EU rules increasingly pay for yield. In June 2026 the EU set its first rules for counting chemically recycled content, in Decision (EU) 2026/1425 under the Single-Use Plastics Directive (SUPD). They cover PET drinks bottles. Only output that goes back into new plastic counts; anything burned as fuel does not. Rules for other plastics, including the PE and PP packaging that HCT would serve, are due by 31 December 2026 under the EU's Packaging and Packaging Waste Regulation (PPWR). They still have to be confirmed, but the industry widely expects them to follow the bottle rules. Under these rules, the typical pyrolysis chain modelled by the European Commission's Joint Research Centre (JRC) turns about 29% of waste plastic back into plastic. At my base-case yield of 80%, HCT would return about 52%, or roughly 1.8 times as much (Section 5.3).

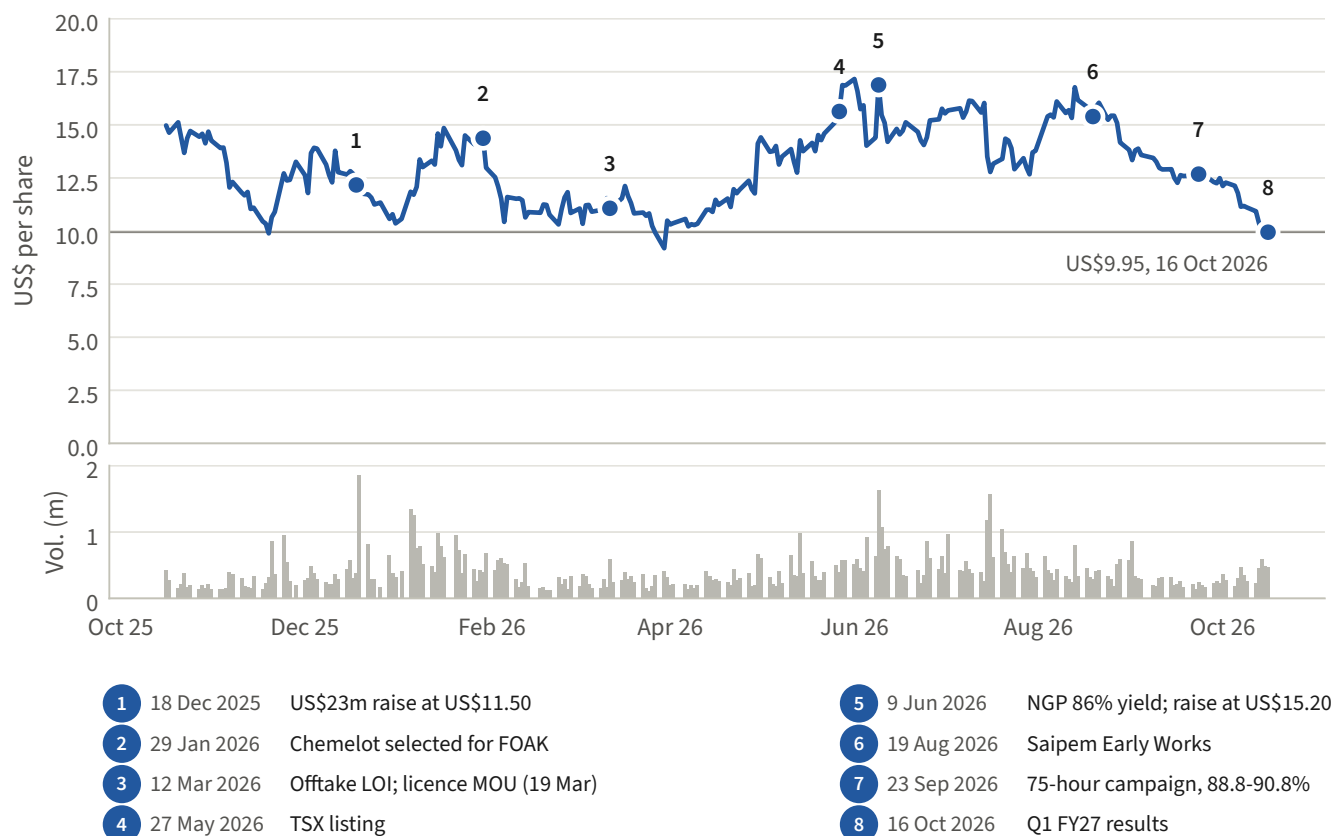
Small plants, licensing and partner-led crude projects need little of Aduro's capital. Management targets standard modules of 25 kt/yr (thousand tonnes a year) at about 50% gross margin. Conventional pyrolysis plants are usually 100-200 kt/yr. In my model a licensee running a 25 kt module at US\$1,500/t pays Aduro 25% of its cash operating profit, about US\$200 per tonne of input. The licensee still earns a 16.7% internal rate of return (IRR) on the project. Aduro would collect about US\$4.2m a year per module with little capital of its own. Plastics is one of five verticals, or business lines. In waxy crude and bitumen, producers would build and run the units and pay Aduro a share of the value created per barrel. Cross-linked polymers and renewable oils add two more licensing markets. In my base case these four verticals add about C\$1.35bn of risked value (value adjusted for the chance of failure), against C\$2.2bn for plastics (Section 7).

The first plant is the key test. The 10 kt/yr first-of-a-kind (FOAK) plant at Chemelot is targeted for early 2028. Saipem holds a conditional Early Works award (19 August 2026) and Ebert HERA the permitting contract. An international commodity trader has signed a non-binding letter of intent (LOI) to buy the output. The budget has not been officially disclosed, but CEO comments indicate about US\$20m. I expect fewer scale-up problems than a new process usually brings, mainly because of the equipment. The NGP runs on the same commercial extruders, stirred reactors and distillation columns that industry already uses at full size. Their makers know how to scale them and guarantee performance at larger sizes. KraussMaffei, which worked with Aduro on the NGP design, is already testing industrial-scale extruders for the FOAK. That does not remove the technical risk, but it reduces it substantially (Section 3.6). The FOAK also matters beyond plastics. It will be the first HCT unit at industrial scale, and I expect its data to support the licence package and the partner talks in the other verticals. The next steps there are a field pilot of 5-10 barrels a day for waxy crude and larger tests on cross-linked polymers. Until there is a final investment decision, an official budget and a binding offtake contract, the commercial case rests on stated intent.

The balance sheet covers the first plant, not the build-out. Aduro had C\$65.8m of cash and no debt at 31 August 2026. Free cash outflow was about C\$13.8m over the last four quarters, before any FOAK construction spending. CEO comments indicate a FOAK budget of about US\$20m (about C\$28m), which cash on hand can pay for. Cash needs will also rise outside plastics, as the waxy-crude, cross-linked polymer and renewables programs move to larger tests. Running five verticals at once will need a much larger team than today's 33 staff. I therefore expect a share issue from around the end of 2027. My base case assumes about C\$85m of new equity in FY2028-FY2029 at US\$12 per share. It pays for the 15 kt Phase 2 and the wider program, with project debt for the later Chemelot lines. The June 2026 offering at US\$15.20, with no warrants, shows the company can raise money on reasonable terms when the share price allows. At today's price the same amount would mean more dilution.

1.2 What the market prices and what the evidence shows

The share price has moved against the operating news. ADUR closed at US\$9.95 on 16 October 2026, 34% below the June 2026 offering price of US\$15.20 and 35% below its level when Water Tower Research (WTR) started coverage on 4 August. In the same period Aduro reported the 75-hour campaign, the Saipem Early Works award and a continuous-flow test unit for Uinta crude, and finished Phase 1 with ECOCE, Mexico's packaging-recycling industry body. I do not see a single company event behind the fall. More likely causes are the FOAK date moving to 2028, the lack of binding commercial contracts and the new shares from the June offerings. Short interest rose to 3.3m shares (9.2% of shares outstanding) at 30 September, from 0.8m a year earlier.

Figure 1: ADUR share price and volume, 12 months to 16 October 2026


Source: Yahoo Finance daily data (Nasdaq: ADUR); company releases.

The market prices a low chance of commercial success. At US\$9.95 the enterprise value (share value less net cash) is about US\$309m (C\$436m). A reverse discounted cash flow (DCF) analysis works back from that value to the business it implies. Mine shows that it equals my base case with all licensing and crude volumes cut to 13% of the base path, or about 49 kt of licensed plastics capacity by FY2035. Put another way, it equals about a 16% chance of the base case, with failure otherwise. My own weights put 80% on outcomes at or above the base case. That gap is the investment question: whether Chemelot can turn pilot chemistry into contracted, repeatable plant economics.

Figure 2: Thesis scorecard

Pillar	What has to be true	Evidence today	Status
Chemistry	Stable, high-yield conversion of mixed polyolefin waste at continuous operation	75-hour NGP campaign at 88.8-90.8% condensable yield on PP and PP/PE blends; patent examples at lab scale on mixed waste (65-85%)	Partly demonstrated
Product	Crackers accept HCT oil without hydrotreating, at scale and at a premium	One third-party pilot steam-cracking trial (Oct 2025), no figures disclosed; offtake LOI with a commodity trader	Partly demonstrated
Regulation	Mass-balance rules that credit polymer output and exclude fuel use	SUPD Decision 2026/1425 adopted (fuel-use excluded); PPWR calculation act due by 31 Dec 2026	Partly in place
Plant economics	A 10 kt FOAK built on time near budget, then 25 kt modules at about 50% gross margin	Saipem Early Works under way; no FEED, official budget or investment decision yet (CEO comments indicate about US\$20m)	Unproven
Licensing	Paid licences replicated through an EPC partner	Non-binding licence-package MOU with a global EPC (Mar 2026); no licence signed	Unproven
Funding	Capital for FOAK and Phase 2 without destructive dilution	C\$65.8m cash, no debt; issue prices rose from US\$4.25 (2024) to US\$15.20 (2026)	FOAK covered at US\$20m

Source: Author's assessment based on company filings and releases to 16 October 2026.

1.3 What would change my view

I will judge the thesis against measurable conditions. Any one of these would lead me to cut the weight on the bull and blue-sky cases sharply:

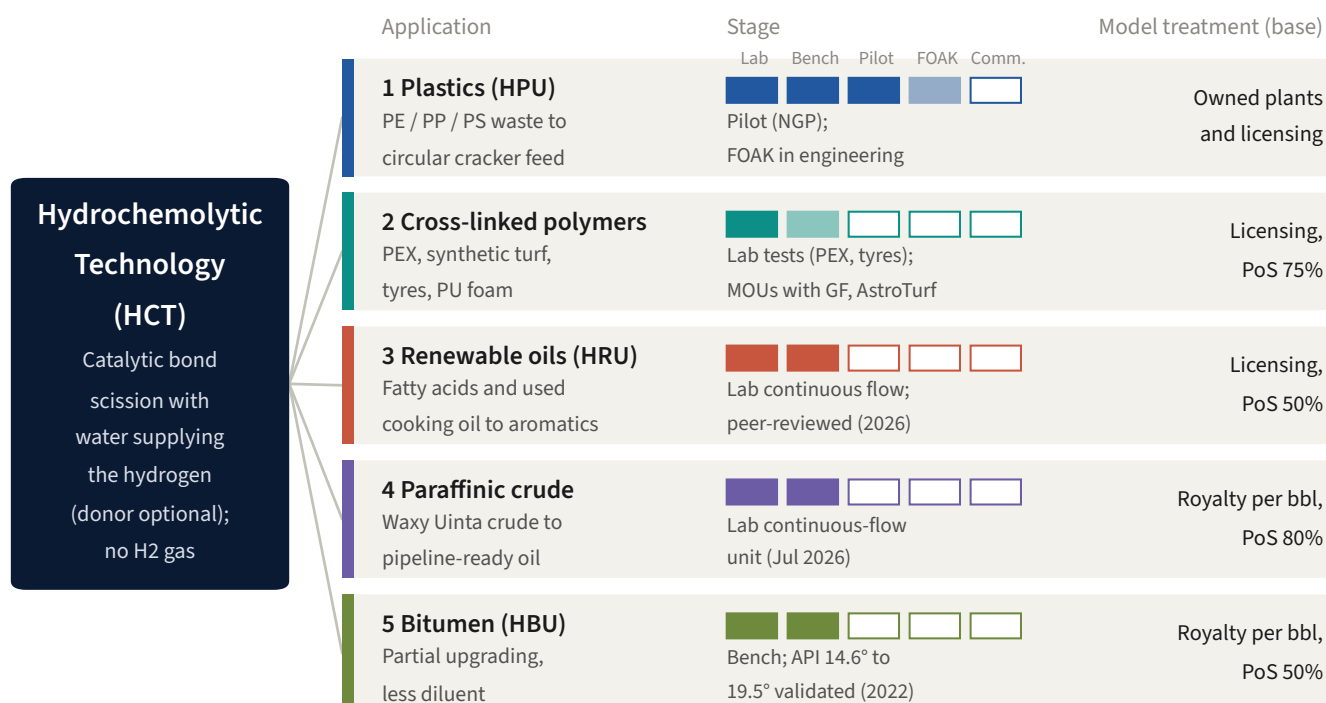
- NGP campaigns in 2027 cannot be extended toward runs of several weeks, or yields fall sharply when the feed moves to real post-consumer waste.

- Saleable yield, after preparation losses and product specifications, is below about 70% on mixed post-consumer feed.
- The PPWR rules exclude chemically recycled content, or use a mass-balance method that discounts HCT output.
- The FOAK investment decision slips beyond 2027, or the official budget comes in far above the roughly US\$20m that CEO comments indicate.
- The Chemelot offtake route is lost, through an offtaker's withdrawal or cracker closures, with no replacement.
- New equity has to be raised well below the June 2026 price before FOAK construction is funded.

2 Company Overview

A 15-year-old chemistry company that is now building its first plant. Ofer Vicus (CEO and Executive Chair) and W. Marcus Trygstad (Principal Scientist) founded the company as Aduro Energy Inc. in London, Ontario, in December 2011. Its first application was partial upgrading of bitumen and heavy crude, and its first US patents, granted in 2017, cover that work. The same water-assisted chemistry was later applied to waste plastics, renewable oils and waxy crude. The company now has one chemistry platform with five applications at different stages. I model them as five verticals (Figure 3).

Figure 3: One chemistry, five applications



Source: Company filings (AIF FY2026) and releases; development stages and probabilities of success are the author's assessment.

Figure 4: Corporate milestones, 2011 to the FOAK target



Source: Company filings and releases.

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Corporate structure and listings. The listed parent, Aduro Clean Technologies Inc., was incorporated in British Columbia in 2018. It owns Aduro Energy Inc., which holds the intellectual property (IP). Aduro Energy in turn owns Aduro Clean Technologies Europe B.V., set up in Geleen, the Netherlands, in June 2023, which will own the Chemelot plant. The shares listed on the Canadian Securities Exchange (CSE) in February 2019 as Dimension Five Technologies. They took the Aduro name in April 2021 and added a Frankfurt listing (9D5) in July 2021. A 3.25-for-1 share consolidation came before the Nasdaq listing on 7 November 2024, at an initial public offering (IPO) price of US\$4.25. On 27 May 2026 the company moved its Canadian listing to the Toronto Stock Exchange and left the CSE.

Facilities and people. Operations are in London, Ontario, on an 11,131 sq ft site that grew by about 4,600 sq ft in July 2026 and now houses the former Sarnia activities. The site holds the R2 bench units, laboratories and the NGP pilot plant. Zeton built the NGP with Siemens automation, and it has run since February 2026 at about 10 kg an hour. Aduro had 33 staff at 31 May 2026, 20 of them in engineering, operations and R&D in London. Others work in Alberta, Texas, Ecuador, Germany, Mexico and the Netherlands. The management discussion and analysis (MD&A) for Q1 FY2027 shows a net gain of 10 people in the 12 months to August 2026. Developing all five verticals will need a team several times this size, from plant engineers and operators to licensing staff and field teams for producer pilots. Aduro will be hiring against far larger chemical and energy companies. Fiscal years end on 31 May, and the company reports in Canadian dollars under IFRS accounting standards.

The business model differs by vertical. In plastics, including cross-linked polymers, the plan has three steps. First, build and run the 10 kt/yr FOAK plant at Chemelot to prove the economics and produce reference data. Second, add capacity at Chemelot and, where partners want it, form joint ventures in other regions; talks in Mexico and North America are the most advanced. Third, license the technology through a standard licence package prepared with a global engineering, procurement and construction (EPC) firm. Aduro would earn fees and a running royalty while licensees fund the plants. In waxy crude and bitumen, partners lead from the start. After field pilots, producers or midstream companies would build and run HCT units and pay Aduro a share of the value created per barrel. Renewable oils are at the laboratory stage, with aromatics and fuel components as the target products. Revenue so far is fees from paid evaluations in the Customer Engagement Program (CEP): C\$167k in FY2026 and nil in Q1 FY2027.

3 Technology: Hydrochemolytic Technology (HCT)

3.1 The chemistry in plain terms

Every chemical recycling route has to break carbon-carbon bonds; the routes differ in what happens next. Polyethylene (PE) and polypropylene (PP) are long, saturated carbon chains. To turn them into a liquid feedstock, the chains have to be broken, and each break leaves two reactive ends called free radicals. In pyrolysis, heat at 450-550°C breaks bonds almost at random. The radical ends shed hydrogen and form double bonds (olefins), or rearrange and join up again. The resulting oil is rich in olefins, unstable in storage and prone to pick up oxygen and nitrogen from contaminants. Most crackers will only take it in small blends, or after hydrotreating with hydrogen gas at high pressure.

HCT caps the broken ends as they form. A catalyst helps the bonds break at a lower temperature. Each new radical end is then capped with a hydrogen atom before it can react further. Where that hydrogen comes from has changed as the work progressed:

- **2020-2025 filings.** The original plastics application (US 2022/0112351, filed 2021) and a December 2025 continuation used metal-salt catalysts at about 325-390°C. Both relied on an added hydrogen donor, such as glycerol, ethanol, ethylene glycol or cellulose. The donor reacts with water in the reactor (aqueous reforming) and releases the hydrogen.
- **January 2026 application** (US 2026/0217627, published 30 July 2026). This uses prepared clay minerals (bentonite, montmorillonite), mordenite or iron-oxide catalysts at about 390°C and above. A small share of the cracked fragments reacts with water and supplies the hydrogen, so no donor is needed (claim 7; adding one remains optional, claim 39). The carbon used up this way leaves as CO₂. From the chemical balance in the application, I estimate this loss at about 2% of feed.

Water is about 10-15% of the feed by weight, or about 20% for tyre rubber. Supercritical-water processes, by contrast, use several times the plastic's weight in water. Because side reactions are held back, the products keep the structure of the original polymer. PE gives straight-chain paraffins, PP gives methyl-branched paraffins, and olefins and aromatics stay in single-digit percentages. The application also reports that mineral catalysts are 20-30% less active than the earlier nickel salt below 380°C, but match it at 390°C and above, which is why the newer process runs hotter.

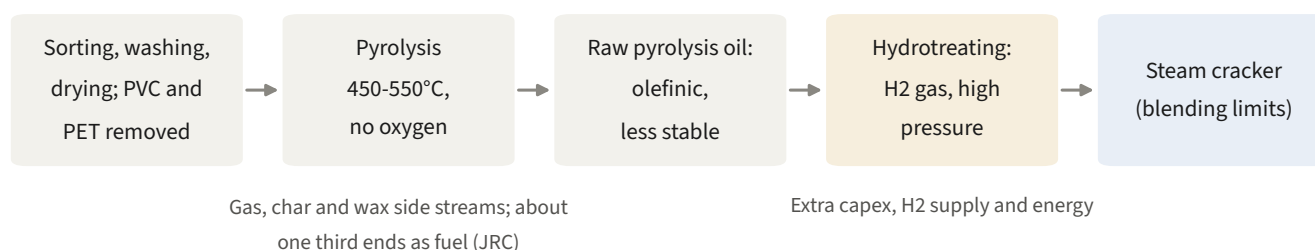
The same platform, different feeds. The description above is the plastics process. The waxy-crude application, filed in April 2026, extends the same January 2026 patent family. Bitumen upgrading rests on older hydrothermal patents granted in 2017-2019. The renewable-oils work uses a molybdenum oxide catalyst on zeolite with water, but no outside hydrogen, to make aromatics rather than a saturated oil (Section 7). What the applications share is water as a reaction partner, at moderate temperatures and pressures.

3.2 How the process works

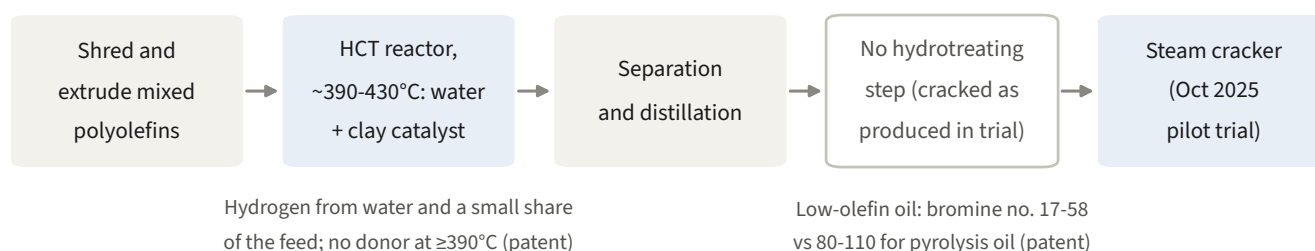
Conventional equipment in an unconventional sequence. The 2026 application describes the process in three steps. First, shredded plastic is melted at 200-370°C and mixed with 1-4% catalyst. Second, the melt passes through another extruder or heated tank at 390-440°C for 0.1-1 hour. This cuts the average molecule size by a factor of 4 to 50 and turns the melt into a thin liquid. Third, the main conversion takes place in a stirred tank at 390-430°C for 0.5-5 hours. The pressure, 200-1,500 psi (14-103 bar), comes from the water vapour and the products themselves. The light product is distilled off, and the heavier residue can go back through the reactor with the catalyst. In the inventors' tests, running the second and third steps as separate stages cut the time in the reactor by more than 20% and raised throughput by more than 25%. A single pass gives 60-80% liquid; with the heavy fraction recycled, the application cites about 90%.

Figure 5: Pyrolysis and HCT process routes compared

Pyrolysis route (typical)



HCT route (Aduro)



Source: JRC (2026), Economic viability of chemical recycling; Aduro patent application US 2026/0217627 A1 (published 30 Jul 2026); Aduro release of 20 Nov 2025; author's summary.

I believe the FOAK uses the clay-catalyst process. The company has not officially disclosed the operating conditions of the NGP or the design basis of the FOAK. I strongly believe both use the mineral (clay) catalyst process of the January 2026 application, for two reasons. The timing fits: the provisional application was filed in January 2025, while the NGP was being built, and the full application in January 2026, weeks before the first NGP campaign. So do the results. The NGP's 86% liquid and 88.8-90.8% condensable yields are well above the 84% of the older R2 unit. They are in line with the roughly 90% the application reports for the two-stage process with the heavy fraction recycled.

