

Turkey– Integrated Waste Management and Power Generation

Biotrend Energy

Creating Value from Waste

Turkey's leading integrated waste management and waste-to-energy company. Biotrend is Turkey's third largest waste-to-energy company in terms of solid waste processing volume and the largest in terms of installed energy production capacity. At the end of June 2022, the company carries out waste management and energy production activities in 18 facilities (15 biogas, 2 biomass and 1 waste-derived fuel facility) throughout Turkey, including those whose investments continue. The total licensed and pre-licensed power plant power of the company is 181.3 MWe. 137.7 MWe of this is in biogas facilities and 43.6 MWe is in biomass facilities. At the end of July 2022, the total installed capacity of the company is 96.4 MWe (53% of total licensed and unlicensed capacity). Facilities other than the biomass burning facilities (Çanakkale and Aydın) owned by the company are operated with the long-term Build-Operate-Transfer (BOT) model made with municipalities. The average remaining concession period of these facilities is 18 years. On the other hand, the average remaining price guaranteed purchase period of the company's electricity production, which is subject to the Renewable Energy Support Mechanism (RESM), weighted according to the installed capacity is 7.4 years.

With the completion of vertical integration investments, the weight of electricity sales in total revenues will gradually decrease. Almost all of the total consolidated sales in 2021 consisted of sales from electricity generation. It is predicted that as a result of vertical integration investments to be made by the company in 2022 and beyond, revenues from other business lines (Waste Separation, Carbon Credit Certificate, Refuse Derived Fuel, Chemical Recycling) will reach 30% of total consolidated sales by the end of 2025 and 50% by the end of 2030. On the other hand, we think that the most important investment to be made by the company in the upcoming period will be the 60 mn USD Chemical Recycling investment. In addition to these, we foresee that the company will invest 18 mn USD in order to increase its Waste Processing capacity and 7 mn USD in Refuse Derived Fuel (RDF) production in the 22E–25E period.

The recently announced Chemical Recycling investment is a game changer. The most important pillar of the company's vertical integration target is the facility to be established with Honeywell UpCycle Process technology. The Green Circular Economy is one of the most important economic issues of the next 10 years in the world and in Turkey. The decomposed nylon wastes currently produced by Biotrend will be converted into Recycled Polymer Feedstock (RPF) (a product similar to naphta) with a chemical technology called pyrolysis, and will be sold to customers producing global plastic raw materials, primarily Petkim. It is seen that PtL (Plastic-To-Liquid) investments made with similar technology in the world cost ~2 mn USD/ton/year. We estimate that the investment cost of the facility, which Biotrend has announced will have an annual product capacity of 30 thousand tons, will be ~60 mn USD. We assume that this investment will be financed with an equity/debt ratio of 25%/75%. We expect the newly established facility to become operational by the end of 2023, generating ~30 mn USD annual net sales and ~20 mn USD EBITDA in the 24E–31E period. Our estimated fair value EV for this line of business (\$105 mn) constitutes 19% of the total target EV of the company.

Carbon Credit Certificate (CCS) sales will be a very important source of income. Currently, Biotrend has 5 mn tons of salable Carbon Credit Certificate (KKS) reserves. This figure constitutes approximately 12% of the total CCS reserves registered in Turkey. Verification of accumulated salable Carbon Credit Certificates is done by ICR, GCC and VERRA. We expect the company to sell 1.1 mn tons of CCS this year at an average price of \$5/ton Co2eq. We estimate that 700 thousand tons of the available salable stock will come from the facilities subject to consolidation, and 400 thousand tons will come from the Balıkesir facility. Half of the income we expect to come from the Balıkesir facility will be written to Biotrend using the equity method. One of the most important variables used in the valuation model is the prices we expect to occur in the Voluntary Carbon Market in Turkey. Until the Carbon Customs Tax regulation that will come into effect in the EU in 2026, we foresee that the sales prices of CCS in Turkey will gradually increase to the level of 25 USD/ton, and then it will hover around 30–35 USD/ton. According to company management, we see that Biotrend facilities have an annual production capacity of approximately 2 mn tons of CO2eq. Accordingly, we calculate the NPV of the CCS revenues at 278 million USD, taking into account the concession period of the facilities. This figure constitutes 36% of the company's total fair EV.

We expect the company to display a high EBITDA growth performance with capacity increases and the introduction of new business lines. We estimate that the adjusted EBITDA of the company (consolidated + Balıkesir Landfill Energy @ 50%) will increase by 100% annually on USD basis to reach USD 32 mn (TL 550 mn) by the end of 2022. In the 2021–25E period, we foresee that Adj. EBITDA will increase to 127 mn USD at the end of 25T with a CAGR of 68% in USD terms. We expect the company's Adj. EBITDA margin to hover at an average of 55% (40% excluding CCS) in the 22T–25E period. We think that high margin CCS and RPF sales will play an important role in this.