3.3 The 2026 patent application in numbers

Ten examples show the mechanism across feeds. The examples in US 2026/0217627 are laboratory runs. Most are single passes in closed reactors of 0.5-1 litre. Two are continuous runs in a 5-litre reactor, and two use twin-screw extruders in front of a batch reactor (Figure 6). Yields range from 51% to 90% of feed, and the two continuous mixed-feed runs reached 82% and 85%. The mixed-waste batch example contained 6% PET, 1% nylon, 3% paper and 4% inorganics. It reached 65% of total feed, or about 76% of its polyolefin content. These numbers support the mechanism and the tolerance to contaminants.

Figure 6: Examples in patent application US 2026/0217627 A1 (filed Jan 2026, published Jul 2026)

Ex.	Feed	Reactor	Catalyst / water (% of feed)	°C, hours	Yield	Bromine no.	≤C20
1	Waste PE (95%)	1 L batch	Bentonite 2 / 5	420, 2	51%	17	26%
2	Waste PE	0.5 L batch	Pillared montmorillonite 2 / 7.5	420, 2	82%	27	70%
3	Waste PE	0.5 L batch	Mordenite 2 / 12.5	420, 2	78%	41	73%
4	Waste PP (95%)	0.5 L batch	Montmorillonite 2 / 10	395, 2	82%	56	72%
5	Tyre rubber granules	1 L batch	None added / 20	410, 2	55%*	32	61%

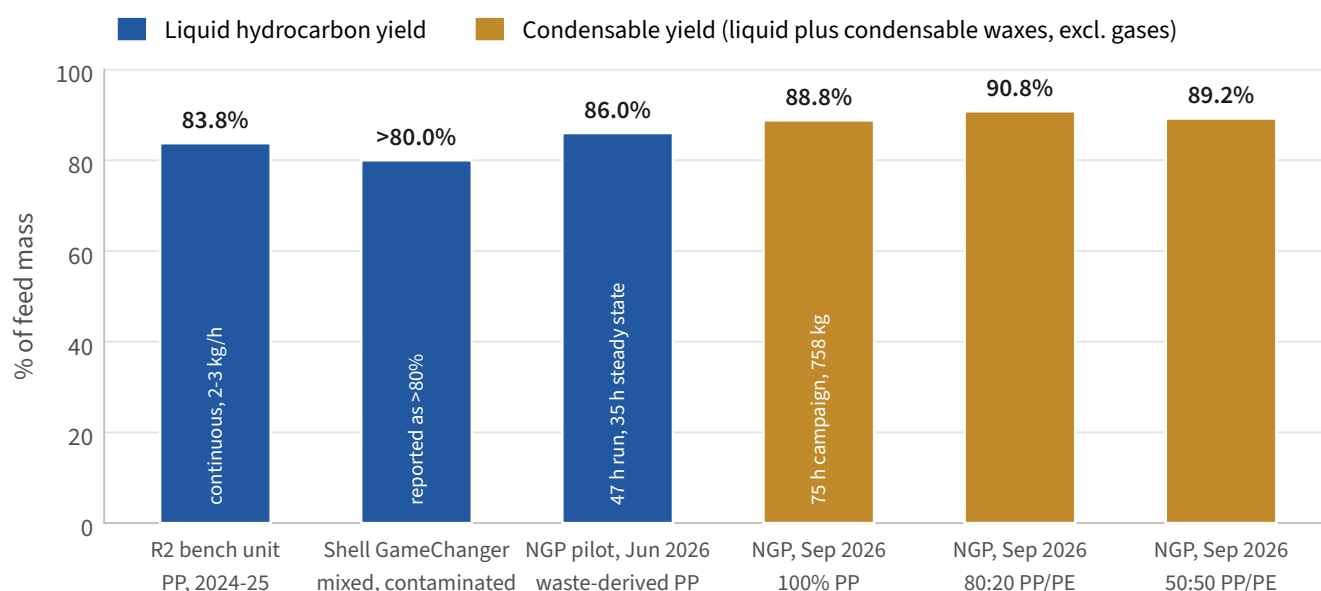
Ex.	Feed	Reactor	Catalyst / water (% of feed)	°C, hours	Yield	Bromine no.	≤C20
6	Mixed waste: 85% PE+PP, 6% PET, 1% PS, 1% nylon, 3% paper, 4% inorganics	0.5 L batch	Bentonite 2 / 12.5	410, 2	65%	27	59%
7	PE and PP, 1:1	5 L continuous	Bentonite 2 / 20	420, ~2	82%	34	68%
8	Mixed: 85% PE, 5% PP, 5% PET, 3% PS, 2% nylon	5 L continuous	Bentonite 2 / 20	425, ~2	85%	25	65%
9	Waste PE	2 extruders (3 kg/h), then batch	Bentonite 2.5 / 5	400 / 420, 2	74%	22	50%
10	Waste PP	2 extruders, then batch	Bentonite 1.86 / 10	400 / 395, 2	90%	58	78%
Reference: pyrolysis oil (per the application)				450-500		80-110	

* Of the rubber content (about 70% of the granules). An uncatalysed control at 410°C gave a bromine number of 42.8 against 28.0 with catalyst.

Source: Aduro Clean Technologies, US patent application 19/459,759; yield is the combined liquid and wax fractions recovered from the reactor, relative to feed; bromine number in g Br₂ per 100 g (higher means more unsaturated).

3.4 Pilot results and product quality

Figure 7: Reported yields by unit and feed

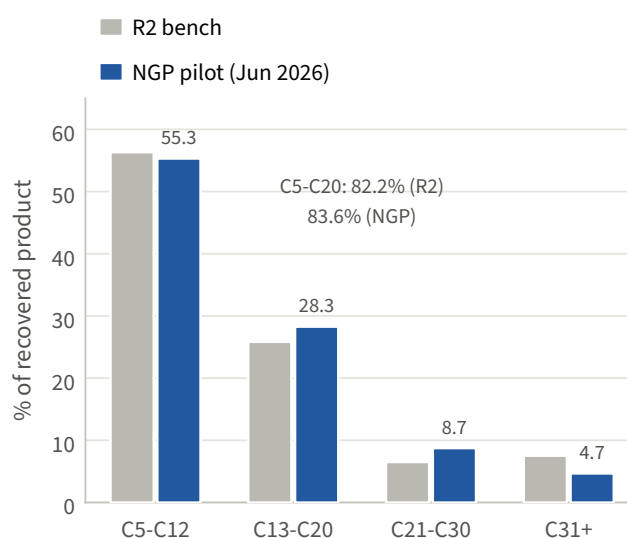


Source: Aduro releases of 16 Dec 2025, 9 Jun 2026 and 23 Sep 2026; R2 value from Aduro chart (Jun 2026).

Yields have improved, but the measures differ. The R2 bench unit (2-3 kg/h) produced about 84% liquid hydrocarbons from PP. The first NGP campaign in June 2026 ran for 47 hours on PP recovered from waste. It produced 86% liquid over a 35-hour steady state, and about 85% of the liquid was at or below C20 (molecules of up to 20 carbon atoms). The September 2026 campaign ran 75 hours and processed 758 kg on three feeds: 100% PP, and PP/PE blends of 80:20 and 50:50. Condensable yields were 88.8%, 90.8% and 89.2%. This measure includes condensable waxes and excludes only gases that do not condense (Figure 7).

The product looks like naphtha and light distillate. About 55% of the NGP product was in the C5-C12 (naphtha) range and 28% in C13-C20 (middle distillate), against 56% and 26% on the R2 unit (Figure 8). The heavy C31+ fraction fell from 7.5% to 4.7%. In November 2025 the company reported a pilot steam-cracking trial by a European cracker licensor. Oil from mixed PE, PP, PS, PET and polyamide feed was cracked as produced, without hydrotreating or dilution. The furnace ran stably, and ethylene and propylene yields were "comparable" to a fossil

Figure 8: Carbon-number distribution of recovered product, R2 and NGP



Source: Aduro chart published with the 9 Jun 2026 release.

reference. No figures were published. Still unknown are the split of pilot-plant product between paraffins, olefins, naphthenes and aromatics, the boiling ranges (cuts) buyers will pay for, and the price of each cut.

3.5 Contaminant tolerance

Tolerance to mixed waste is the second half of the yield argument. Pyrolysis operators generally need feed that is more than 95% polyolefin, and sorting to that purity rejects a large share of the waste. The 2026 application describes what happens to the main contaminants in HCT. PET and nylon break down in the water, and the ethylene glycol released from PET adds hydrogen. Oxygen and nitrogen end up in water-soluble by-products instead of the oil. Sulfur from tyres leaves as hydrogen sulfide. The company also states that chlorine from PVC ends up as chloride salts in the water. This matters most for multilayer packaging, where polyolefin films are bonded to barrier layers of PET, nylon or EVOH that mechanical recycling cannot separate. Aduro is testing that stream with ECOCE in Mexico and presented it to PepsiCo (Section 4.5).

The evidence so far comes from laboratories and research programs. Shell's GameChanger program reported tolerance to PET, polyamide and PVC when Aduro graduated in December 2025. A three-year program with Western University (C\$1.53m, of which C\$1.15m comes from Canadian NSERC and Mitacs grants) is studying how food residue, organic waste, plasticisers and fillers affect output, quality and yield. These results are on prepared feeds, and the NGP campaigns published so far used PP and PP/PE blends. Running the pilot on FOAK-type post-consumer waste is the next test.

3.6 Evidence ledger and scale-up path

Figure 9: Evidence ledger: what has been shown, at what scale and by whom

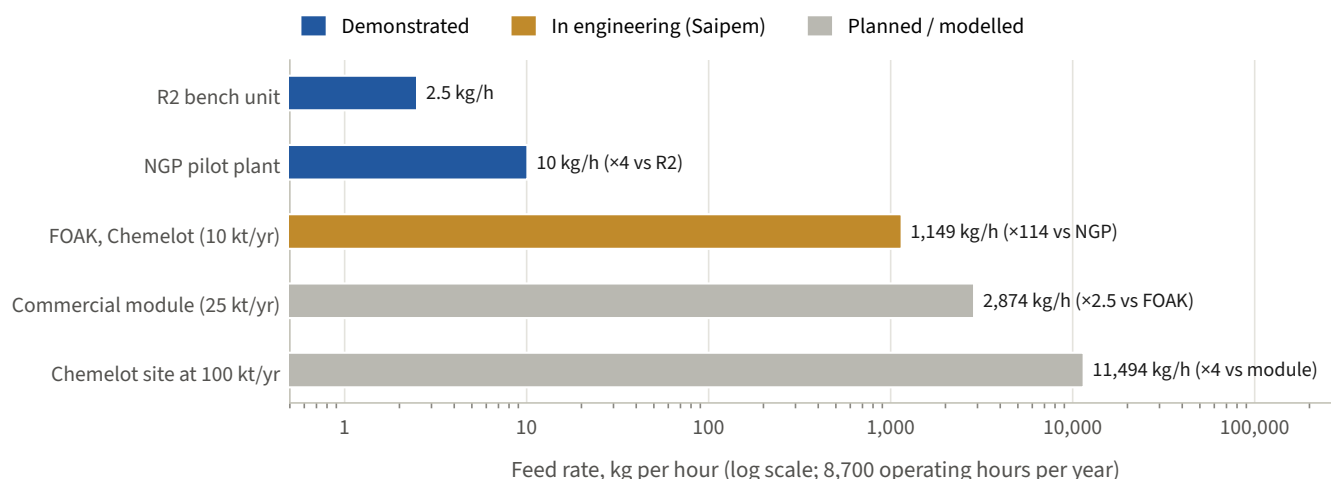
Date	Unit and scale	Feed	Duration	Result	Verified by
Jan 2022	Lab continuous (bitumen)	Heavy oil	n/a	API gravity 14.6° to 19.5°	Independent lab
2024-25	R2 bench, continuous, 2-3 kg/h	PP	Campaigns up to 36 h	About 84% liquid; under 5% of carbon to gas and char	Company
Oct 2025	Pilot steam cracker (licensor)	HCT oil from mixed PE/PP/PS/PET/PA	Trial	Cracked without hydrotreating; olefin yields comparable to fossil reference; no figures	Third party
Dec 2025	Shell GameChanger program	Pure and contaminated mixtures	Multi-year	Over 80% liquid; C5-C23 selectivity; tolerance to PET, PA, PVC	Program
Jan 2026	Lab batch and 5 L continuous	PE, PP, tyres, mixed waste	About 2 h per run	51-90% yield; bromine number 17-58 (pyrolysis oil 80-110)	Patent filing
Apr 2026	Bench, batch	Uinta yellow and black wax crude	Batch	Lower wax content; stable at ambient temperature	Company
Apr 2026	Lab fixed bed (Western University)	Fatty acids, used cooking oil	About 84 h on stream	About 85% liquid, up to 85% aromatics in liquid; catalyst decline within 36 h	Peer-reviewed
Jun 2026	NGP pilot, about 10 kg/h	PP recovered from waste	47 h (35 h steady)	86% liquid; about 85% of liquid ≤C20	Company
Jul 2026	Continuous test unit, 5-6 L/h	Several Uinta crudes	Unit commissioned	Long runs pending; next step 5-10 bbl/day	Company
Sep 2026	NGP pilot, 758 kg	PP; PP/PE 80:20 and 50:50	75 h	88.8% / 90.8% / 89.2% condensable yield	Company

Source: CSE release (Jan 2022); company releases (20 Nov 2025, 16 Dec 2025, 23 Apr 2026, 9 Jun 2026, 30 Jul 2026, 23 Sep 2026); patent application US 2026/0217627; Sustainable Energy & Fuels 2026, 10, 2756.

Commercial equipment is the main reason I expect a manageable scale-up. The NGP is built from the same types of equipment that industry already runs at full size: extruders, stirred tank reactors and distillation columns. For machines like these the scaling ratios are known, and the makers guarantee the performance of the larger units. KraussMaffei Extrusion, one of the largest makers of plastics-processing machinery, worked with Aduro on the NGP design. In October 2025 it began trials on industrial-scale extruders to choose long-lead equipment for the FOAK. Aduro graduated from Shell's GameChanger program in December 2025. The company reported that the results showed HCT could convert contaminated waste plastics in continuous operation "using readily available industrial equipment". It added that the program gave outside validation of its process-design model and scale-up path.

The step to the FOAK is large, but much of it is standard engineering. The NGP handles about 10 kg an hour and the FOAK about 1,150 kg an hour at 10 kt/yr, a factor of about 114 (Figure 10). That is a large step for a new process, but much of it is the sizing of standard machines by their own makers. The scale-up risk remains, since heat transfer, fouling and uptime over months of operation still have to be shown in the FOAK. The equipment does reduce that risk substantially, though, and it supports the idea of 25 kt/yr modules.

Figure 10: Scale-up path from bench to commercial site



Source: Company disclosures; feed rates converted at 8,700 operating hours per year.

3.7 What remains unproven

Five gaps separate the pilot from a plant. First, continuous operation: the longest disclosed campaign is 75 hours, against about 8,000 operating hours a year for a commercial unit. Second, saleable yield on real post-consumer waste, after losses in sorting, washing and drying. Third, energy use and a finished life-cycle assessment. Fourth, how much catalyst, and any hydrogen donor, is used per tonne. Fifth, uptime, fouling and maintenance intervals, the issues that have hurt most first plants in this industry (Section 6). The company plans longer NGP campaigns on FOAK feedstock and CEP materials to close the first two gaps. Only the FOAK can close the last one.

3.8 Environmental performance

The carbon case is plausible but not yet documented. In May 2025 Aduro hired Delphi for a three-phase life-cycle assessment (LCA) under ISO 14040/14044. The phases are a screening study, an assessment on NGP data (under way) and a comparison with pyrolysis. No results have been published. Two physical facts frame the likely outcome. Polyolefins are about 85% carbon, so burning a tonne releases about 3.1 tonnes of CO₂ (my calculation), part of which energy recovery offsets. And the R2 unit lost under 5% of its carbon to gas and char. With the lower operating temperature and no hydrotreating, that points to a smaller footprint than pyrolysis per tonne of product. Until the Delphi study is published, these remain arguments, not results.

4 Commercialization Strategy and Partnerships

4.1 Step by step from lab to plant

The company has moved through lab, bench and pilot stages; the next step is a plant. Laboratory and bench work, in micro, batch and continuous reactors including the R2 units, established the chemistry. The NGP pilot, running since February 2026, is producing the design data for the FOAK, and Saipem receives that data under its Early Works scope. After the FOAK, growth is meant to come from more lines at Chemelot, partner projects and licensing. Management has said it will start with cleaner streams, such as farm film, synthetic turf and cross-linked PE scrap. It will move to mixed post-consumer packaging as plant data allow.

The Customer Engagement Program is where partners start. Since 2023 potential partners have paid Aduro to evaluate their own waste streams or product needs. The FY2026 MD&A described one engagement at the collaboration stage and stated that the company has no commercial partnership agreements in place. CEP fees are small (C\$167k in FY2026) and are better read as a measure of interest than as revenue.

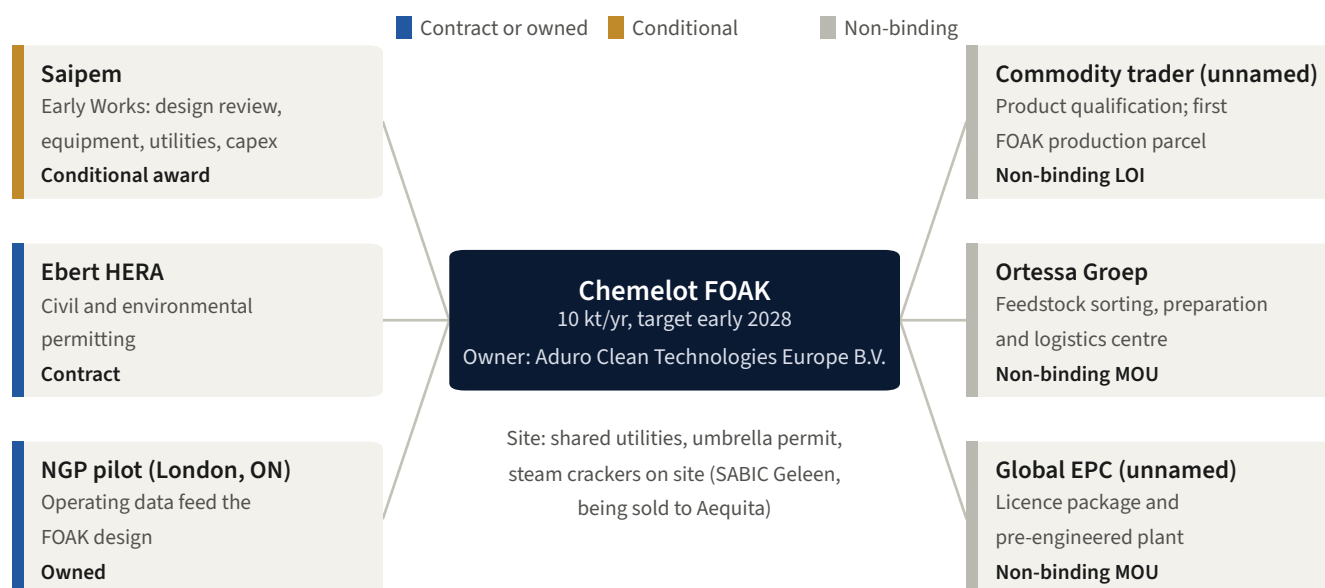
4.2 The Chemelot first-of-a-kind plant

The site choice reduces execution risk. In January 2026 Aduro chose the Chemelot industrial park in Geleen, the Netherlands, for its first commercial plant. The company knows the site well. It has worked within Brightlands Chemelot Campus, the park's open-innovation and scale-up centre, since 2021, including the CHILL experimentation program completed in December 2024. Its Chief Revenue Officer, Eric Appelman, spent six years at the campus, including as Chief Technology Officer, before joining Aduro. The park offers shared utilities, an established permitting framework and steam crackers on site, run by SABIC. SABIC is selling its

European petrochemical assets, Geleen included, to Aequita, with completion expected around the end of 2026. The plant is planned at 10 kt/yr of plastic input, and the permit allows for expansion. The CEO has spoken of a further 15 kt unit in 2028-29 and of room for more than 100 kt at the site over time.

The project team is forming; the commercial terms are not yet binding. Jan Lemmens joined as FOAK Project Director in June 2026. Ebert HERA has held the permitting contract since April 2026. According to WTR, management sees permitting as the biggest risk to the schedule. On 19 August 2026 Saipem received a conditional letter of award for Early Works. This covers a design review, the definition of equipment and utilities, and a refined capital estimate. Front-end engineering design (FEED) and construction need further agreements. On the commercial side, an international commodity trader signed a non-binding offtake LOI in March 2026, for NGP samples first and then the first FOAK production parcel. Ortesa Groep signed a non-binding memorandum of understanding (MOU) in June 2026 to evaluate a centre for sorting and handling feedstock (Figure 11).

Figure 11: Chemelot FOAK: who does what



Source: Company releases and MD&A (FY2026, Q1 FY2027).

The date is guided; the budget is not yet official. Since June 2026 the filings have guided to commissioning in "early calendar 2028", and the plant has been sized at 10 kt/yr since January 2026. The June 2026 prospectus set aside US\$10m for FOAK construction and listed the total cost as "to be determined". The company has not officially disclosed a budget, but CEO comments indicate about US\$20m, which I use in every scenario. It matches the US\$2.0m per kt of annual capacity (US\$50m per 25 kt) that I use for all HCT plants. WTR estimated about US\$39m including shared site costs.

4.3 Three ways to earn from a tonne of waste

Licensing gives the highest return on Aduro's capital, but it needs a working reference plant. Owning plants captures the full margin but, in my model, needs about US\$2.0m of capital per kt of annual capacity, for the FOAK and later lines alike. A joint venture splits both the margin and the capital. Licensing earns less per tonne but needs almost no capital from Aduro, so the return on its own capital is far higher. My model uses all three: owned lines at Chemelot, licensing to spread the technology, and royalties per barrel for the crude verticals. Section 8.4 compares the three per tonne (Figure 32).

The licence package is meant to make plants repeatable. Under a non-binding MOU signed in March 2026, Aduro and one of the largest global EPC firms are developing a commercial licence package. It includes a pre-engineered plant design that the EPC could use to design and build plants for licensees. The company says repeatable, pre-engineered designs should reduce technical, execution and delivery risk. WTR adds that the package would carry performance guarantees for petrochemical and refining customers. Large buyers generally expect such guarantees before they adopt a new process.

4.4 Feedstock

Europe will have more plastic waste looking for a home. From 21 November 2026 the EU bans plastic-waste exports to countries outside the OECD, the group of 38 mostly high-income economies, until at least May 2029. That keeps more mixed polyolefin waste inside Europe. Aduro plans to source sorted waste through partners such as Ortesa in the Netherlands, starting with cleaner industrial and farm waste. The JRC values mixed plastic waste at about €90/t, and pre-processed feed fit for pyrolysis at

about €365/t, because pyrolysis needs feed above 95% polyolefin. My base case assumes feed at US\$50 per tonne of input plus US\$200 of variable processing cost, within my total operating cost (opex) of US\$400/t. That only holds if HCT can take lower-grade feed with less preparation than pyrolysis needs. The pilot has not yet shown this on post-consumer waste. Section 8 shows what higher costs do to the economics.

4.5 Partner pipeline: from MOU to money

The pipeline is broad, and most of it is early. Shell graduated Aduro from its GameChanger accelerator in December 2025 after a multi-year program. The TotalEnergies collaboration, started in July 2024, is described as at a "final stage, nearing completion". Two paid CEP evaluations continue, with a petrochemical company in the Americas and a multinational food-packaging company. GF Building Flow Solutions, which owns Uponor's business in cross-linked polyethylene (PEX) pipe, moved from evaluation to an MOU. Cleanfarms (Canadian farm plastics), AstroTurf (synthetic turf) and NexGen Polymers (feed preparation) have signed MOUs. ECOCE in Mexico completed the first phase of a multi-year collaboration in July 2026, with laboratory tests of flexible and multilayer packaging next. In September 2026 Aduro was one of ten companies invited to present at PepsiCo's Sustainability Innovation Hub. It proposed HCT for flexible films and multilayer packaging, formats that existing recycling routes handle poorly (Figure 12).

Figure 12: Partner progress from MOU to revenue

	Problem / MOU	Lab testing	Pilot testing	Qualifi- cation	Definitive agreement	Revenue	
Shell GameChanger	completed	completed	completed				Graduated Dec 2025
TotalEnergies	completed	completed	in progress				Collaboration, final stage
Confidential petrochemical (Americas)	completed	completed					Paid evaluation
Food-packaging multinational	completed	completed					Paid evaluation
GF Building Flow (Uponor PEX)	completed	completed					PEX tested; MOU
Cleanfarms (agricultural plastics)	completed	in progress					Multi-phase MOU
ECOCE (Mexico)	completed	in progress					Phase 1 complete
AstroTurf (synthetic turf)	completed						Evaluation MOU
Commodity trader (offtake)	completed	in progress					Samples; FOAK parcel
Ortessa (feedstock)	completed						Logistics evaluation
Global EPC (licence package)	completed						Stage-gated MOU
Uinta producers (paraffinic)	completed	completed					Crude supplied; runs
PepsiCo	in progress						Innovation Hub invite

■ completed ■ in progress

Source: Company MD&A (Q1 FY2027) and releases; stage placement is the author's assessment.

None of the commercial relationships is binding yet. The binding agreements so far are service and research contracts (Ebert HERA, Zeton, Siemens, Delphi, Western University), the first phase of the NexGen Polymers MOU and the conditional Saipem award. Offtake, feedstock, licensing and brand-owner relationships are LOIs, MOUs or evaluations. That is normal for a company without a reference plant, and it is the main reason the market discounts the pipeline. The first binding offtake contract and the first paid licence are the two documents that would change that.

5 Industry and Regulatory Analysis

5.1 The polyolefin waste problem in numbers

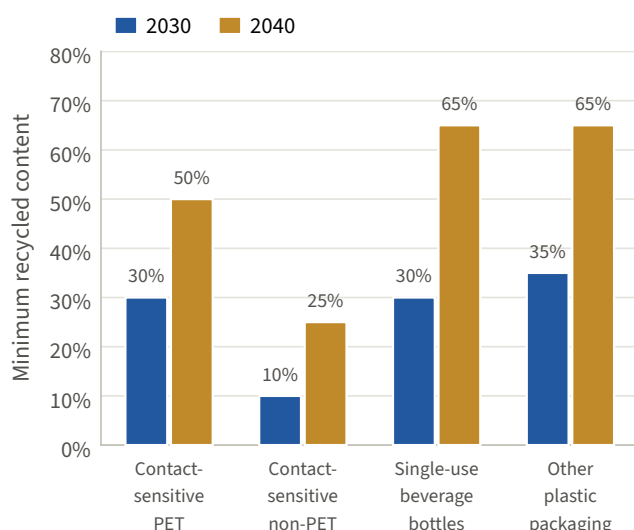
Chemical recycling is still tiny next to the waste stream. The world produced about 431 Mt (million tonnes) of plastics in 2024, about 387 Mt of it from fossil feedstock; Europe produced 54.6 Mt (Plastics Europe). The EU puts about 21 Mt of plastic packaging on the market each year. About 15 Mt of it is polyolefin, and about 9 Mt is contact-sensitive packaging, such as food wrappers (JRC). Europe used 8.4 Mt of circular plastics, of which chemical recycling supplied only about 110 kt. Europe has about 13 Mt of mechanical recycling capacity. Chemical recycling has about 190 kt of installed input capacity, 80% of it pyrolysis, plus about 490 kt under construction (ICIS, March 2026). Mechanical recycling cannot make food-contact polyolefins at scale, and that is the gap chemical recycling is meant to fill.

5.2 The EU rules

The Packaging and Packaging Waste Regulation sets binding minimums from 2030. Article 7 of the PPWR, Regulation (EU) 2025/40, sets minimum shares of post-consumer recycled content in plastic packaging. For 2030 they are 30% for contact-sensitive PET, 10% for contact-sensitive packaging made of other plastics, 30% for single-use drinks bottles and 35% for other plastic packaging. By 2040 they rise to 50%, 25%, 65% and 65% (Figure 13). Each manufacturer must meet them at each plant every year, and general credit trading is not allowed. The regulation as a whole has applied since 12 August 2026, but the targets apply from 2030 or three years after the calculation rules are adopted, whichever is later. For PE and PP, only chemical recycling can realistically meet the 10% and 25% targets for contact-sensitive packaging.

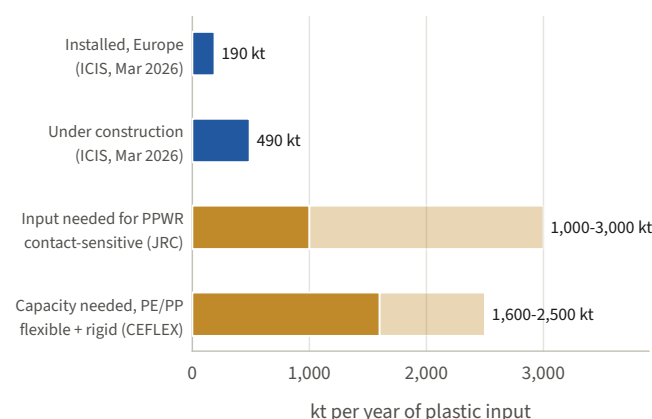
The calculation rules are the big open decision. Article 7(8) requires the Commission to adopt, by 31 December 2026, the method for calculating and checking recycled content, including chemically recycled content and mass balance. Mass balance is the accounting method that assigns recycled input to particular products of a plant that also runs on fossil feed. This act sets the rules for non-PET plastics, including the PP and PE packaging that matters most for HCT. The call for evidence closed in mid-September 2026, and no draft is public. Cefic, the European chemical industry body, and Chemical Recycling Europe, which Aduro joined in early 2026, argue for the fuel-use-excluded approach already used for bottles. Environmental groups oppose mass balance based on credits. The PPWR rules have to be confirmed separately from the bottle rules, but the industry widely expects the bottle approach to carry over, with Decision 2026/1425 as the precedent. If the method accepts fuel-use-excluded mass balance, HCT output would count toward the targets. If it restricts chemical recycling, most of the demand case in Europe would disappear.

Figure 13: PPWR minimum recycled content by packaging type



Source: Regulation (EU) 2025/40, Article 7.

Figure 14: European chemical recycling capacity versus regulatory need



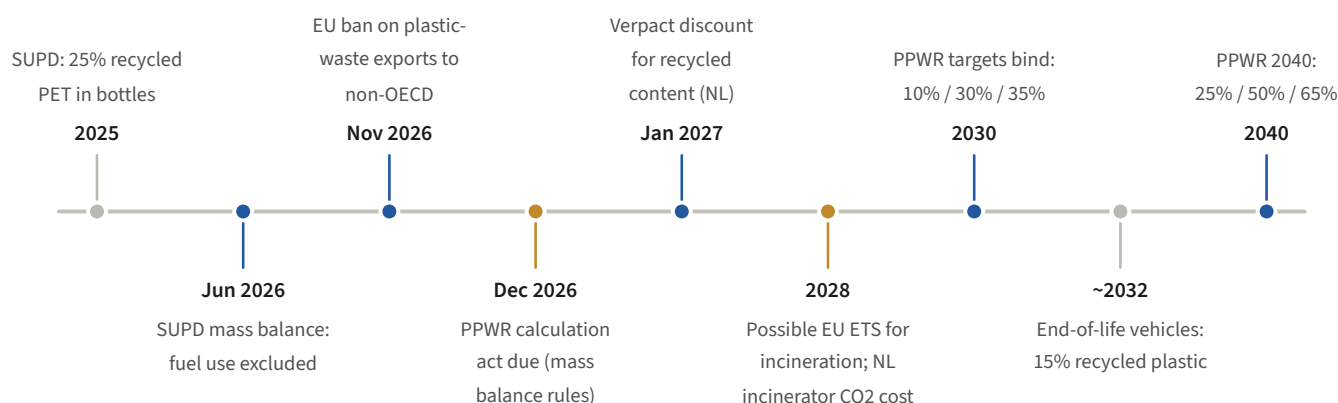
Source: JRC147061 (2026), citing ICIS (Mar 2026) and CEFLEX (2025).

A precedent already exists. Commission Decision (EU) 2026/1425 of 30 June 2026 set the first EU mass-balance rules, for PET drinks bottles under the SUPD. It uses the fuel-use-excluded method. Fuels and process losses are deducted, char is excluded, and the accounting is done for each facility over periods of three months or less. Caps and labels, which are typically PP and PE, are within its scope. Other measures point the same way. From 21 November 2026 the EU bans plastic-waste exports to non-OECD countries. New vehicles will need recycled content (15% after six years, 25% after ten), and the EU Emissions Trading System (ETS) may be extended to waste incineration from 2028. The Netherlands already charges incinerators a national CO₂ levy (Figure 15).

The rules serve industrial policy as well as recycling. Mandatory recycled content reduces the share of packaging that cheap imported new resin, increasingly from Asia and the United States, can supply. The Dutch fee scheme already gives material from outside Europe's OECD countries only a quarter of its discount (Section 5.5). Keeping plastic waste in use within Europe also fits the EU's aim of depending less on imported energy. WTR argues that this mix of environmental, industrial and energy-security motives makes the rules harder to reverse, and I agree.

A broader EU law is on the way. The European Commission is expected to propose a Circular Economy Act in the fourth quarter of 2026. Its aim is a single EU market for secondary raw materials, including recycled plastics. That supports the EU's goal of doubling its circularity rate, the share of materials used that come from recycled waste, from about 12% to 24% by 2030. Rules on waste and recycled materials still differ between member states. In my reading, common rules would make it easier for a plant in the Netherlands to buy sorted plastic waste from neighbouring countries. The proposal must still pass the Parliament and the Council, so it will take years to apply, and I leave it out of my model.

Figure 15: Regulatory timeline relevant to HCT

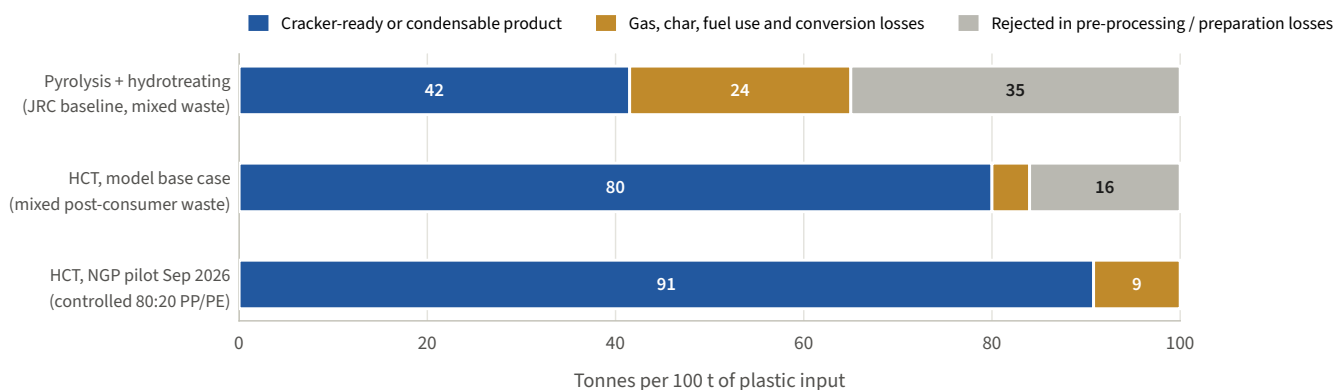


Source: EUR-Lex; European Commission; Verpact; EU ETS Directive Article 30.

5.3 Why yield matters under mass balance

Under fuel-use-excluded rules, only the share that becomes polymer earns credit. The JRC's July 2026 cost study models a typical pyrolysis chain step by step. Pre-processing rejects 35% of mixed plastic waste. Of the rest, 71% becomes raw pyrolysis oil, and 90% of that survives hydrotreating. That leaves about 42 tonnes of cracker-ready naphtha equivalent per 100 tonnes of waste. After cracking and polymerisation, 29 tonnes come back as plastic. In practice, the JRC notes, about one third of input goes to plastics, one third is lost and one third ends up as fuel. My base case assumes HCT turns 80% of plastic input into cracker feed after preparation losses. Through the same downstream steps, that gives about 52 tonnes of polymer (80% × 69% cracker yield × 95% polymerisation; Figure 16). The JRC adds that strict mass-balance rules could widen pyrolysis's cost gap to new (virgin) plastic to "10 times higher and beyond". Every tonne lost to fuel or char carries cost but earns no credit.

Figure 16: What 100 tonnes of plastic input becomes



Source: JRC147061 (2026), Table 7 baseline; Aduro release of 23 Sep 2026; HCT base case is a model assumption.

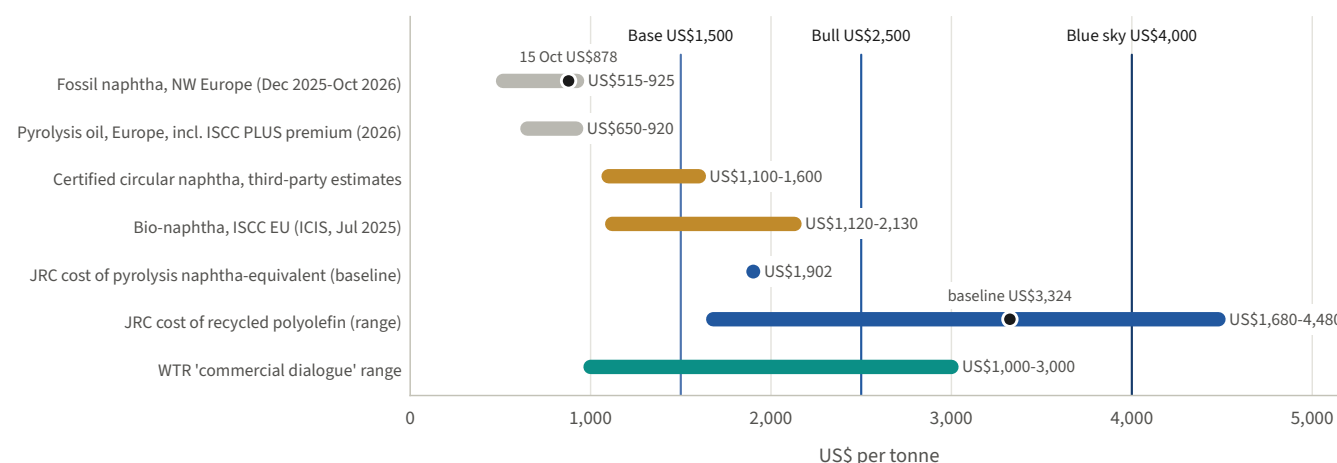
5.4 What circular feedstock is worth

There is no public price for certified circular naphtha, only ranges. Fossil naphtha in north-west Europe rose from about US\$515/t in December 2025 to about US\$880/t in mid-October 2026, with Brent crude near US\$100 a barrel. European pyrolysis oil traded at about US\$650/t in 2026. Certification under ISCC PLUS, the main scheme for tracking recycled content, added US\$100-200/t. Third-party estimates for certified, upgraded circular naphtha are US\$1,100-1,600/t, and WTR cites US\$1,000-3,000/t from commercial talks. The JRC puts the cost of pyrolysis naphtha equivalent at about €1,700/t (about US\$1,900). Its cost for recycled polyolefin is about €3,000/t, within a range of €1,500 to over €4,000 (Figure 17).

How my scenario prices compare. My base case uses US\$1,500/t for HCT output, inside the third-party range for circular naphtha and below the JRC's cost of making the pyrolysis equivalent. A buyer who pays pyrolysis producers enough to cover their costs would pay more. The bull case at US\$2,500/t assumes buyers pay a share of the value of recycled polymer to secure compliant feedstock. The blue-sky case at US\$4,000/t is above the JRC's baseline cost of recycled polyolefin itself (about US\$3,320/t). No current contract or pricing mechanism supports it. It describes a shortage in which most of the compliance value passes to the feedstock producer. Section 10 shows how much of my weighted value depends on it.

Management says the case does not need regulatory support. According to WTR, management has built the business case to work without regulatory credits and treats policy support as upside. My numbers support that only in part. The HCT module's cost of about US\$845 per tonne of cracker feed, including a 10% return on capital, is close to today's fossil naphtha price of about US\$880/t. Without a premium for circular content, a plant would roughly cover its cost of capital and little more.

Figure 17: Price benchmarks and model scenario prices

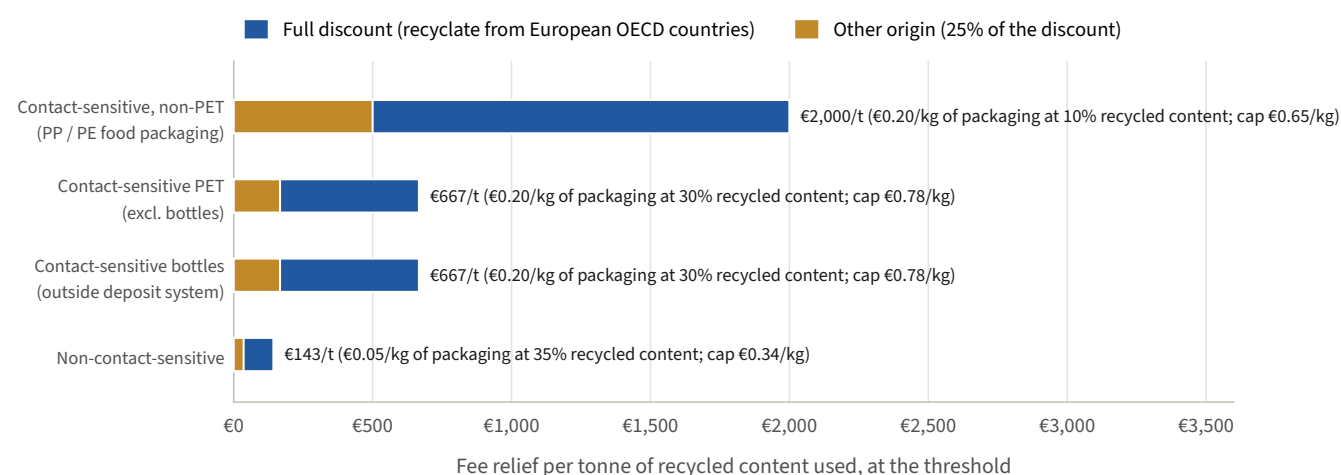


Source: S&P Global Platts (CIF NWE, Dec 2025), Trading Economics (15 Oct 2026), Cbonds and S&P Global (Oct 2026) for naphtha; Expert Market Research (pyrolysis oil); energy-solutions.co (circular naphtha); ICIS (bio-naphtha); JRC147061; WTR. Scenario prices are the author's assumptions.

5.5 The Netherlands: fees, discounts and tax

Producer fees now pay for recycled content directly. Verpact, the Dutch packaging producer-responsibility organisation, will charge €1.22/kg for rigid and €1.32/kg for flexible plastic packaging in 2027. Its new Circular Plastics scheme cuts the fee for post-consumer recycled content in three bands. Contact-sensitive non-PET packaging gets €0.20/kg of packaging at 10% recycled content, up to €0.65/kg. PET packaging and bottles get €0.20/kg at 30% (up to €0.78/kg). Non-contact packaging gets €0.05/kg at 35% (up to €0.3375/kg). Material from outside Europe's OECD countries earns a quarter of the discount. Below a threshold, each percentage point earns a proportional share. For contact-sensitive PP and PE packaging, the fee relief works out at about €2,000 per tonne of recycled content used (Figure 18). That is a strong sign of willingness to pay. One question is open: the scheme requires EN 15343-based certification and does not say whether mass-balance chemically recycled content qualifies.

Figure 18: Dutch packaging-fee relief per tonne of recycled content, 2027



Source: Verpact, Tariefdifferentiatie Plastic 2027: Circulaire Plastics (Sep 2026); author's calculation (base discount divided by the threshold share; every percentage point below the threshold counts). Above the thresholds the scheme adds smaller steps up to the caps shown.

The tax regime favours IP-heavy profits. Profits from qualifying IP can fall under the Dutch innovation box, at an effective tax rate of about 9%. Environmental investment allowances (MIA/Vamil) and the WBSO wage credit reduce the cost of building and staffing a plant. For fuel cuts, the Dutch renewable-fuel ticket system (ERE) offers extra value: about €0.37 per ticket in October 2026, against €0.47-0.50 in the spring. Fuel use does not count toward recycled content, though. My model uses a blended 24% tax rate and ignores ticket income.

5.6 Demand and the cracker question

Brand owners want recycled content but have trimmed their goals. PepsiCo reported 18% recycled content in its primary plastic packaging in 2025 (15% in 2024). It now targets at least 40% by 2035, softer than its earlier goal of 50% by 2030. Its Sunbites supply chain in the UK, which uses mass-balance-certified material from Plastic Energy, is a working template for how chemically recycled content reaches a snack bag. Brand-owner demand will follow the PPWR deadlines more than voluntary pledges.

European cracker capacity is shrinking, which matters for offtake. High energy costs and Asian competition have led several European producers to close or review steam crackers. SABIC's European petrochemical assets, including those at Geleen, are being sold to Aequita. A smaller cracker fleet means fewer buyers for circular naphtha in Europe, and each one matters more. Aduro's offtake LOI is with a trader, not the Chemelot cracker operator, and the binding offtake partner for the FOAK is still to be named.

5.7 Mexico and North America

Mexico now has a law but no binding targets yet. Mexico generates about 1.5 Mt a year of flexible packaging. The country has voluntary 2030 targets of 30% recycled content and 45% collection, coordinated by ECOCE, which has more than 400 member brands. Mexico already recovers about 63% of its PET, but flexible and multilayer packaging remain the gap, and that is the stream Aduro is testing with ECOCE. In January 2026 Mexico enacted a General Law on Circular Economy. The law makes extended producer responsibility (EPR), under which producers pay for collection and recycling, the main policy tool. It requires circular product design where viable and calls for a national program, in which plastics are expected to be a priority sector. Obligations start only when the environment ministry, SEMARNAT, publishes an agreement for a sector. The law sets no recycled-content percentages; those will come in the sector agreements.

Canada is writing rules that exclude fuel. Ontario's Blue Box recycling program became fully run by producers on 1 January 2026. Its target for recovering flexible plastic packaging starts at 10% in 2026-27 and rises to 25% by 2032. Up to 15% of a producer's obligation may be met through energy-from-waste. The province explained this phasing by noting that technology to recycle most flexible plastic mechanically at scale does not yet exist. The Canada Plastics Pact's April 2026 guidance counts chemical recycling as recycling only when its output becomes feedstock for new plastics. This follows the national standard CSA R117:24, which excludes energy recovery, and BNQ 3840-100 for mass balance. The logic matches the EU's fuel-use exclusion, so the yield argument in Section 5.3 applies in Canada too. Environment and Climate Change Canada is also working with the Chemistry Industry Association of Canada (CIAC) on federal recycled-content rules. Aduro is a member of CIAC and the Canada Plastics Pact and takes part in the Pact's working groups. It attended the INC-4 round of the global plastics treaty talks in Ottawa in April 2024 as an industry observer.

The United States is a patchwork. EPR is moving from legislation to operation. Seven states, including California, Oregon and Colorado, required producers to report packaging data in May 2026. California's SB 54 requires all regulated packaging to be recyclable or compostable by 2032. Each state decides whether advanced recycling counts as recycling, and 25 of them treat it as manufacturing rather than waste management. The Environmental Protection Agency (EPA) is reviewing whether pyrolysis and gasification plants should still be regulated as solid-waste incinerators under the Clean Air Act. A proposed CIRCLE Act would give a 30% investment tax credit for recycling infrastructure, but it has not passed. Until Mexico's sector agreements, Canada's federal rules or US law set binding percentages, North American prices for circular feedstock are likely to stay below European levels. My model prices all output at a single global level, which flatters North American projects.

5.8 The JRC verdict and what it means

Scale alone will not make pyrolysis cheap. The JRC concludes that pyrolysis naphtha costs 1.5-3.5 times as much as virgin naphtha, and chemically recycled polymer 1.4-3.7 times as much as virgin polymer. It does not expect scale alone to close the gap, and it names catalyst development and hydrothermal processes among the possible step changes. Demand will therefore be created by regulation. The margin will go to the routes with the lowest cost per tonne of creditable output, the output that counts toward the targets. To meet the PPWR, Europe will need 0.5-1 Mt a year of chemically recycled plastic, or 1-3 Mt of pyrolysis input, against 190 kt installed today. On my base-case numbers HCT's cost per tonne of cracker feed is about US\$845, less than half the JRC's pyrolysis baseline (Section 8). That cost advantage is the core of the investment case, and it has yet to be proven at plant scale.

6 Competitive Landscape

6.1 Technology routes compared

Each route trades feedstock tolerance against yield, product quality and capital. Mechanical recycling is the cheapest, but it cannot make food-contact PE and PP at scale. Pyrolysis is the established chemical route, but it needs clean feed and usually hydrotreating. Solvent purification and depolymerisation work for single polymers. HCT claims to accept mixed feed, give high

yield, need no hydrogen and work in small modules, which is attractive on paper. But it is the only route in the table without a commercial plant (Figure 19).

Figure 19: Recycling routes for polyolefin and mixed plastic waste

Route	Examples	Feed tolerance	Creditable yield	Hydrogen or hydrotreating	Status, 2026
Mechanical	Many operators	Sorted single polymers	High, but not food-grade for PE/PP	None	Mature; 13 Mt capacity in Europe
Pyrolysis (thermal, catalytic)	ExxonMobil, Plastic Energy, LyondellBasell, BlueAlp	Needs over 95% polyolefin	About 29% (JRC baseline); 20-56% range	Usually hydrotreating	Commercial at small scale; several closures in 2026
Supercritical water	Mura (HydroPRT)	Mixed plastics	Not disclosed	None; water at mass multiples	Wilton (UK) not operational; Dow's Böhlen project cancelled
Solvent purification	PureCycle (PP)	PP-rich streams	High for PP	None	Ironton ramping; heavy cash burn
Depolymerisation	Loop, Carbios (PET)	PET only	High for PET	Not applicable	Delayed; small revenue
Gasification	Various	Very tolerant	Low for plastic-to-plastic	Syngas route	Niche for plastics
HCT	Aduro	Mixed polyolefins with PET, nylon, paper (lab)	About 52% at my 80% base-case yield	None	Pilot; FOAK targeted early 2028

Source: Author's summary from JRC147061 (2026), company disclosures and trade press. Creditable yield is the share of plastic input that can return to polymer under fuel-use-excluded mass balance.

6.2 Peer status, 2024-2026

2026 has been a hard year for chemical recycling. Plastic Energy's UK entities entered administration on 27 April 2026. Its Spanish plants keep running, and the business was recapitalised under new owners in August, with the founder back as CEO. Viridor closed the former Quantafuel sites at Skive, Oslo and Malmö in June. Pryme closed its only plant in May, and Carbolix entered insolvency proceedings in April. Dow cancelled the Mura project at Böhlen, and Mura's Wilton plant is still not operating. LyondellBasell moved the start-up of its 50 kt MoReTec plant at Wesseling to 2027 and cut its 2030 recycled-volume goal from 2 Mt to 0.8 Mt. Trade press counts at least nine cancelled European projects out of 65 planned (Figure 20).

Figure 20: Selected peers and their status, October 2026

Company	Route	Status in 2026	Market data
PureCycle (PCT)	Solvent purification, PP	Q2 2026 revenue US\$4.5m; trailing free cash flow –US\$212m; debt about US\$540m	Market cap US\$617m; EV US\$931m
Loop Industries (LOOP)	PET depolymerisation	Trailing revenue US\$0.6m	Market cap US\$16m
Agilyx (Oslo)	Pyrolysis (PS)	Pivoted to feedstock and sorting through Cyclyx	About US\$200-300m
Carbios (Paris)	Enzymatic PET	Plant timetable pushed back	About €110-200m
Plastic Energy	Pyrolysis	UK entities in administration (Apr); Spanish plants operating; new owners (Aug)	Private
Viridor (ex-Quantafuel)	Pyrolysis	Closed Skive, Oslo and Malmö sites (Jun)	Private
Pryme	Pyrolysis	Closed its only plant (May)	Listed, micro-cap
Carbolix	Pyrolysis-type	Insolvency proceedings (Apr)	Private
Mura / Dow	Supercritical water	Böhlen cancelled; Wilton not operational	Private
LyondellBasell MoReTec	Catalytic pyrolysis	50 kt Wesseling start-up moved to 2027; 2030 goal cut to 0.8 Mt	Part of LYB
Aduro (ADUR)	HCT	Pilot campaigns; FOAK targeted early 2028	Market cap US\$356m; EV about US\$309m

Source: Company filings, StockAnalysis, MarketBeat and trade press (Resource Media, Recycling Today, Bioplastics News); market data as of 16 Oct 2026.

6.3 Why chemical recyclers fail

The failures share a short list of causes. Variable feed fouls reactors and cuts uptime, and oil rich in olefins limits how much a cracker will take. Plants are built too big before the process is stable, and debt arrives before cash flow. Projects that depend on a partner's investment decision stall when that partner changes course. Figure 21 shows how HCT's design addresses each one and how much of that has been demonstrated. In short, the design answers most of the known failure modes on paper, and only operating hours at Chemelot can show that it works.

Figure 21: Failure modes in chemical recycling and HCT's answer

Failure mode	Where it showed up	HCT design response	Evidence status
Feed variability and contamination	Pyrolysis plants needing over 95% polyolefin feed	Contaminants hydrolysed or kept in water-soluble by-products; start with cleaner streams	Lab and program data
Fouling, coking, uptime	Quantafuel/Viridor sites; Plastic Energy UK	Lower temperature; hydrogen capping and water limit coke formation	75 hours so far
Product quality	Olefinic oil limited to small cracker blends	Saturated product; bromine number 17-58 vs 80-110	One cracker trial
Scaling too early	Mura Wilton; large first plants	10 kt FOAK, then 25 kt modules	Not yet tested
Capital structure	PureCycle debt; Plastic Energy administration	Equity-funded, no debt; project debt only after the FOAK	Holds today; dilution ahead
Partner dependence	Dow/Mura Böhlen; LyondellBasell delays	Own the FOAK; licensing only after a reference plant	Strategy in place
Energy and hydrogen cost	Hydrotreating and high-temperature routes	No hydrogen gas, no hydrotreating, about 400°C	No LCA published

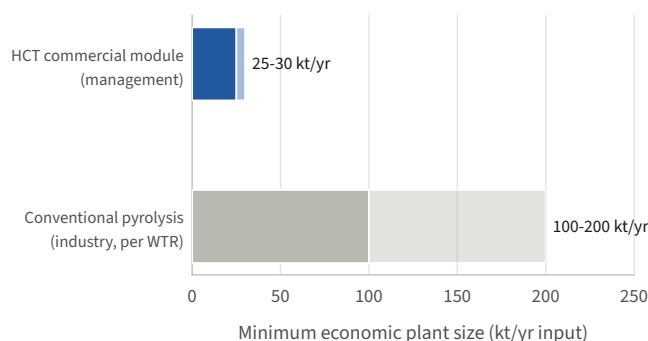
Source: Author's assessment; peer examples from trade press and company filings; HCT evidence from company releases and patent application US 2026/0217627.

6.4 Competitive advantages and threats

The plastics IP is still pending in the US. Aduro reports 11 patents, 7 granted and 4 pending. The granted US patents cover bitumen and heavy-oil upgrading, expiring in 2034-2035, and renewable fuels, expiring in 2034 and 2039. One heavy-oil patent of Yeda origin expired in November 2025, and another expires in 2028. The core plastics family (US 17/494,360 and its continuations) is granted in South Africa and pending in the US, Europe and ten other jurisdictions. The 2026 application on mineral catalysts and the 2025 aromatics application are still pending. Protection for the plastics business therefore rests today on pending claims, trade secrets, operating know-how and being first to a working plant.

Small plants are a structural advantage if they work.

Management puts the minimum economic size of an HCT module at 25-30 kt/yr, against 100-200 kt/yr for conventional pyrolysis (Figure 22). Smaller plants can sit next to waste sources or inside existing chemical parks. They need less capital per project and let licensees start without a large feedstock contract. The threats are the large oil and chemical companies that run their own pyrolysis (ExxonMobil is the largest operator), other technology licensors, and a PPWR calculation act that weakens the yield advantage. Another threat is that a competitor reaches a similar catalytic, hydrogen-free process outside Aduro's patent claims.

Figure 22: Minimum economic plant size


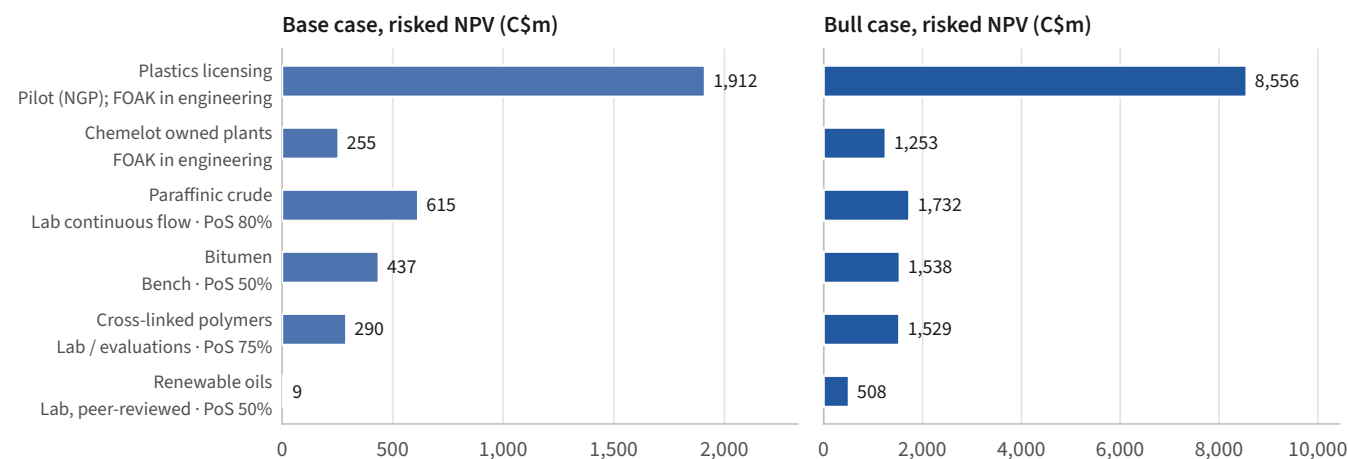
Source: Management (WTR Virtual Insights interview, 22 Sep 2026); WTR (Aug 2026).

7 The Five Verticals

One chemistry, five businesses, very different stages. I model all five verticals; Aduro calls its plastics, bitumen and renewable-oils applications HPU, HBU and HRU. Plastics is modelled in full, as owned plants and licences. The other four start later and are multiplied by a probability of success (PoS). In the base case the PoS is 75% for cross-linked polymers, 50% for renewable oils, 80% for paraffinic crude and 50% for bitumen. These are my judgments of technical and commercial success, given that the core chemistry works. They are set high because the same reaction underlies all five, and they fall to 10-20% in the failure scenario. In the base case the four smaller verticals add about C\$1.35bn of risked value, against C\$2.2bn for plastics (Figure 23).

Large markets; a small share is enough. Aduro's investor materials, as cited by WTR, put the 2030 market for its applications at about US\$290bn. This splits into US\$120bn for advanced chemical recycling of plastic waste, about US\$50bn for partial upgrading of heavy crude and asphaltene streams (before paraffinic crude), and US\$121bn for turning renewable oils into fuels and chemicals. These are market values, not revenue Aduro can capture as a licensor. My base case reaches C\$362m of revenue in FY2035.

Figure 23: Risked net present value by vertical



Source: Author's model (10% discount rate, 3% terminal growth).

7.1 Plastics (HPU)

The core business, covered in Sections 3 to 10. In my base case, owned capacity at Chemelot reaches 50 kt by FY2032. Licensed capacity reaches 375 kt by FY2035 and 1.3 Mt by FY2040. For scale, 1.35 Mt of owned and licensed capacity by FY2040 is comparable to the 1-3 Mt of chemical recycling input the JRC says Europe alone needs for the PPWR. Against the roughly 220 Mt of PE and PP produced worldwide each year, it is a small fraction.

7.2 Paraffinic crude (Uinta Basin and other waxy crudes)

A logistics problem with a chemistry answer. Uinta Basin crude in Utah is so waxy that it is solid at room temperature. It moves in heated trucks and rail cars to a limited set of refineries. Utah produced about 185 kbpd (thousand barrels per day) in 2025, mostly from the Uinta (EIA). The proposed Uinta Basin Railway (about US\$3.4bn) is waiting for a reinstated federal approval, expected around the end of November 2026, and has no financing. A rail terminal at Price River is doubling capacity from 70 to 140 kbpd. Globally, paraffin-rich crudes make up an estimated 16-27 Mbpd, or 20-33% of supply (Sousa et al., 2023). HCT aims to cut the wax content enough for the crude to flow at normal temperatures. That would lower transport costs and widen the set of buyers.

Simpler than plastics, earlier than it looks. Bench tests on Uinta yellow and black wax crude in April 2026 showed lower wax content and stability at room temperature. A continuous-flow test unit (5-6 litres an hour) was completed in July 2026. Long runs are pending, and the next step is 5-10 barrels a day with a producer. Management describes this application as cheaper and easier than plastics, because the feed is already liquid and needs no extruder. A continuation-in-part patent application for highly paraffinic crude was filed in April 2026. The 2025 aromatics application includes a Uinta example (71% liquid yield, 30% aromatics in the product).

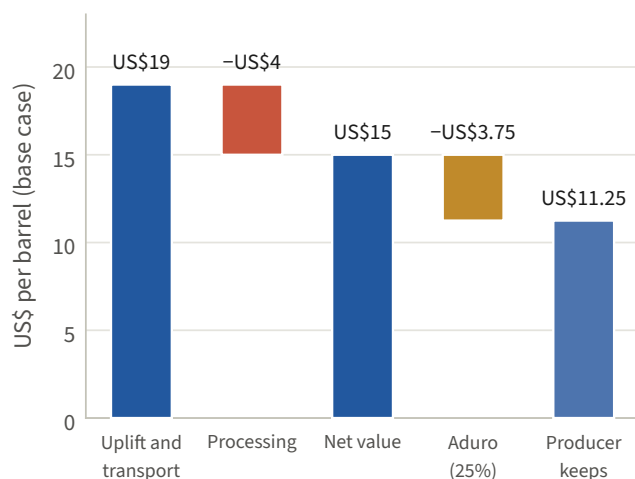
My numbers are well below WTR's. I assume HCT creates US\$19 of value per barrel, through better quality and lower transport costs, at a processing cost of US\$4. That leaves US\$15 of net value, of which Aduro takes 25%, or US\$3.75 per barrel (Figure 24). In the base case throughput ramps from 5 kbpd in FY2030 to 70 kbpd in FY2036, below current Uinta output. WTR assumes 300 kbpd at about US\$5 per barrel by FY2035, more than the basin produces today. With a 80% PoS, my base-case risked net present value (NPV) is about C\$616m.

7.3 Bitumen (HBU)

The original application, with the oldest patents. Canada produced about 2.19 Mbpd of crude bitumen in 2025, up 4.6% (Statistics Canada). Bitumen needs 25-30% diluent, usually condensate, to flow through pipelines. Canada used a record 566 kbpd of condensate and pentanes plus as diluent and imported 275-350 kbpd. Partial upgrading that cut diluent to about 5% would free pipeline space. Each 100 barrels of capacity would carry 95 barrels of producer oil instead of 70, or 35.7% more (Figure 25). In September 2026 Western Canadian Select (WCS) traded US\$21.35 below West Texas Intermediate (WTI), the US benchmark, the widest gap since December 2023, as pipelines filled. Freed capacity has real value.

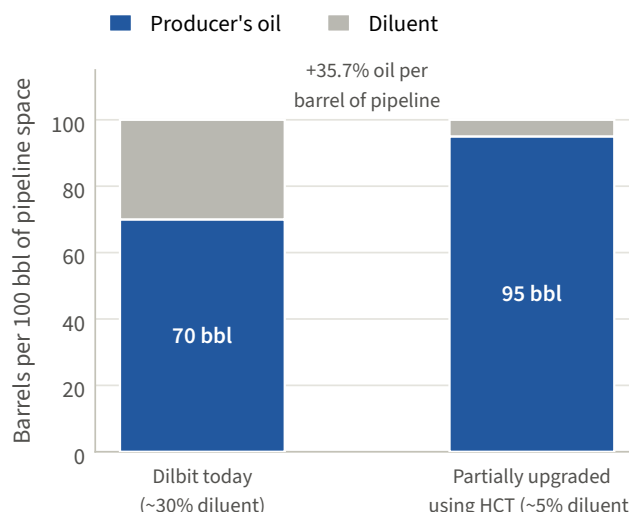
The industry has tried partial upgrading for decades. Routes include thermal cracking, hydrocracking, supercritical water and solvent deasphalting. Most need high temperatures or pressures, costly catalysts or large amounts of hydrogen, and few have reached commercial scale. The full upgraders that make synthetic crude show the trade-off. Coking loses up to about 20% of the feed as coke and about 5% as gas. Solvent deasphalting recovers 85-95% of the oil. Hydrocracking keeps over 95% but has the highest capital and operating cost. In January 2022 an independent laboratory confirmed that HCT raised a heavy oil from 14.6° to 19.5° API, a measure of how light the oil is. The company's 2023 case put the gross-margin gain at US\$12.70 per barrel at US\$60 WTI and US\$45 WCS. A 2022-23 collaboration with Prospera Energy has had no public update.

Figure 24: Paraffinic crude: value per barrel, base case



Source: Author's estimates.

Figure 25: Pipeline space taken by diluent



Source: Illustrative; Aduro HBU materials.

Partnership-led and patent-limited. In October 2026 Aduro described its bitumen work as technology demonstration at bench scale. Producers or midstream companies would build and run the upgraders. The company prefers to advance this work with industry partners rather than fund a pilot itself, and according to WTR it expects to report progress during 2026. Its filings also name a second market: the 128 refineries in North America and about 280 worldwide that could use HCT to upgrade the heaviest residue from vacuum distillation. Aduro's granted bitumen patents expire in 2034-2035, which limits how long a royalty can be defended. In the base case I model 120 kbpd at peak and US\$12.70 per barrel of net value, with a 25% share to Aduro. At a 50% PoS, the risked NPV is about C\$437m.

7.4 Cross-linked polymers and specialty streams

Feeds that mechanical recyclers cannot handle. Cross-linked polyethylene (PEX) pipe, tyre rubber and polyurethane foam do not melt. Synthetic turf bonds PE and PP fibres into a cured backing, which becomes mixed with sand, rubber infill and dirt. None of these can be recycled well by mechanical means. HCT has been tested on PEX scrap with GF Building Flow Solutions, now under an MOU. Turf is a sizeable stream. Aduro, citing industry and EU research, puts the installed base at about 13,000 fields in the US and 20,000 in the EU. Together they retire over 230 million pounds (about 105 kt) of turf a year, and only about 10% is reused or recycled. The company reported that HCT converted the PE and PP in used turf without extensive processing in a mid-2025 test. The MOU signed with AstroTurf in June 2026 is at the evaluation stage. The 2026 patent application describes feeding PEX or tyre rubber through the extruder together with ordinary PE or PS. It reports 55% yield from tyre rubber, with the sulfur leaving as hydrogen sulfide. I model licensed plants from FY2033 at 70% yield and US\$450/t opex, reaching 325 kt by FY2040 in the base case. At a 75% PoS the risked NPV is about C\$290m. Turf alone, at about 105 kt a year in the US and EU, would fill about a third of that capacity.

7.5 Renewable oils and aromatics (HRU)

Peer-reviewed chemistry, an uncertain business. Work with Western University, published in *Sustainable Energy & Fuels* in April 2026, converted fatty acids and used cooking oil without hydrogen. It used a molybdenum/zeolite catalyst at 350-375°C. Results were about 85% liquid yield, up to 85% aromatics in the liquid and up to 75% BTEX (benzene, toluene, ethylbenzene and xylenes) in the recovered liquid. Catalyst activity fell within 36 hours at 350°C, and coke formed at 375°C, so catalyst life is the open problem. Aromatics matter for sustainable aviation fuel (SAF), which needs 8-25% aromatics, and for the BTEX chemicals market of about 129 Mt (2022). The vertical reaches beyond aromatics. Aduro's two granted renewable-fuel patents cover hydrothermal conversion of fatty acids into renewable diesel. Target feeds include corn distillers' oil from ethanol plants, oilseed oils, animal fats and used cooking oil. Products include renewable diesel, SAF components and platform chemicals. The company places this work at the advanced research stage. The economics depend on feed cost. With used cooking oil at about US\$1,000/t, a US\$1,500/t output price leaves little margin. In my base case this vertical is worth only about C\$9m, against about C\$508m in the bull case.

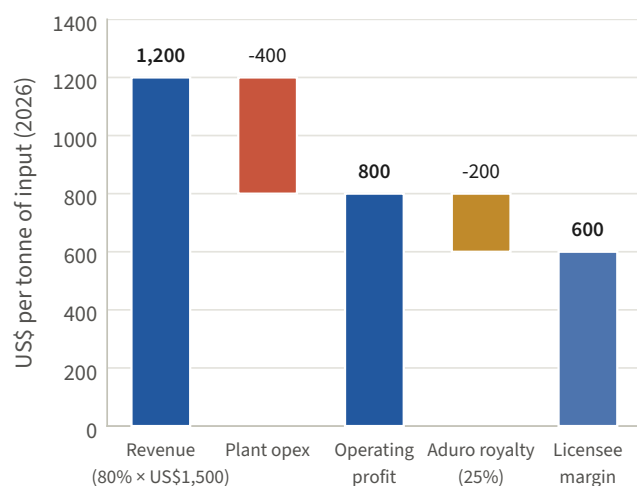
8 Unit Economics

8.1 One tonne through a 25 kt module

At US\$1,500 per tonne, a tonne of waste yields about US\$800 of operating profit. In my base case a 25 kt/yr licensed module runs at 85% utilisation. It turns 80% of its plastic input into saleable product at US\$1,500/t, so each tonne of input earns US\$1,200. Cash operating cost is about US\$400 per tonne of input: US\$50 for feedstock, US\$200 of variable cost (preparation, catalyst, water and utilities) and about US\$150 of fixed cost (labour, maintenance and overheads) at full rate. That leaves US\$800 of operating profit. Aduro takes 25%, or US\$200, and the licensee keeps US\$600 (Figure 26). The licensee's EBITDA margin after royalty is 50%. EBITDA is profit before interest, tax, depreciation and amortisation. The margin is in line with management's indicated gross margin of about 50% for the first commercial unit.

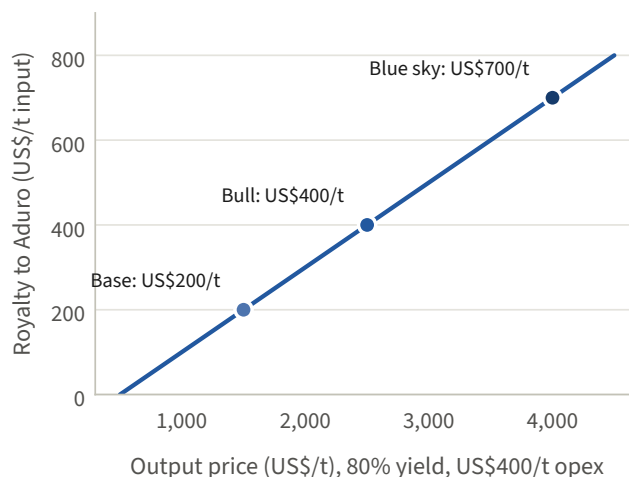
The cost assumptions are mine, and they are lean. I assume no hydrogen donor, as in the 2026 patent configuration. Adding one at 5-10% of feed would cost roughly US\$20-80 per tonne, depending on the grade and price used (my estimate). Clay catalyst at 1-4% of feed costs only a few dollars per tonne. The larger uncertainties are feed preparation and energy. The JRC's pyrolysis chain spends about €150/t on pre-processing and about €300/t of opex on the pyrolysis step alone. My US\$400/t total assumes HCT needs much less preparation because it tolerates contaminants. At US\$600/t of opex, the licensee's IRR falls from 16.7% to 11.9%, and Aduro's royalty from US\$200 to US\$150 per tonne (Figure 29). Because the royalty is a share of profit, it rises with price. At the same 80% yield it is US\$400/t at US\$2,500 and US\$700/t at US\$4,000 (Figure 27). My bull and blue-sky cases also assume slightly higher yields, which lift the royalty to US\$412/t and US\$750/t.

Figure 26: Per-tonne economics of a licensed 25 kt plant, base case



Source: Author's model.

Figure 27: Aduro royalty per tonne versus output price



Source: Author's model.

8.2 Capital cost and returns

At US\$2.0m per kt, both the modules and the FOAK work at base-case prices. I use a fixed capital cost of US\$2.0m per kt of annual capacity for every HCT plant, or US\$50m per 25 kt/yr. That gives US\$20m for the 10 kt FOAK, in line with CEO comments, US\$30m for the 15 kt Phase 2 and US\$50m for each later 25 kt line or licensed module. WTR's estimates are higher: about US\$39m for the FOAK including shared site costs, US\$42-46m for a module on an existing site and about US\$76m for a plant on a new site. On my numbers a licensee earns a 16.7% IRR on a 25 kt module at US\$1,500/t after royalty, and an owner without royalty earns 22.5%. The FOAK earns about 15.2% at US\$1,500/t, even with first-plant opex of US\$650/t. Capital cost remains a key uncertainty, because a site without shared utilities would cost more. A 25 kt module at US\$70m earns a licensee 11.2%. The FOAK earns about 12% at US\$25m, 9% at US\$30m and 4% at US\$45m (Figures 28 and 29).

8.3 Sensitivities and breakeven prices

Price and yield matter most; a 10% licensee return needs about US\$1,160/t. For a licensee at 80% yield, the output price that gives a 10% project IRR (my discount rate) is about US\$1,160/t. An owner without royalty needs about US\$990/t, and the FOAK, at US\$650/t opex, about US\$1,310/t. Each five points of yield is worth one and a half to two points of IRR at base-case prices (Figure 30). On cost, the HCT module makes cracker-ready feed at about US\$845 per tonne, including a 10% return on capital. The JRC's pyrolysis baseline costs about US\$1,900. HCT's cost is close to today's high fossil naphtha price and well below the cost of pyrolysis-based supply (Figure 31).

Figure 28: Plant-level returns, 25 kt module unless stated (real 2026 US\$)

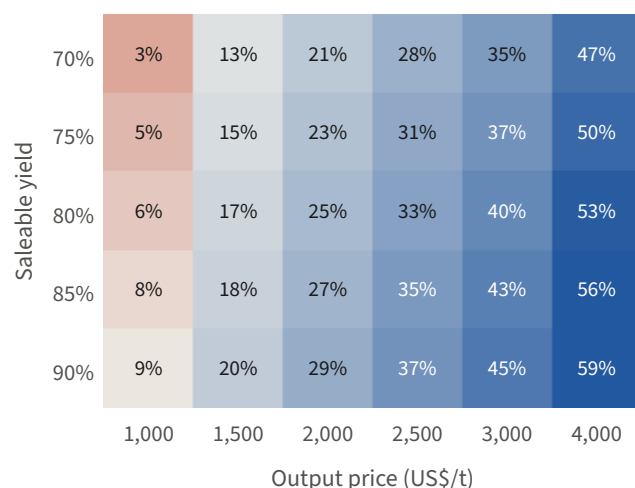
Case	Capex (US\$m)	EBITDA (US\$m/yr)	Margin	Royalty (US\$/t)	Royalty to Aduro (US\$m/yr)	Project IRR	NPV at 10% (US\$m)
25 kt licensee, US\$1,500/t	50	12.8	50%	200	4.2	16.7%	25.7
25 kt licensee, US\$2,500/t	50	26.3	60%	412	8.8	33.8%	105.4
25 kt licensee, US\$4,000/t	50	47.8	66%	750	15.9	56.4%	232.0
25 kt owner (no royalty), US\$1,500/t	50	17.0	67%	0	0.0	22.5%	50.7
FOAK 10 kt owner, US\$1,500/t	20	4.7	46%	0	0.0	15.2%	7.8

Source: Author's model: 85% utilisation, 80% saleable yield (82% / 85% at the higher prices), US\$400/t opex, 24% tax, 20-year life, 2-year build. Licensee cases pay Aduro 25% of cash operating profit.

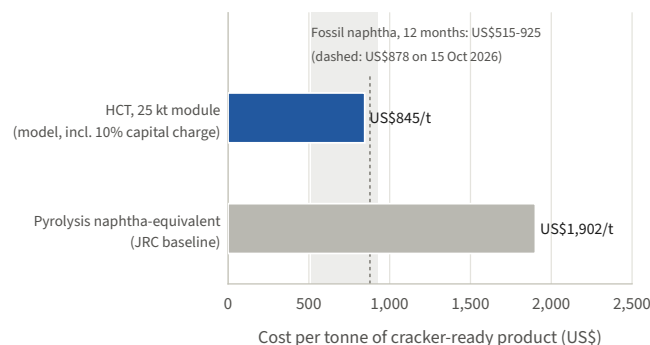
Figure 29: Licensee project IRR sensitivity, 25 kt module

Variable	Case and licensee IRR			
Cash opex (US\$/t input)	400: 16.7%	500: 14.4%	600: 11.9%	700: 9.3%
Utilisation	85%: 16.7%	70%: 13.4%	60%: 11.0%	
Capex (US\$m)	40: 21.1%	50: 16.7%	60: 13.6%	70: 11.2%
Output price for a 10% IRR	Licensee: US\$1,157	Owner: US\$993	FOAK: US\$1,305	

Source: Author's model; base case US\$1,500/t, 80% yield, US\$400/t opex, 85% utilisation, US\$50m capex, 25% profit-share royalty.

Figure 30: Licensee project IRR by output price and saleable yield


Source: Author's model (25 kt module, US\$50m capex, US\$400/t opex, 25% profit-share royalty).

Figure 31: Cost per tonne of cracker-ready product


Source: Author's model; JRC147061 (2026) baseline converted at EUR/USD 1.12; naphtha: S&P Global Platts, Trading Economics.

8.4 What Aduro earns per unit

Figure 32: Business models compared, base case per tonne of plastic input

	Own and operate	Joint venture (Aduro 51%)	Licence
Capital from Aduro	100% of plant capex	About 51% of plant capex	None; engineering support covered by fees
Revenue to Aduro per tonne	About US\$1,200 (product sales)	Consolidated product sales; 49% to partner	About US\$200 royalty plus an upfront fee
Cash margin to Aduro per tonne	About US\$800 before capital costs	About US\$410 share of plant margin	About US\$170 after support costs
Capital per kt of capacity	US\$2.0m	About US\$1.0m	Negligible
Accounting	Fully consolidated	Consolidated, with a non-controlling interest	Royalty income
Use in my model	Chemelot FOAK and later lines	Not modelled separately	Main source of value

Source: Author's model (2026 US\$; US\$1,500/t output price, 80% yield, US\$400/t opex, 25% profit-share royalty, licensing support cost 15% of royalty); WTR (Aug 2026) for the joint-venture structure.

About US\$200 per tonne as a licensor, US\$800 as an owner. As owner of a Chemelot line, Aduro earns the full US\$800 per tonne of operating profit but carries the capital. As licensor it earns US\$200 per tonne in royalty, about US\$170 after the cost of supporting licensees, plus an upfront fee. I set the fee at US\$0.10m per kt of capacity in the base case. A 25 kt licensed module therefore pays

Aduro about US\$4.2m a year at US\$1,500/t, and about US\$8.8m at US\$2,500/t. In crude, Aduro's 25% share of net value is US\$3.75 per barrel for paraffinic crude and US\$3.18 for bitumen in the base case. For paraffinic crude, that comes to about US\$26m a year for every 20 kbpd of throughput over 350 operating days.

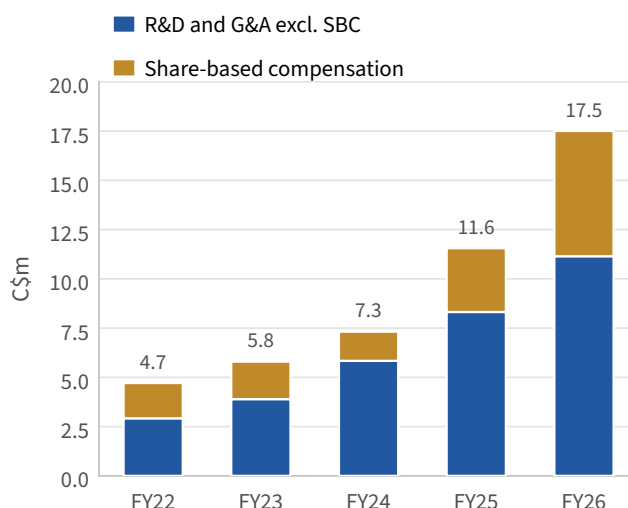
9 Financial Analysis and Forecasts

9.1 Historical results

A pre-revenue company whose cost base has nearly quadrupled in four years. Reported R&D and general and administrative (G&A) costs rose from C\$4.7m in FY2022 to C\$17.5m in FY2026. That includes C\$6.4m of share-based compensation (SBC). Excluding SBC, the MD&A shows FY2026 R&D of C\$4.37m and G&A of C\$6.78m. Revenue is limited to CEP evaluation fees: C\$167k in FY2026 and nil in Q1 FY2027. Adjusted EBITDA on the company's definition (loss before other items, plus depreciation and SBC) was -C\$10.7m in FY2026 and -C\$2.7m in Q1 FY2027. Investor relations and communication costs were C\$1.36m in FY2026, up from C\$0.84m (Figure 34).

Net income is distorted by the warrant liability. Warrants issued with the 2025 US offerings are priced in US dollars, while the company reports in Canadian dollars. Because of that mismatch, IFRS treats them as a derivative liability, revalued each quarter at market prices. A rising share price creates a loss and a falling one a gain. FY2026 included a C\$9.98m loss. Q1 FY2027 included a C\$4.24m gain, which turned an operating loss into reported net income of C\$1.2m. I ignore these revaluations when judging performance.

Figure 33: Operating cost base, FY2022-FY2026



Source: Company filings (F-1, 40-F).

Figure 34: Historical financial summary, FY2022-FY2026 and 1Q FY2027 (C\$000)

C\$000	FY22	FY23	FY24	FY25	FY26	1Q FY27
Revenue (CEP evaluation fees)	-	110	338	231	167	-
R&D (IFRS, incl. SBC)	(1,984)	(2,528)	(3,258)	(5,459)	(7,474)	(1,517)
G&A (IFRS, incl. SBC)	(2,729)	(3,269)	(4,059)	(6,094)	(10,030)	(1,684)
of which share-based compensation	1,791	1,903	1,479	3,236	6,358	518
Adjusted EBITDA (company)	n/a	n/a	n/a	(8,166)	(10,738)	(2,735)
Warrant derivative revaluation	-	-	-	(221)	(9,980)	4,240
Net income (loss)	(5,081)	(5,863)	(7,437)	(12,146)	(26,849)	1,202
Operating cash flow	(3,299)	(4,496)	(5,209)	(8,984)	(9,856)	(2,575)
Capital expenditure (PP&E)	(411)	(2,006)	(1,148)	(1,441)	(4,810)	(669)
Free cash flow	(3,710)	(6,502)	(6,357)	(10,425)	(14,666)	(3,244)
Cash, period end	2,111	4,047	2,815	6,958	38,298	65,752
Shares, period end (m)	16.1	19.7	21.8	29.6	33.9	35.7
Employees, year end	12	19	25	25	33	n/a

Source: Company filings (F-1, 40-F, 6-K); adjusted EBITDA is the company definition (loss before other items plus D&A plus share-based compensation), available from FY2025.

Cash use is steady at about C\$3.5m a quarter. Operating cash outflow ran at C\$2.2-2.7m a quarter over the last six quarters. Capital spending rose to C\$2.3m in Q2 FY2026 as the NGP was built. Over the last four quarters free cash outflow was about C\$13.8m. Interest on the cash balance now adds about C\$0.45m a quarter (Figure 35).

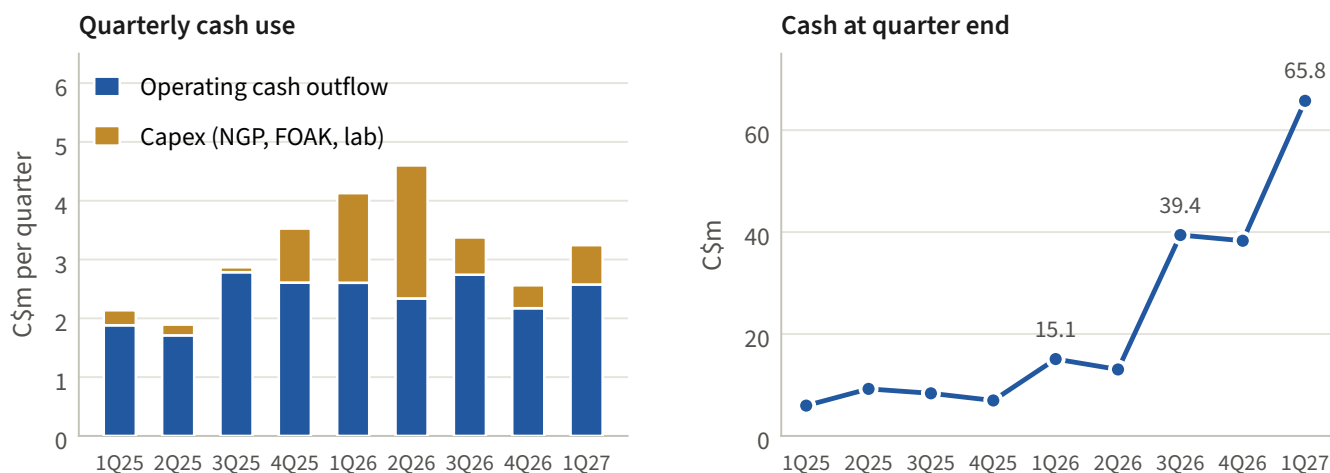
9.2 Balance sheet and liquidity

Enough cash for the FOAK; the wider program needs new money. At 31 August 2026 Aduro held C\$65.75m of cash, had no financial debt and carried C\$8.9m of net property, plant and equipment. At the current burn, cash would last more than four years. A FOAK budget of about US\$20m (about C\$28m), the figure CEO comments indicate, can be paid from cash on hand. In my base

case cash falls to about C\$44m by May 2027 as engineering and early equipment orders begin.

Spending outside the FOAK is likely to rise at the same time. Phase 2 at Chemelot starts in FY2028 in my base case, and the other verticals are moving to larger tests. Waxy crude needs a field pilot of 5-10 barrels a day after the continuous-flow unit. Cross-linked polymers need PEX and synthetic-turf trials, and renewable oils need catalyst work. These programs need more engineers and operators than today's team of 33 can supply, and each could add to the cash burn. That is why I expect a share issue from around the end of 2027; the model raises equity in FY2028 and FY2029. My model includes rising R&D but no separate budget for these pilots, so a raise could also come earlier or be larger than modelled. In September 2026 management said the company has "everything that we need for this year, probably for the next year". Management added that it intends to raise only at higher prices and wants to avoid structured instruments.

Figure 35: Quarterly cash use and cash balance



Source: Company filings (6-K, 40-F); Q4 figures derived from annual less nine months.

9.3 Capital structure and dilution

Dilution has been heavy but at rising prices. Shares outstanding rose from 16.1m (after the consolidation) in May 2022 to 35.8m in October 2026. Issue prices climbed from C\$4.225 (June 2024) and US\$4.25 (November 2024 IPO) to US\$8.44, US\$11.50 and US\$15.20. The June 2026 offerings carried no warrants (Figures 37 and 38). Fully diluted shares are 40.3m. That includes 1.5m warrants, mostly at US\$10.13-16.00, and 3.0m options at an average C\$6.53. Directors and officers own about 32%. The CEO holds 24.9% including options. In September 2026 the CEO moved 1.0m shares into a family holding company as an estate freeze, an estate-planning step. On 28 September the CEO pledged 500,000 shares as collateral for a securities account. Neither was a sale, but the pledge creates a small risk of forced selling if the price falls.

Figure 36: Capitalisation at mid-October 2026

Item	Number	Note
Basic shares outstanding	35,777,326	
Warrants at US\$4.675 (expire Nov 2029)	1,684	in the money
Warrants at US\$10.13 (Jun 2028)	444,434	just out of the money
Warrants at US\$14.375 (Dec 2028 / Jan 2029)	60,000	out of the money
Warrants at US\$16.00 (Dec 2028 / Jan 2029)	999,999	out of the money
Options (average strike C\$6.53, about US\$4.62)	3,000,661	in the money on average
Fully diluted shares	40,284,102	
Treasury-method diluted shares at US\$9.95	about 37.4m	
Cash, 31 Aug 2026	C\$65.75m	no financial debt
Proceeds if all options and warrants exercised	C\$19.6m + US\$21.4m	

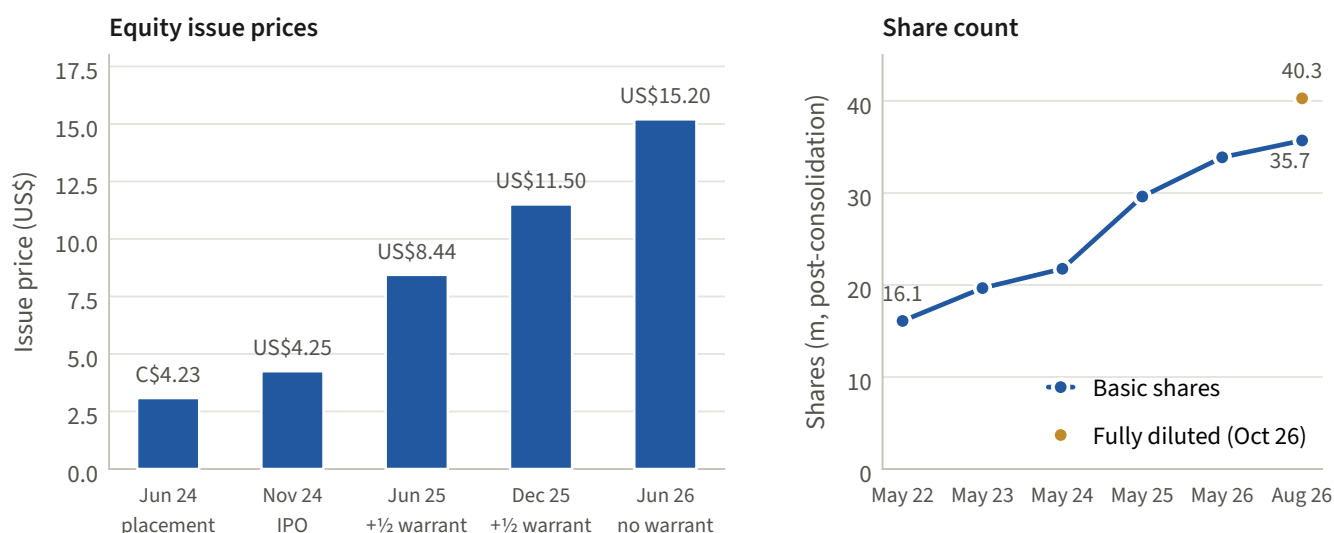
Source: Q1 FY2027 MD&A and financial statements; Yahoo Finance; author's calculations.

Figure 37: Equity financing history, 2024-2026

Date	Type	Shares	Price	Gross	Warrant coverage
Jun 2024	Private placement (CSE)	834,178 units	C\$4.225	C\$3.5m	½ warrant at C\$5.20
Nov-Dec 2024	US IPO incl. partial over-allotment	1,063,647	US\$4.25	US\$4.5m	5% underwriter warrants at US\$4.675
Jun 2025	US offering incl. over-allotment	1,090,048	US\$8.44	US\$9.2m	½ warrant at US\$10.13
Dec 2025-Jan 2026	US offering incl. over-allotment	1,999,999	US\$11.50	US\$23.0m	½ warrant at US\$16.00; underwriter warrants at US\$14.375
Jun 2026	US offering	1,028,645	US\$15.20	US\$15.6m	none
Jun 2026	Canadian LIFE placement	431,884	C\$21.20	C\$9.2m	none

Source: Company MD&A (FY2026, Q1 FY2027) and prospectus supplements.

Figure 38: Equity issue prices and share count



Source: Company filings.

9.4 Forecast methodology and key assumptions

An explicit forecast to FY2045 under five scenarios. My model runs from FY2027 to FY2045 in nominal Canadian dollars. Prices and costs are set in 2026 US dollars and inflated at 2% a year (USD/CAD 1.41). The Chemelot lines and licensed plants ramp up at 50%, 80% and then 85% utilisation. Licensing income is 25% of the licensee's cash operating profit, plus an upfront fee two years before start-up. Supporting licensees costs 15% of that income. Crude royalties are 25% of the net value created per barrel. Corporate costs start at C\$12m of cash G&A and R&D in FY2027 and rise from there, and SBC is treated as a real cost. Tax is 24% after Canadian tax losses carried forward of about C\$37.5m. The model issues equity whenever cash would fall below C\$25m, at a 7% discount and 6% fees. It funds half of Chemelot capital spending (capex) after the FOAK with project debt at 7% (Figure 39).

Figure 39: Key model assumptions by scenario

Assumption	Failure	Bear	Base	Bull	Blue sky
Scenario weight	10%	10%	30%	35%	15%
Output price (US\$/t)	-	1,350	1,500	2,500	4,000
Plant opex (US\$/t input, at 25 kt)	525	525	400	400	400
Chemelot owned capacity	FOAK halted	25 kt (FOAK FY29; full by FY32)	50 kt (FOAK FY28; full by FY32)	100 kt (FOAK FY28; full by FY33)	150 kt (FOAK FY28; full by FY35)
Chemelot capex, 2026 US\$m	20 (halted)	50	100	200	300
Licensed plastics, kt FY35 / FY40	0 / 0	100 / 425	375 / 1,300	825 / 3,025	1,550 / 5,550
Plastics royalty (US\$/t input)	138	138	200	412	750
Cross-linked: kt FY40 (PoS)	-	75 (55%)	325 (75%)	700 (85%)	1,375 (90%)
Renewables: kt FY40 (PoS)	50 (10%)	50 (30%)	175 (50%)	500 (60%)	975 (70%)
Paraffinic: peak kbpd (PoS)	40 (20%)	40 (60%)	70 (80%)	150 (85%)	250 (90%)
Paraffinic net value (US\$/bbl)	12.00	12.00	15.00	19.00	22.00

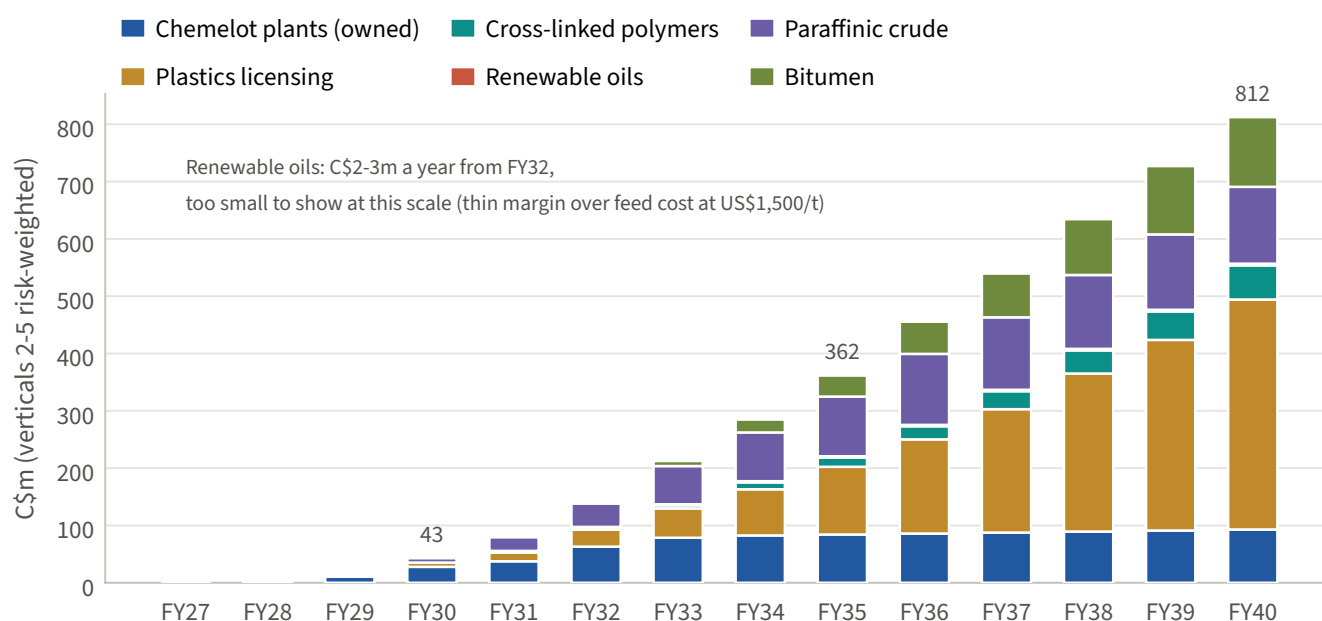
Assumption	Failure	Bear	Base	Bull	Blue sky
Bitumen: peak kbpd (PoS)	50 (10%)	50 (35%)	120 (50%)	300 (60%)	500 (70%)
Bitumen net value (US\$/bbl)	10.00	10.00	12.70	15.00	20.00
Equity raise price (US\$)	no raises	7	12	18	25

Source: Author's model. Prices and costs in 2026 US\$, inflated at 2% a year; licensing income is 25% of the licensee's cash operating profit (crude: 25% of the net value created per barrel). Verticals 2-5 are multiplied by the probability of success shown. Plant capex is US\$2.0m per kt of annual capacity (US\$50m per 25 kt) in every scenario; the FOAK is US\$20m, in line with CEO comments (no official budget yet).

9.5 Revenue forecast

Royalties overtake product sales from FY2031 in the base case. Base-case revenue is C\$43m in FY2030, when Chemelot reaches 25 kt and the first paraffinic royalties arrive. It reaches C\$362m in FY2035 and C\$812m in FY2040. Chemelot product sales level off at about C\$85-105m a year once the site reaches 50 kt. Plastics licensing grows to C\$118m in FY2035 and C\$401m in FY2040, and royalties from all verticals exceed Chemelot sales from FY2031. In the bull case, with US\$2,500/t prices, five Chemelot lines and faster licensing, revenue reaches C\$1,281m in FY2035 (Figure 40; the bull-case build is in Appendix A, Figure 62).

Figure 40: Revenue by stream, base case



Source: Author's model; verticals 2-5 multiplied by probability of success.

9.6 Profitability, cash flow and funding

Adjusted EBITDA turns positive in FY2030 and free cash flow in FY2032. In the base case adjusted EBITDA is -C\$14.0m in FY2027 and -C\$17.1m in FY2028. It turns positive at C\$11.9m in FY2030 and reaches C\$275m in FY2035. Free cash flow stays negative through FY2031 because of Chemelot capex: C\$44m in FY2028 and C\$24-41m a year in FY2029-FY2031. The model raises C\$55m of equity in FY2028 and C\$30m in FY2029, about 5.7m new shares at US\$12. Project debt of C\$60m funds Phase 2 and Line 3 (Figures 41, 42 and 43). Basic shares would rise to about 41.5m.

Other funding routes could reduce dilution. WTR expects later Chemelot lines to be financed up to 70% with green bonds. It notes that government-backed project finance for circular-economy projects is available in Canada and the EU. WTR also reports that management sees the EPC partner behind the licence package as a possible strategic investor, which would reduce the equity needed from the market. My model uses project debt for half of Chemelot capex after the FOAK and assumes no strategic investment.

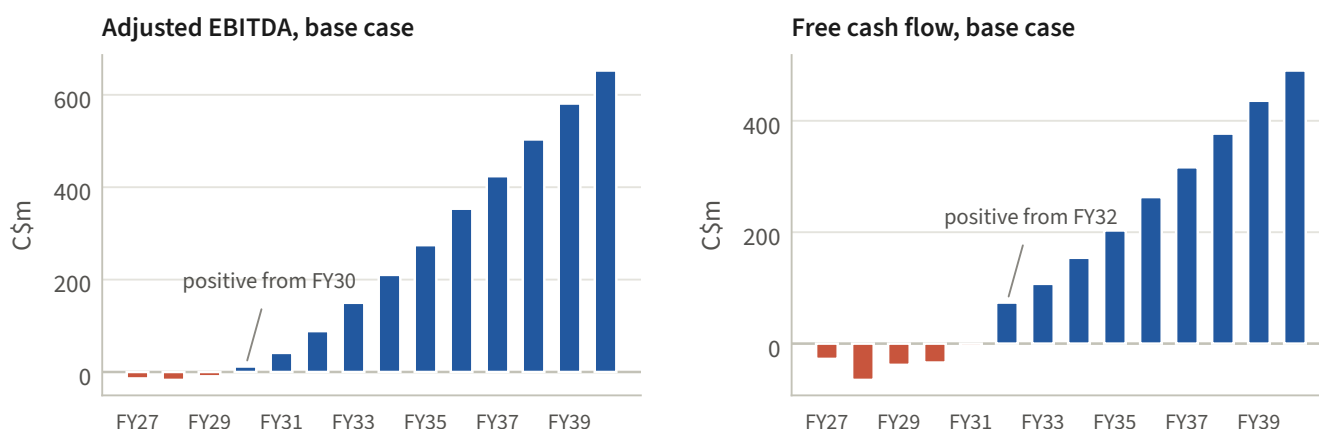
Figure 41: Base case: summary income statement, cash flow and funding (C\$m)

Fiscal year (May)	FY27E	FY28E	FY29E	FY30E	FY31E	FY32E	FY33E	FY35E	FY40E
Revenue: Chemelot product sales	-	2.6	10.6	27.8	37.5	63.0	78.6	84.3	93.0
Revenue: plastics licensing	-	-	3.7	7.5	15.3	29.6	51.2	118.1	401.3
Revenue: other verticals (risked)	-	-	-	7.9	26.9	45.7	82.7	159.2	318.2
Total revenue	0.1	2.7	14.3	43.2	79.7	138.4	212.5	361.6	812.5
Plant COGS (cash)	(2.1)	(4.9)	(6.6)	(10.6)	(12.7)	(18.6)	(21.9)	(23.3)	(25.7)

Fiscal year (May)	FY27E	FY28E	FY29E	FY30E	FY31E	FY32E	FY33E	FY35E	FY40E
Licensing support costs	-	(1.0)	(1.6)	(3.8)	(8.1)	(13.1)	(21.9)	(43.5)	(110.0)
G&A (cash)	(6.6)	(7.5)	(8.5)	(9.5)	(9.9)	(10.3)	(10.7)	(11.6)	(14.1)
R&D (cash)	(5.4)	(6.5)	(7.0)	(7.5)	(7.7)	(8.0)	(8.2)	(8.7)	(10.1)
Adjusted EBITDA	(14.0)	(17.1)	(9.4)	11.9	41.3	88.5	149.8	274.5	652.6
Share-based compensation	(3.0)	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)
Depreciation	-	(1.9)	(1.9)	(4.8)	(4.8)	(9.8)	(9.8)	(9.8)	(9.8)
EBIT	(17.0)	(23.0)	(15.3)	3.0	32.5	74.6	136.0	260.7	638.7
Tax	-	-	-	-	-	(4.2)	(32.6)	(62.6)	(153.3)
Net income (approx.)	(15.5)	(21.7)	(14.6)	3.0	30.8	67.8	103.0	206.2	546.3
Capex	(10.5)	(43.8)	(24.1)	(40.4)	(41.2)	(4.6)	(4.6)	(4.7)	(4.9)
Free cash flow	(27.4)	(65.2)	(38.1)	(34.0)	(4.7)	73.6	107.3	203.1	490.2
Equity raised (modelled)	-	55.0	30.0	-	-	-	-	-	-
Project debt drawn	-	10.8	11.0	18.7	19.1	-	-	-	-
Year-end cash	44.3	46.3	49.8	33.4	43.9	110.9	211.9	568.4	2,601.0
New shares issued (m)	-	3.7	2.0	-	-	-	-	-	-

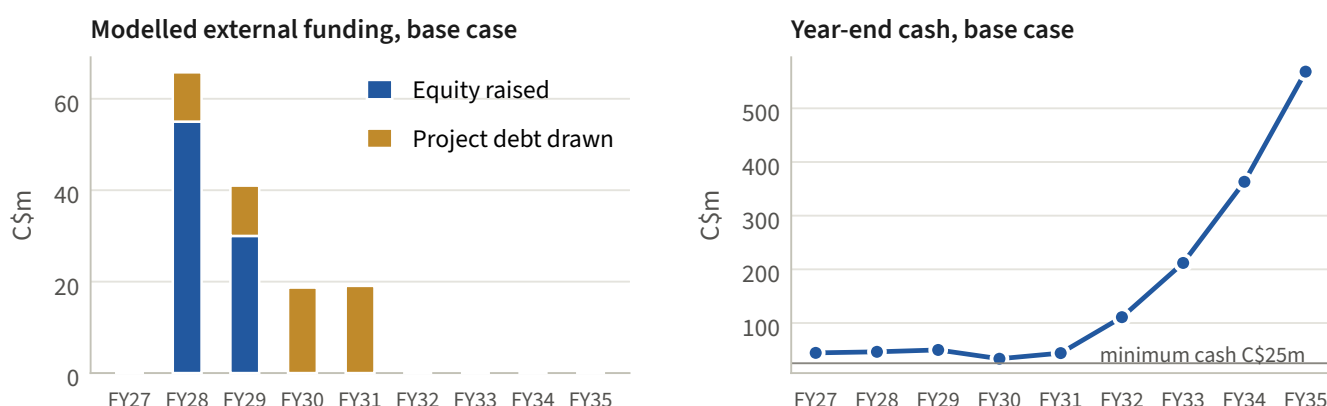
Source: Author's model. Verticals 2-5 risked by probability of success. Adjusted EBITDA excludes share-based compensation, as in the company's definition.

Figure 42: Adjusted EBITDA and free cash flow, base case



Source: Author's model.

Figure 43: Modelled external funding and cash, base case



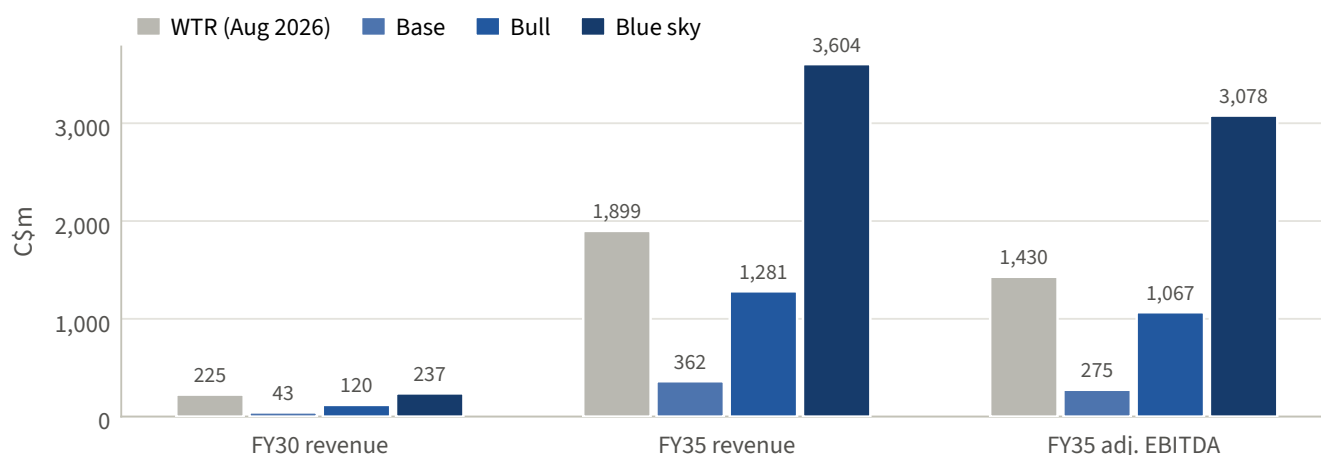
Source: Author's model.

9.7 Reconciliation with Water Tower Research

My base case is more conservative early; my bull case resembles WTR's long-term view. WTR's August 2026 initiation forecasts revenue of C\$225m in FY2030 and C\$1,899m in FY2035, with adjusted EBITDA of C\$1,430m in FY2035. My base case is far lower in FY2030, at C\$43m. The main reason is that WTR assumes faster deployment and about 300 kbpd of paraffinic crude processing at

about US\$5 per barrel by FY2035, more than the Uinta Basin produces today. I model 70 kbpd at US\$3.75 per barrel, risked at 80%. My bull case (C\$1,281m of revenue and C\$1,067m of adjusted EBITDA in FY2035) is close to WTR's FY2035 view, and my blue-sky case is well above it (Figure 44).

Figure 44: Forecast comparison with Water Tower Research



Source: WTR initiation (4 Aug 2026); author's model.

10 Valuation

10.1 Approach and the inputs that drive it

A scenario-weighted discounted cash flow, split by vertical. For each of five scenarios, I discount the consolidated free cash flow from FY2027 to FY2045 back to 16 October 2026 and add a terminal value, the value of all cash flows after FY2045. I then split enterprise value into the six segments and corporate costs. Verticals 2-5 are multiplied by their probability of success inside each scenario. Equity value adds the August 2026 cash and the cash from exercising options and warrants that are in the money, meaning their exercise price is below the scenario value. Equity value cannot fall below zero. I show value per fully diluted share before and after the share issues the model needs. The scenarios are weighted 10% failure, 10% bear, 30% base, 35% bull and 15% blue sky. I publish a range, not a rating or price target.

The inputs that matter most. The discount rate is 10%, and terminal growth after FY2045 is 3% a year. Output prices, in 2026 money, are US\$1,350/t (bear), US\$1,500/t (base), US\$2,500/t (bull) and US\$4,000/t (blue sky). Plant capex, my assumption for every plant, is US\$2.0m per kt of annual capacity. For the 10 kt FOAK that gives US\$20m, in line with CEO comments (there is no official budget yet), and US\$50m for each 25 kt line. Plant opex is about US\$400/t, or US\$525/t in the downside cases. The royalty is 25% of licensee operating profit. Base-case probabilities of success are 75% for cross-linked polymers, 50% for renewables, 80% for paraffinic crude and 50% for bitumen.

The discount rate and terminal growth are judgments. A 10% discount rate is close to, but below, a simple CAPM estimate for ADUR of about 11%. CAPM, the capital asset pricing model, adds a risk premium to a risk-free rate. Here that is 4.25%, plus a beta of 1.35 times a 5% equity risk premium, before any premium for small size or for a pre-revenue business. At 13% the weighted value falls to US\$130. Terminal growth of 3% in nominal terms is above my 2% inflation assumption, so it assumes real growth forever, while the plastics patents will expire between about 2041 and 2046. At 1% growth the weighted value is US\$205.

10.2 Scenarios

Five cases from failure to blue sky. In the failure case the FOAK is halted after about 45% of its spend. No equity is raised, corporate costs are cut from FY2029, and only the crude options survive, at 10-20% probability. The shares are worth roughly the remaining cash, US\$0.79. The bear case delays the FOAK to FY2029, stops Chemelot at 25 kt, prices output at US\$1,350/t with US\$525/t opex and reaches 100 kt of licences by FY2035: US\$11. The base case is described in Section 9: US\$59. The bull case prices output at US\$2,500/t, builds five Chemelot lines (100 kt) by FY2033 and licenses 825 kt by FY2035: US\$263. The blue-sky case prices output at US\$4,000/t, builds seven lines (150 kt) and licenses 1.55 Mt by FY2035: US\$830 (Figures 45 and 46).

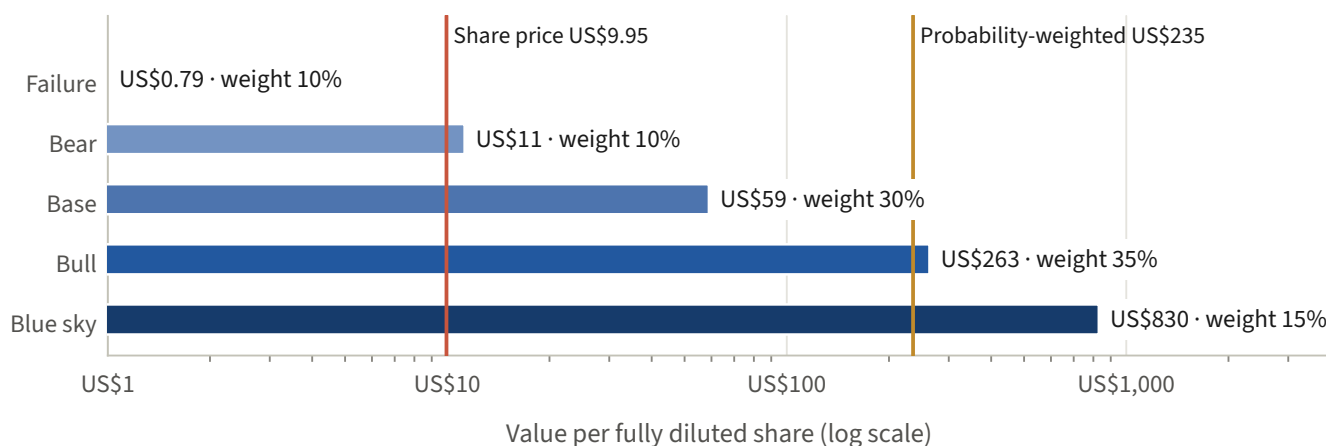
Figure 45: Scenario summary

Scenario	Weight	EV (C\$m)	Rev. FY30	Rev. FY35	Adj. EBITDA FY35	Equity raised	Value / share	After raises
Failure	10%	(26)	-	12	3	-	US\$0.79	US\$0.79
Bear	10%	530	10	96	47	135	US\$11	US\$10
Base	30%	3,233	43	362	275	85	US\$59	US\$53
Bull	35%	14,833	120	1,281	1,067	75	US\$263	US\$244
Blue sky	15%	47,024	237	3,604	3,078	40	US\$830	US\$805
Probability-weighted	100%						US\$235	US\$223

Source: Author's model; valuation date 16 Oct 2026; equity value floored at zero; options and warrants included when in the money at the scenario value.

The weighted value rests on the upside cases. The probability-weighted value is US\$235 per share, or US\$223 after the modelled share issues. The bull and blue-sky cases contribute US\$217 of it (US\$92 and US\$124), and the base case US\$18. Those two cases assume output prices that no contract supports today (Section 5.4). I would therefore read the weighted value as a measure of what the business could be worth if Chemelot works and the PPWR market tightens, not as an estimate of near-term value. The bear-to-base range, US\$11 to US\$59, is the range today's evidence supports more directly.

Figure 46: Value per share by scenario



Source: Author's model; share price as of 16 Oct 2026.

10.3 Sum of the parts

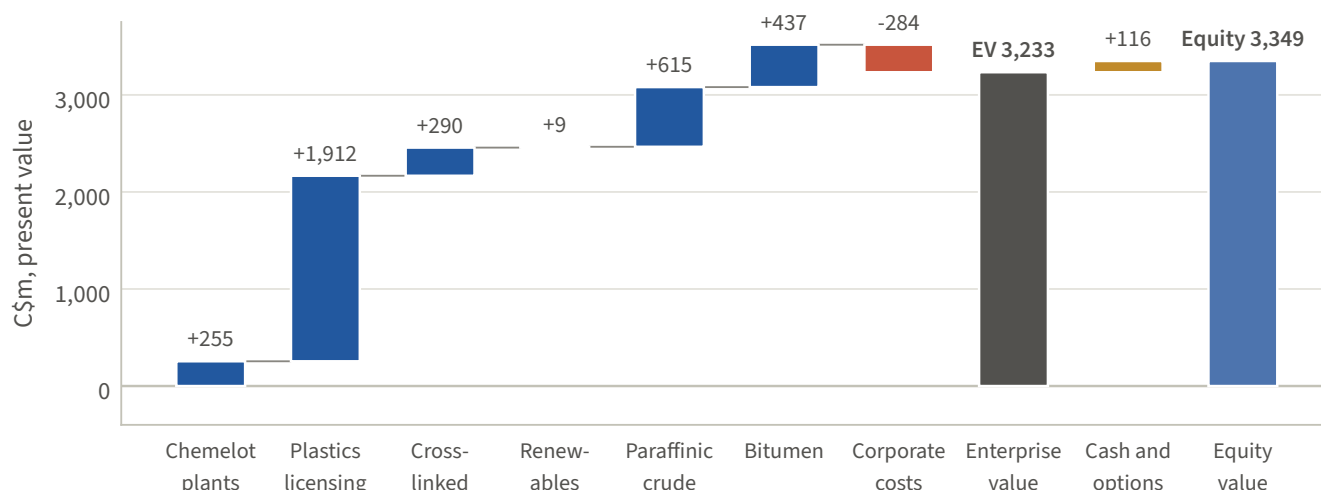
Plastics licensing is about 60% of base-case enterprise value. In the base case enterprise value is C\$3,233m. Plastics licensing contributes C\$1,912m, the owned Chemelot plants C\$255m, paraffinic crude C\$615m, bitumen C\$437m, cross-linked polymers C\$290m and renewables C\$9m. Corporate costs, including SBC, take away C\$284m. Adding cash and option proceeds gives equity of about C\$3.3bn (Figures 47 and 48). The terminal value is 55% of base-case enterprise value. The owned plants add C\$255m on their own; their main role is to make the licences possible.

Figure 47: Sum of the parts by scenario (C\$m, present value after tax)

Segment	Failure	Bear	Base	Bull	Blue sky
Chemelot owned plants	(33)	37	255	1,253	3,272
Plastics licensing	-	440	1,912	8,556	27,676
Cross-linked polymers	-	28	290	1,529	5,940
Renewable oils	-	-	9	508	2,784
Paraffinic crude	82	206	615	1,732	3,539
Bitumen	37	104	437	1,538	4,096
Corporate costs incl. SBC	(112)	(284)	(284)	(284)	(284)
Enterprise value	(26)	530	3,233	14,833	47,024
Value per share (US\$)	0.79	11	59	263	830
Terminal value share of EV	n/m	69%	55%	55%	56%

Source: Author's model; verticals 2-5 already multiplied by probability of success; per-share values use the scenario's diluted share count.

Figure 48: Base case: from segment values to equity value



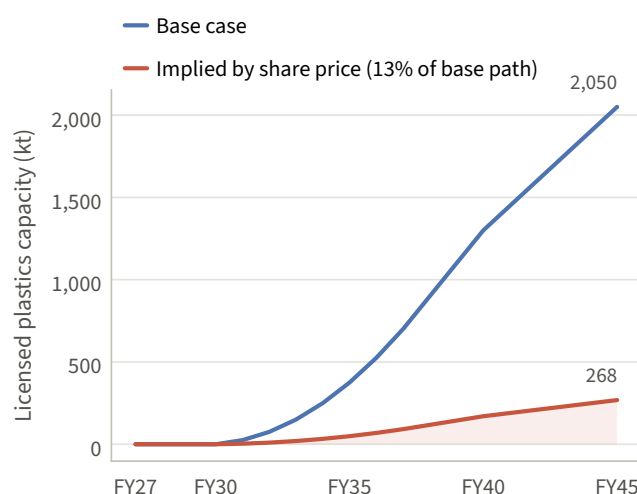
Source: Author's model.

10.4 What the share price implies

The market prices a fraction of the base case. The current enterprise value of about US\$309m (C\$436m) equals my base case with every licensing and crude volume scaled down to 13% of the base path. That means about 49 kt of licensed plastics capacity by FY2035 and 170 kt by FY2040, or roughly two to seven licensed modules (Figure 49). Without any licensing or crude income, the Chemelot plants alone are worth about C\$29m after corporate costs. A simpler reading is that the price equals about a 16% chance of the base case, with failure otherwise.

The market and my model disagree about one thing. The market is not pricing a different chemistry or a different regulatory outcome from mine. It is pricing a low chance that the FOAK starts on time, runs reliably and leads to licences. If Chemelot is commissioned in 2028 and runs at design rates, I would expect that gap to narrow quickly. If it slips again or underperforms, the failure and bear cases become the relevant ones.

Figure 49: What the share price implies



Source: Author's model; market EV as of 16 Oct 2026.

10.5 Sensitivities

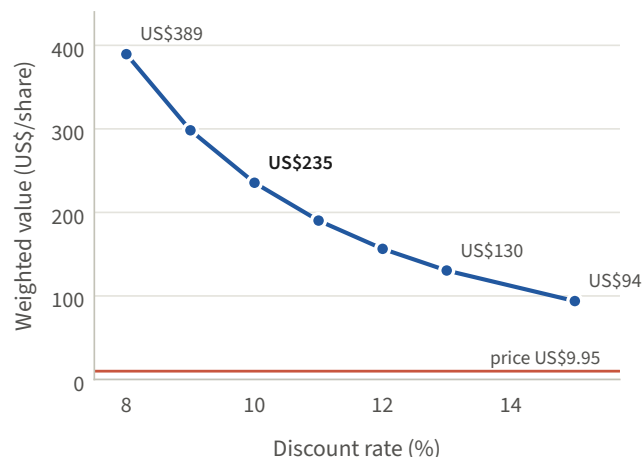
The discount rate and the scenario weights move the value most. Between 8% and 15%, the weighted value ranges from US\$389 to US\$94 at 3% terminal growth (Figures 50 and 51). Shifting the weights to 20% failure, 25% bear, 40% base, 10% bull and 5% blue sky gives US\$94. Shifting them further up, to 5/5/25/40/25, gives US\$328. In the base case alone, value per share falls to US\$37 at a US\$1,000/t output price and to US\$37 at a 15% royalty share, and rises with both (Figure 52).

Figure 50: Probability-weighted value per share by discount rate and terminal growth (US\$)

Discount rate	8%	9%	10%	11%	12%	13%	15%
Terminal growth 1%	313	251	205	170	142	120	89
Terminal growth 2%	345	271	218	179	149	125	91
Terminal growth 3%	389	298	235	190	156	130	94

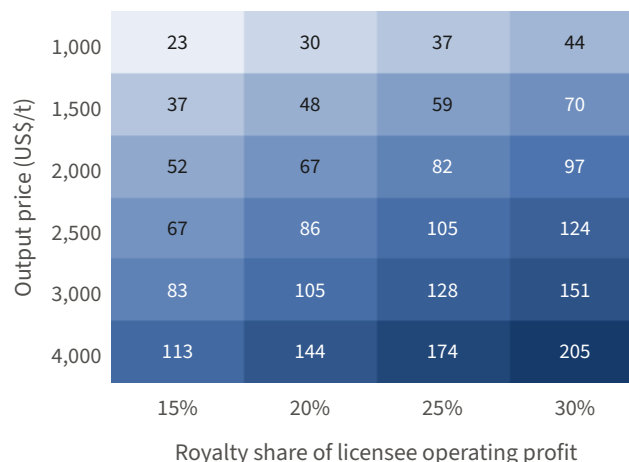
Source: Author's model; all other inputs as in the base set. Bold: the rate and growth used in this report.

Figure 51: Probability-weighted value by discount rate



Source: Author's model (terminal growth 3%).

Figure 52: Base-case value by output price and royalty share

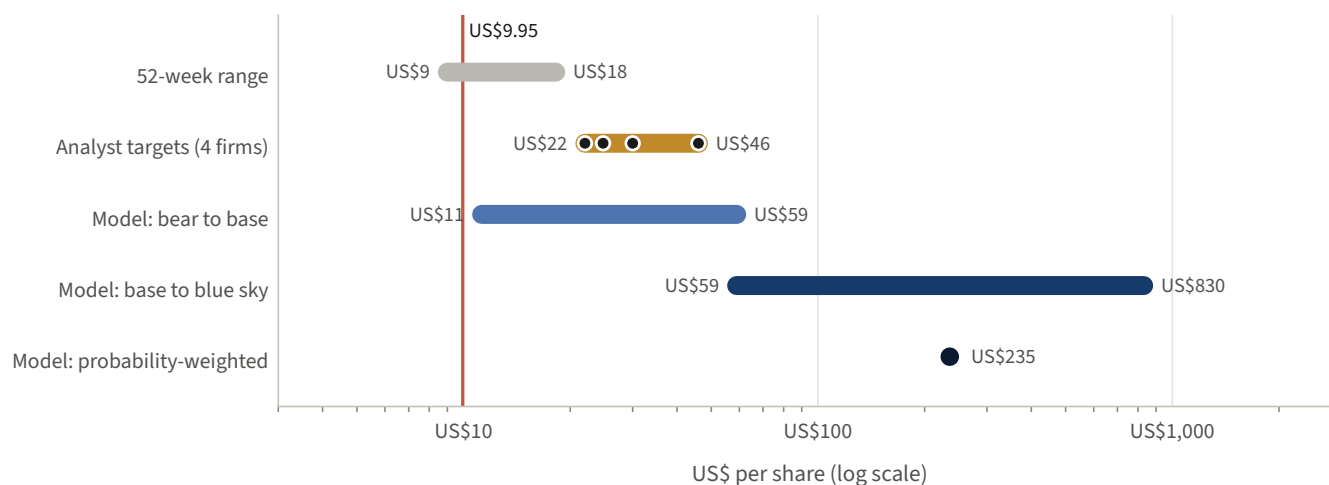


Source: Author's model.

10.6 Cross-checks

Sell-side targets sit inside my bear-to-base range. Four brokers rate the shares Buy. Their targets are US\$22 (H.C. Wainwright, September 2026), US\$24.75 (Ladenburg Thalmann, June 2026), US\$30 (Roth, July 2026) and US\$46 (D. Boral, April 2026). These targets sit between my bear and base values (Figure 53). Among listed peers, PureCycle trades at an enterprise value of about US\$931m, three times Aduro's. It has trailing revenue of US\$13.8m, negative free cash flow of US\$212m, one operating plant and US\$540m of debt. Water Tower Research publishes forecasts without a valuation.

Figure 53: Model range against market and analyst targets



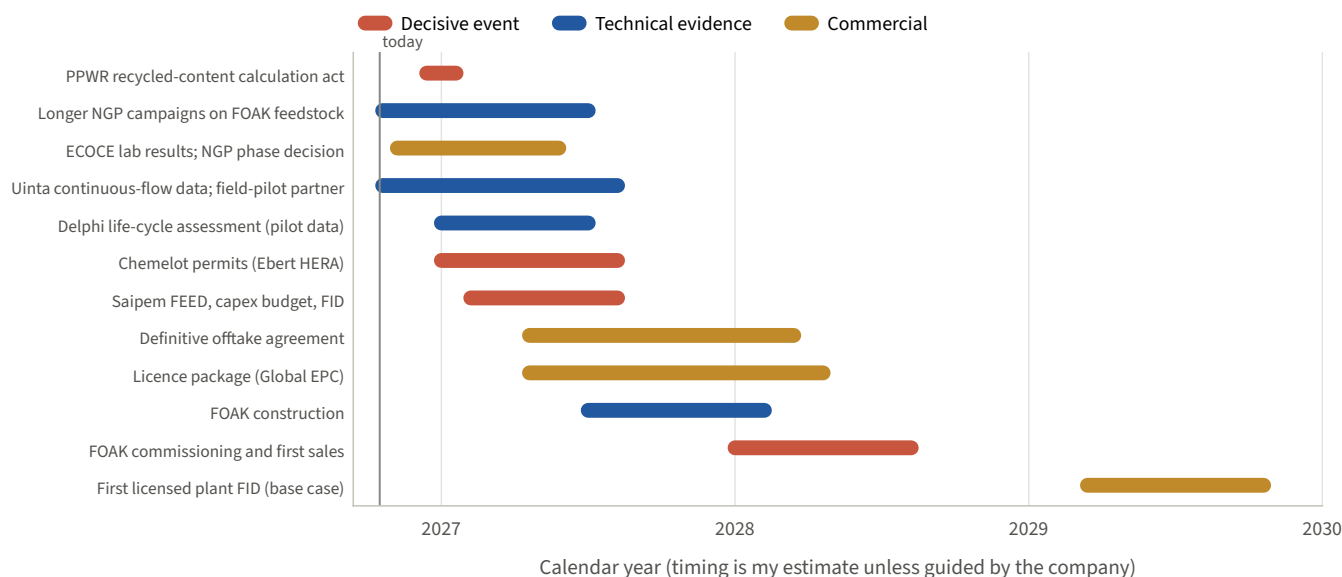
Source: Yahoo Finance; MarketBeat and Ladenburg Thalmann (analyst targets as of Oct 2026); author's model.

11 Catalysts and Milestones

Several decisive events fall in the next 18 months. The PPWR calculation act is due by the end of 2026. In 2027 the company has to deliver longer NGP campaigns on FOAK-type feed, permits, a Saipem capital estimate and a final investment decision. A binding offtake contract and the licence package would ideally follow in the same year. FOAK commissioning follows in 2028 if the schedule holds (Figure 54). Figure 55 sets out what I would read as a positive or negative result for each.

The delivery record is mixed. Management has delivered the technical milestones it set, often with better results than promised, but not always on the dates first given. The NGP was due in Q3 2025 and started campaigns in February 2026. The FOAK has moved from "Q1/Q2 2027" to "early 2028". A 2026 milestone presentation targeted "meaningful revenues in 2027" and a "cash-flow-positive run rate by early 2029"; neither target is repeated in the FY2026 or Q1 FY2027 filings. Slippage of this kind is normal for a first plant. I build a further year of delay into the bear case and price the shares on the assumption that it can happen again (Figure 56).

Figure 54: Catalyst calendar



Source: Company guidance; timing is the author's estimate unless stated by the company.

Figure 55: Signposts: what would count as good or bad news

Catalyst	Timing	Positive	Negative
PPWR calculation act	By 31 Dec 2026	Fuel-use-excluded mass balance accepted for chemically recycled content	Restrictions, heavy discounts or a long delay
TotalEnergies collaboration	Late 2026-2027	Moves to a commercial-stage engagement	Ends without a next step
Bitumen partner	Late 2026-2027	A named producer partnership for HBU, as the company indicated for 2026	No announcement
Longer NGP campaigns	Late 2026-2027	Multi-week runs on post-consumer FOAK feed with yields above 85%	Runs stay short or yields fall on real waste
ECOCE laboratory results	1H 2027	Move to an NGP testing phase	No progression
Uinta continuous-flow data	2027	A producer funds a 5-10 bbl/day field pilot	No partner after long runs
Delphi life-cycle assessment	2027	Clear CO ₂ advantage over pyrolysis and incineration	Unpublished or ambiguous
Chemelot permits	2027	Granted on schedule	Objections or delay
Saipem FEED, budget, FID	2027	Budget near US\$20m; FID in 2027	Budget above about US\$30m, or FID in 2028
Definitive offtake	2027-2028	Priced contract at a clear premium to fossil naphtha	LOI not converted
Global EPC licence package	2027-2028	Definitive agreement and first licence marketed	MOU lapses
Equity financing	2027-2028	At or above US\$15.20, without warrants	Deep discount or structured terms
Mexico plastics agreement	2027-2028	SEMARNAT sets binding recycled-content or recovery targets for plastic packaging	Targets stay voluntary
Second site	2027-2028	A named site and partner in Mexico or North America	No progress until the FOAK runs
FOAK commissioning	Early 2028	On time; design rates within months	Further slippage
Named CEP partners	Ongoing	Confidential participants named, or new majors join	Funnel stalls

Source: Author's assessment; timing is my estimate unless guided by the company.

Figure 56: Delivery record: what was said and what happened

Item	Earlier statement	What happened or current statement	Assessment
NGP pilot plant	Completion "on schedule" for Q3 2025 (Jan 2025)	Skids delivered Oct 2025, installed Dec 2025, campaigns from Feb 2026	Late, delivered
FOAK timing	"Q1/Q2 2027" (2025); commissioning in 2027 (Dec 2025 prospectus)	"Early calendar 2028" (Jun 2026 onward); "in the earliest of 2028" (Sep 2026)	Slipped about a year
FOAK size	About 8 kt/yr (Dec 2025)	10 kt/yr initial, site sized for expansion (Jan 2026)	Larger
Brownfield NL site	€2m LOI (Nov 2025)	Superseded by the Chemelot selection (Jan 2026)	Changed

Item	Earlier statement	What happened or current statement	Assessment
Revenue and cash flow	"Meaningful revenues in 2027"; cash-flow-positive run rate by early 2029	Not repeated in FY2026 or Q1 FY2027 filings	Dropped
Pilot yields	Over 80% liquid (Shell program)	86% liquid (Jun 2026); 88.8-90.8% condensable (Sep 2026)	Met or exceeded
Paraffinic crude	Bench tests (Apr 2026)	Continuous-flow unit completed (Jul 2026)	On track
Financing terms	Raise only at higher prices; avoid structured deals	Issue prices rose each round; June 2026 deal without warrants	Delivered so far

Source: Company filings and releases (AIF, prospectuses, MD&A), CEO interviews (WTR Virtual Insights, 22 Sep 2026) and company milestone materials.

12 Management, Board and Governance

A founder-led company that has added industrial operators. The two founders still run the strategy and the science. Since 2025 the company has added executives with plant and project experience. The most visible are a chief operating officer (COO) with 25 years at NOVA Chemicals and a project director for the FOAK (Figure 57).

Alignment is high, with two caveats. Directors and officers own about 32% of the shares. The CEO's estate transfer in September 2026 was not a sale, and the family keeps the economic interest. The 500,000-share pledge, however, means a margin call could force a sale if the price fell far enough. The financial statements also show C\$77,610 due from the CEO for cash advances in 2022-23, unsecured and interest-free. It is small, but such advances are unusual for a listed company, and I would prefer it repaid. Key management compensation was C\$4.07m in FY2026, of which C\$2.31m was share-based.

Promotion and capital-raising discipline. Investor relations and communication costs rose from C\$0.76m in FY2024 to C\$1.36m in FY2026. The stock has a large retail following and heavy social-media coverage. I see that as a governance observation, not a problem in itself. Spending is modest relative to the cost base, and the company's capital raising has improved, with rising issue prices and no warrants in the June 2026 offerings. The board is small (five members, three independent), and all audit committee members are independent.

Figure 57: Executives and board

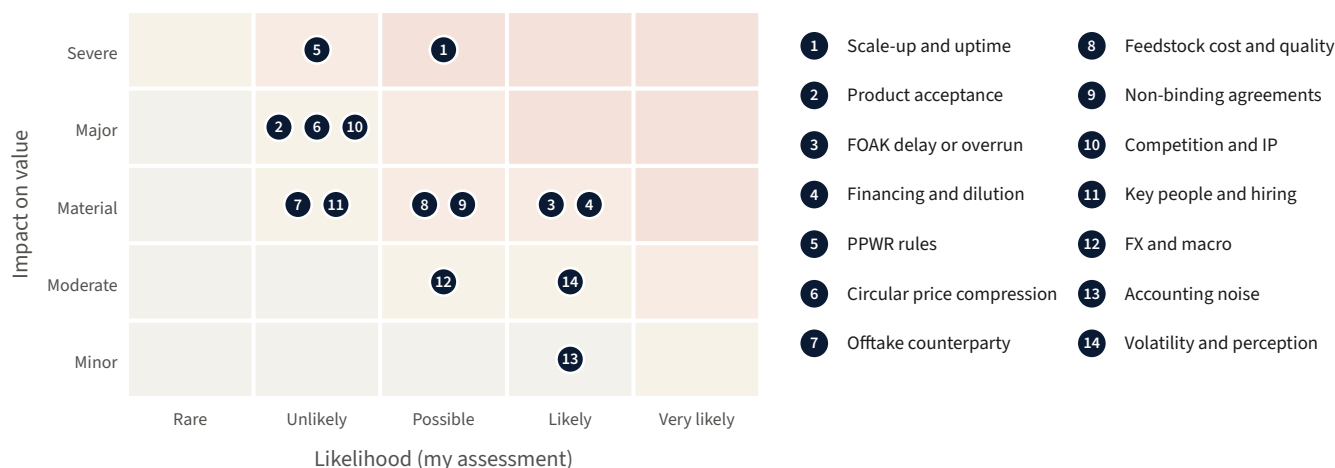
Name	Role	Background and notes
Ofer Vicus	CEO and Executive Chair	Co-founder (2011); 20+ years developing and marketing process technologies; 24.9% including options after a 1.0m-share estate transfer (Sep 2026); 500k shares pledged
W. Marcus Trygstad	Principal Scientist; director	Co-founder; over 25 years in process monitoring and control for refining and petrochemicals (ABB, Invensys); lead inventor on the plastics patent family; 3.5% of shares
Mena Beshay	Chief Financial Officer	CFO since May 2022; over 20 years in finance; former CFO of CloudMD, earlier at Enercare, Domtar and Deloitte; CPA
David Weizenbach	Chief Operating Officer	Joined July 2025 after 25 years at NOVA Chemicals
Eric Appelman	Chief Revenue Officer (Netherlands)	Career at Unilever, Sigma Coatings and Perstorp (EVP); six years at Brightlands Chemelot Campus, including as CTO, before joining Aduro; Chemical Recycling Europe board, 2026-28
Anil Jhavar	Chief Scientist	Co-inventor on the 2021, 2025 and 2026 applications
Dr. Arturo Gomez	VP Engineering	Joined January 2025
Neha Nisar	VP Finance	Joined February 2025
Jan Lemmens	FOAK Project Director	Joined June 2026
Peter Kampian	Independent director; Audit Chair	Chartered accountant; former CFO of Algonquin Income Fund (1999-2007), Mettrum Health and DionyMed; the AIF discloses a receivership (DionyMed, 2019) and a CCAA filing (James E Wagner, 2020) at companies where Kampian served
James E. Scott	Independent director	Managing Partner of The Scott Company, a Denver merchant bank, and Littlehorn Investments; began at Salomon Brothers; the AIF discloses a cease-trade order and bankruptcy (StateHouse, 2024) at a company where Scott served
Marie Grönborg	Independent director	Chemical engineer; almost 30 years in chemicals and clean tech; former CEO of TreeToTextile and Purac and EVP at Perstorp; director of SSAB and Eolus; audit committee member

Source: FY2026 Annual Information Form (31 Aug 2026), F-1 registration statement (Jul 2024), company releases, Schedule 13D/A filings (Sep 2026).

13 Risks

Execution risk dominates. The largest risks are the ones only the FOAK can resolve: whether HCT runs continuously at commercial scale, on real waste, at the yields and costs in my model. Behind them come financing, hiring enough experienced people for five verticals, the design of the PPWR calculation act and the price buyers will pay for circular feedstock. Figure 58 places the 14 risks I track by likelihood and impact. Figure 59 lists the mitigants and the measure I will watch for each.

Figure 58: Risk map: likelihood and impact of the 14 risks in the register



Source: Author's assessment.

How the risks show up in the valuation. My failure and bear cases, which together carry 20% of the weight, cover the outcomes in which scale-up, product acceptance or regulation go wrong. Financing risk shows up as dilution in every scenario that builds plants. Two risks I do not model directly. One is a total loss of the IP position. The other is a long shutdown of the market for small-cap equity, which could force a share issue far below the US\$7-12 I assume in the bear and base cases.

Figure 59: Risk register: mitigants and what I monitor

#	Risk	What could go wrong	Mitigant	What I monitor
1	Scale-up and uptime	Longest disclosed run is 75 hours against about 8,000 hours a year; fouling or solids handling limits uptime	Commercial equipment with known scaling and maker guarantees; staged scale-up; Saipem design review	Length of NGP campaigns; FOAK availability
2	Product acceptance	Crackers limit blending or need extra treatment; cut points miss specification	Saturated product; one positive cracker trial	Published product analyses; offtake terms
3	FOAK delay or overrun	Schedule has moved before; budget not yet official; permitting, which management sees as the main risk to the schedule	Experienced EPC partner; Ebert HERA on permits; site with utilities and permits framework	FEED results, budget, FID date
4	Financing and dilution	Phase 2 and pilots in the other verticals need equity before cash flow	C\$65.8m cash; no debt; rising issue prices	Raise prices and terms; cash runway
5	PPWR rules	Calculation act excludes or discounts chemically recycled content, or is delayed	SUPD precedent uses fuel-use-excluded mass balance; industry widely expects it to carry over	Draft act and comitology votes
6	Circular price compression	Oversupply of virgin resin or weak brand demand cuts premiums	Low cost per tonne leaves margin at lower prices	Contract prices; Verpact and other fee schemes
7	Offtake counterparty	European cracker closures; ownership change at Geleen	Trader-based offtake; product suits several crackers	Definitive offtake; Aequita transaction
8	Feedstock cost and quality	Sorted waste costs more than assumed; contaminants raise preparation cost	Tolerance to mixed waste; Ortesa logistics	Feed contracts and gate fees
9	Non-binding agreements	MOUs and LOIs lapse without contracts	Broad pipeline across sectors	Conversions to definitive agreements
10	Competition and IP	Plastics patents still pending in the US; rival catalytic routes	Know-how; new filings in 2025-26	US grants; competitor launches
11	Key people and hiring	33 staff today; five verticals need many more engineers, operators and project staff, and hiring could fall short or key people leave	Senior hires from industry (COO, FOAK Project Director); 10 net additions in the year to August 2026	Headcount growth; senior hires and departures

#	Risk	What could go wrong	Mitigant	What I monitor
12	FX and macro	C\$ reporting, US\$ financing, € project spend; no hedging	Future revenue in € and US\$ would match project costs	EUR/CAD and USD/CAD
13	Accounting noise	Warrant revaluation swings net income	Non-cash; disclosed separately	Adjusted EBITDA, cash flow
14	Volatility and perception	Retail-heavy register; 9% short interest; promotional associations	TSX listing broadens the investor base	Short interest; institutional ownership

Source: Author's assessment; numbers match the risk map.

A Appendix: Financial Model Detail

The model behind Sections 8-10. All figures come from my internal model, version 3 (19 October 2026), which is not distributed. Fiscal years end on 31 May. FY2027 runs from June 2026 to May 2027 and is valued only from September 2026 onward. Currency conversion uses USD/CAD 1.41 and EUR/USD 1.12. Capacity and volume lines for verticals 2-5 are shown before risking; revenue lines are multiplied by the probability of success.

Figure 60: Base case: annual operating and financial detail (C\$m unless stated)

Fiscal year (May)	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY40	FY45
Chemelot capacity (kt)	-	10	10	25	25	50	50	50	50	50	50
Chemelot throughput (kt)	-	1.5	6.0	15.5	20.5	33.8	41.2	42.5	42.5	42.5	42.5
Licensed plastics capacity (kt)	-	-	-	-	25	75	150	250	375	1,300	2,050
Licensed cross-linked capacity (kt, unrisksd)	-	-	-	-	-	-	25	50	75	325	575
Licensed renewables capacity (kt, unrisksd)	-	-	-	-	-	-	-	25	50	175	300
Paraffinic kbpd (unrisksd)	-	-	-	5	15	25	40	50	60	70	70
Bitumen kbpd (unrisksd)	-	-	-	-	-	-	10	25	40	120	120
Revenue: Chemelot product sales	-	2.6	10.6	27.8	37.5	63.0	78.6	82.6	84.3	93.0	102.7
Revenue: plastics licensing	-	-	3.7	7.5	15.3	29.6	51.2	80.6	118.1	401.3	677.7
Revenue: cross-linked licensing (riskd)	-	-	-	-	2.9	2.9	5.2	12.0	16.2	59.4	106.2
Revenue: renewables licensing (riskd)	-	-	-	-	-	1.9	2.0	2.1	2.2	3.1	1.5
Revenue: paraffinic royalty (riskd)	-	-	-	7.9	24.0	40.9	66.7	85.0	104.1	134.1	148.0
Revenue: bitumen royalty (riskd)	-	-	-	-	-	-	8.8	22.5	36.7	121.6	134.3
Revenue: CEP services	0.1	0.1	0.1	-	-	-	-	-	-	-	-
Total revenue	0.1	2.7	14.3	43.2	79.7	138.4	212.5	284.8	361.6	812.5	1,170.4
Adjusted EBITDA (ex-SBC)	(14.0)	(17.1)	(9.4)	11.9	41.3	88.5	149.8	210.2	274.5	652.6	950.7
EBIT	(17.0)	(23.0)	(15.3)	3.0	32.5	74.6	136.0	196.3	260.7	638.7	941.7
Net income (approx.)	(15.5)	(21.7)	(14.6)	3.0	30.8	67.8	103.0	152.3	206.2	546.3	879.4
Capex	(10.5)	(43.8)	(24.1)	(40.4)	(41.2)	(4.6)	(4.6)	(4.7)	(4.7)	(4.9)	(5.1)
Free cash flow (pre-interest)	(27.4)	(65.2)	(38.1)	(34.0)	(4.7)	73.6	107.3	154.1	203.1	490.2	715.5
Equity raised (modelled)	-	55.0	30.0	-	-	-	-	-	-	-	-
Project debt drawn	-	10.8	11.0	18.7	19.1	-	-	-	-	-	-
Debt outstanding	-	10.8	21.8	39.4	56.3	52.3	46.3	40.3	34.4	5.7	-
Year-end cash	44.3	46.3	49.8	33.4	43.9	110.9	211.9	363.1	568.4	2,601.0	6,336.0

Source: Author's model.

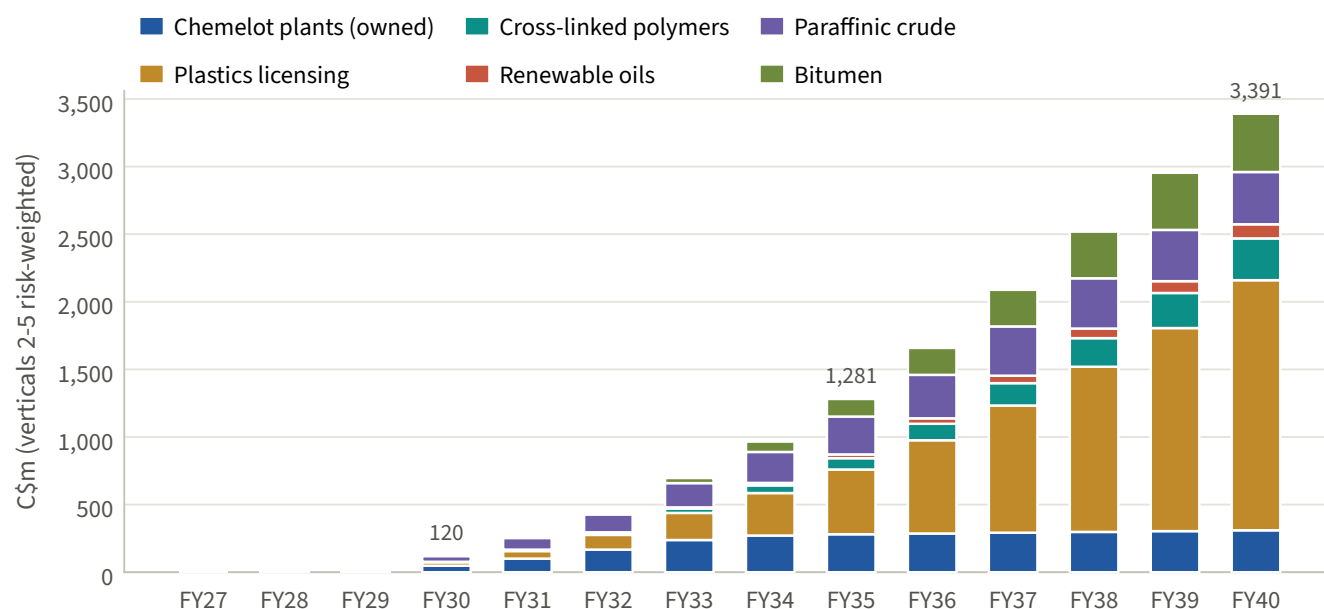
Figure 61: Revenue and adjusted EBITDA by scenario (C\$m)

Scenario	FY28E	FY30E	FY32E	FY35E	FY40E
Failure revenue	0.1	-	2	12	23
Failure adj. EBITDA	(14)	(7)	(6)	3	12
Bear revenue	0.1	10	34	96	213
Bear adj. EBITDA	(16)	(16)	(1)	47	141
Base revenue	3	43	138	362	812
Base adj. EBITDA	(17)	12	88	275	653
Bull revenue	10	120	440	1,281	3,391

Scenario	FY28E	FY30E	FY32E	FY35E	FY40E
Bull adj. EBITDA	(10)	79	352	1,067	2,856
Blue sky revenue	20	237	984	3,604	10,446
Blue sky adj. EBITDA	(2)	184	830	3,078	8,898

Source: Author's model.

Figure 62: Revenue by stream, bull case



Source: Author's model; verticals 2-5 multiplied by probability of success.

B Appendix: Patent Portfolio

Figure 63: Patents and applications

Number	Subject	Status	Filed	Expiry
Granted (7)				
US 9,783,742	Hydrothermal upgrading of heavy crude and bitumen	Granted Oct 2017	Oct 2013	Dec 2035
US 9,644,455	Same subject (continuation-in-part)	Granted May 2017	Mar 2014	Nov 2034
US 10,323,492	Same subject (continuation)	Granted Jun 2019	May 2017	2034
US 8,372,347	Extracting and upgrading heavy oils (Yeda origin)	Granted 2013	Apr 2011	Expired Nov 2025
US 7,947,165	Same subject (Yeda origin)	Granted 2011	Sep 2005	2028
US 10,900,327	Hydrothermal upgrading of fatty-acid feedstock	Granted Jan 2021	Nov 2017	2034
US 11,414,606	Hydrothermal renewable diesel and saturated fatty acids	Granted Aug 2022	Nov 2019	2039
Pending (4 families)				
US 17/494,360 (US 2022/0112351); CIP 19/427,300	Chemolytic upgrading of low-value macromolecule feedstocks: the core plastics and rubber family	Pending in US; granted in South Africa; pending in 12 other jurisdictions	Oct 2021; Dec 2025	-
US 19/298,660 (US 2025/0368900)	Waste polyolefins, renewable oils and paraffinic crude to aromatics	Pending; PCT filed	Aug 2025	-
US 19/459,759 (US 2026/0217627)	Chemocatalytic conversion of polyaddition polymers: mineral catalysts, no added donor, two-stage conversion	Pending; PCT filed; published Jul 2026	Jan 2026	-
US 19/655,294	Upgrading highly paraffinic crude (continuation-in-part)	Pending	Apr 2026	-

Source: FY2026 Annual Information Form (as of 31 Aug 2026); USPTO publications US 2022/0112351 A1, US 2025/0368900 A1 and US 2026/0217627 A1.

C Appendix: Milestone Log, 2011-2026

Figure 64: Material announcements and filings

Date	Event
Dec 2011	Aduro Energy Inc. incorporated in London, Ontario
2017	First US patents granted (bitumen and heavy-crude upgrading)
Feb 2019	Listing on the Canadian Securities Exchange as Dimension Five Technologies
Oct 2020	Provisional patent applications for the plastics process
Apr-Oct 2021	Renamed Aduro Clean Technologies; Frankfurt listing; plastics application US 17/494,360 filed in October
Jan 2022	Independent validation of heavy-oil upgrading (API 14.6° to 19.5°)
2022-2023	Western University research program (C\$1.53m); Shell GameChanger selection (Nov 2022); Prospera Energy bitumen collaboration
2023-2024	Customer Engagement Program launched; paid evaluations with a petrochemical company and a food-packaging multinational; TotalEnergies collaboration (Jul 2024)
Nov 2024	Nasdaq listing with a US\$4.25 IPO; GF Building Flow Solutions (PEX) evaluation
2025	NexGen Polymers MOU (Mar); Cleanfarms MOU and Delphi LCA contract (May); US\$9.2m offering at US\$8.44 (Jun); COO appointed (Jul); aromatics application filed (Aug)
Oct-Dec 2025	NGP skids delivered; pilot steam-cracking trial (reported 20 Nov); Shell GameChanger graduation (16 Dec); US\$23.0m offering at US\$11.50; ECOCE framework agreement
Jan-Feb 2026	Chemelot selected for the FOAK; mineral-catalyst application filed (26 Jan); NGP campaigns begin
Mar-Apr 2026	Offtake LOI with a commodity trader (12 Mar); licence-package MOU with a global EPC (19 Mar); Ebert HERA permitting contract (9 Apr); Uinta bench results (23 Apr); aromatics paper published (29 Apr)
May-Jun 2026	TSX listing (27 May); NGP 86% liquid yield (9 Jun); US\$15.6m offering at US\$15.20 and C\$9.2m LIFE placement; FOAK project director appointed; Ortessa and AstroTurf MOUs
Jul-Aug 2026	ECOCE Phase 1 complete (16 Jul); London facility expanded; Uinta continuous-flow unit (30 Jul); mineral-catalyst application published (30 Jul); Saipem Early Works award (19 Aug)
Sep 2026	FY2026 results (1 Sep); PepsiCo Sustainability Innovation Hub (presented 23 Sep); 75-hour campaign at 88.8-90.8% (23 Sep); CEO estate transfer and share pledge (25 and 28 Sep); CRE board seat (29 Sep)
Oct 2026	Q1 FY2027 results (16 Oct)

Source: Company filings and releases; USPTO.

D Appendix: Glossary

AIF. Annual Information Form, the yearly disclosure document Canadian issuers file.

API gravity. Measure of how heavy a crude oil is; higher means lighter and more valuable.

Aqueous reforming. Reaction of an organic compound with water that releases hydrogen (or hydrogen equivalents) and CO₂.

Bromine number. Grams of bromine taken up by 100 g of oil; a measure of olefin content (unsaturation).

BTEX. Benzene, toluene, ethylbenzene and xylenes, the main light aromatic chemicals.

CAPM. Capital asset pricing model: the cost of equity as a risk-free rate plus beta times an equity risk premium.

Capex, opex. Capital spending; operating cost.

CCAA. Companies' Creditors Arrangement Act, the Canadian law for restructuring insolvent companies.

CEP. Customer Engagement Program: Aduro's paid evaluation program for partners.

CIAC. Chemistry Industry Association of Canada.

Condensable yield. Liquid hydrocarbons plus condensable waxes recovered, as a share of feed; excludes non-condensed gases.

DCF. Discounted cash flow: future cash flows converted to today's value at a discount rate. A reverse DCF works back from the share price to the business it implies.

Dilbit. Bitumen blended with diluent (usually condensate) so it can flow through pipelines.

EBITDA. Earnings before interest, tax, depreciation and amortisation. Adjusted EBITDA also excludes share-based compensation.

Enterprise value. Market value of the shares plus debt, less cash.

EPC. Engineering, procurement and construction; also the global EPC firm preparing Aduro's licence package.

EPR. Extended producer responsibility: fees paid by packaging producers to fund collection and recycling.

ERE. Dutch renewable-energy tickets used to meet transport-fuel obligations.

FEED, FID. Front-end engineering design; final investment decision.

FOAK. First-of-a-kind commercial plant; for Aduro, 10 kt/yr at Chemelot.

Fuel-use excluded. Mass-balance method in which output used as fuel, and process losses, earn no recycled-content credit.

HCT, HPU, HBU, HRU. Hydrochemolytic Technology and its plastics, bitumen and renewables applications.

IRR. Internal rate of return: the yearly return a project earns on its capital.

ISCC PLUS. Certification scheme that tracks recycled or bio-based content through mass balance.

JRC. The European Commission's Joint Research Centre; its July 2026 study (JRC147061) is the main source on chemical recycling costs.

kt, Mt, kbpd. Thousand tonnes; million tonnes; thousand barrels per day.

LCA. Life-cycle assessment of environmental impact.

LOI, MOU. Letter of intent; memorandum of understanding. Both are non-binding.

Mass balance. Accounting method that assigns recycled input to particular outputs of a plant that also runs on fossil feed.

MD&A. Management discussion and analysis, filed with each set of financial statements.

Naphtha. Light hydrocarbon liquid (about C5-C12) used as steam-cracker feed.

NGP. Next Generation Process pilot plant in London, Ontario (about 10 kg/h).

NPV. Net present value: the value today of future cash flows, after the cost of capital.

OECD. Organisation for Economic Co-operation and Development, a group of 38 mostly high-income countries.

PCT. Patent Cooperation Treaty: one international filing that keeps patent rights open in many countries.

PE, PP, PS, PET. Polyethylene, polypropylene, polystyrene, polyethylene terephthalate.

PEX. Cross-linked polyethylene, used in pipes; does not melt.

PoS. Probability of success applied to a vertical in my model.

PPWR. EU Packaging and Packaging Waste Regulation (EU) 2025/40.

R2. Aduro's continuous bench-scale reactor (2-3 kg/h).

SBC. Share-based compensation.

Steam cracker. Plant that converts naphtha or gas into ethylene and propylene, the building blocks of PE and PP.

SUPD. EU Single-Use Plastics Directive; Decision (EU) 2026/1425 sets its mass-balance rules.

TDU. Aduro's continuous-flow test unit for paraffinic crude.

Terminal value. Value of all cash flows after the last forecast year (FY2045).

WCS. Western Canadian Select, the benchmark heavy Canadian crude.

WTI. West Texas Intermediate, the US benchmark crude.

WTR. Water Tower Research, which started coverage of Aduro in August 2026.

E Appendix: Sources

Company. Aduro Clean Technologies: Annual Information Form FY2026; audited financial statements and MD&A FY2025, FY2026; interim financial statements and MD&A Q1 FY2025-Q1 FY2027 (6-K); F-1 registration statement (Jul 2024); F-10 and prospectus supplements (Dec 2025, Jun 2026); 40-F filings; press releases 2022-2026; investor presentations.

Patents. US 2022/0112351 A1; US 2025/0368900 A1; US 2026/0217627 A1; granted patents listed in Appendix B.

Ownership. Schedule 13D and 13D/A filings (Nov 2024; 25 and 28 Sep 2026); MarketBeat and StockAnalysis (short interest, institutional holdings, analyst ratings).

Research. Water Tower Research, initiation on Aduro Clean Technologies (4 Aug 2026) and Virtual Insights interview with the CEO (22 Sep 2026); Dixit et al., *Sustainable Energy & Fuels* 2026, 10, 2756-2780.

EU and national policy. Regulation (EU) 2025/40 (PPWR); Commission Decision (EU) 2026/1425; Regulation (EU) 2024/1157 (waste shipments); EU ETS Directive Article 30; Verpact, Tariefdifferentiatie Plastic 2027: Circulaire Plastics (Sep 2026); Cefic submission on the PPWR calculation act (17 Sep 2026).

Industry economics. European Commission Joint Research Centre, JRC147061, economic viability of chemical recycling (Jul 2026); Plastics Europe, Plastics: the Fast Facts 2025; ICIS; CEFLEX; Roland Berger.

Prices. S&P Global Platts; Trading Economics; Cbonds; Expert Market Research; ICIS; Procurement Resource; Yahoo Finance (share prices and FX).

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F About the Author and Disclosures



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