We add Biotrend to our recommendation list with a target price of 25 TL (118% return potential) and a BUY recommendation. We estimate Biotrend's fair value with a DCF-based sum-of-the-parts approach. We include the valuation of the business lines included in the consolidation (Electricity Generation, Waste Separation and Disposal, ATY, Carbon Credit Certificate, Chemical Recycling), and Balıkesir Landfill Energy with equity pick-up method. We derive a fair EV by subtracting 23E net debt. The stock is currently trading at 23E 11.2x P/E and 5.5x EV/Adj. EBITDA (24E 3.7x and 3.1x, respectively). We think that the current multiples are quite attractive considering high top-line and EBITDA growth prospects.

BUY

Target Price: TL 25

Company Data

Ticker	BIOEN
Recommendation	BUY
Target Price (TL)	25
Target Return (%)	%118
Current Price (TL)	11.28
52w range (TL)	4.7–11.4
No. of shares (mn)	500
Float (%)	%27.8
MCAP (TL mn)	5,640
MCAP (USD mn)	309
EV (mn)	6,824
EV (USD mn)	374
Equity (TL mn)	508
Net Debt (TL mn) (2021/12)	1,184
3m ADTV (USD mn)	2.5
3m ADTV/MCAP (%)	%3
2021E Dividend Yield (%)	%0

as of close of 16-09-2022

Valuation Multiples

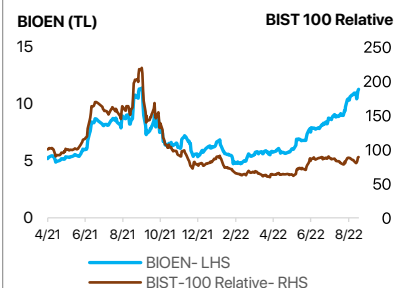
	2021	22E	23E	24E
P/E (x)	726.3	27.5	11.2	3.7
Adj. EV/EBITDA (x)	19.4	12.4	5.5	3.1
P/B (x)	4.9	7.2	4.4	2.0
P/Sales (x)	6.4	3.7	2.0	1.3

Summary Financials

(TL mn)	2021	22E	23E	24E
Net Sales	428	1,536	2,773	4,406
Adj. EBITDA	141	550	1,241	2,232
Net Profit	4	205	502	1,527
Equity	561	779	1,280	2,807

Source: INFO Research estimates

Price Performance



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For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.

Table 1. Biotrend Financial Statements

Income Statement

(TL mn)	2018	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E
Net Sales	49	92	245	428	1,536	2,773	4,406	5,368	6,461	7,550
Financial Services Income	0	0	0	0	0	0	0	0	0	0
COGS	-31	-65	-178	-304	-1,085	-1,806	-2,136	-2,402	-2,666	-2,840
Gross profit	18	27	68	123	452	967	2,270	2,966	3,795	4,710
Operating Expenses	-7	-9	-22	-42	-123	-194	-220	-268	-323	-302
Inc./ Exp. from Other Operations	5	6	23	-30	50	60	72	86	104	124
Core Operating Profit	16	25	69	51	379	833	2,122	2,784	3,575	4,532
Other Income/Expenses	0	3	26	3	50	71	90	106	128	144
Operating Profit	15	26	107	80	429	904	2,212	2,891	3,704	4,676
Net Financial Income (Expense)	-16	-20	-47	-60	-198	-333	-336	-317	-217	-194
EBIT	-1	6	59	20	231	571	1,876	2,574	3,486	4,482
Taxes	-1	-4	-9	-19	-35	-86	-375	-515	-697	-896
Minority Interest	0	-3	-1	-3	-9	-17	-26	-32	-38	-45
Net Profit	-1	6	50	4	205	502	1,527	2,091	2,828	3,630
EBITDA	23	33	68	114	488	1,153	2,120	2,798	3,629	4,573
EBITDA (incl. Balikesir)	23	31	82	141	550	1,241	2,232	2,931	3,789	4,753

(TL mn)	2018	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E
Current Assets	37	65	237	683	1,077	1,638	2,521	3,037	3,628	4,240
Cash and Marketable Securities	10	18	102	171	230	416	881	1,074	1,292	1,510
ST Trade and Related Receivables	14	26	39	127	253	456	724	882	1,062	1,241
Inventories	1	0	4	64	119	198	234	263	292	311
Other Short-Term Assets	12	21	92	321	475	568	682	818	982	1,178
Long Term Assets	166	275	578	1,149	2,250	3,968	4,737	5,830	7,092	8,318
Fixed Assets	83	191	474	968	1,648	2,929	3,172	2,994	2,758	2,548
Intangible Assets	75	69	65	61	402	778	1,253	2,461	3,884	5,231
LT Receivables	0	0	0	0	0	0	0	0	0	0
Other Long-Term Assets	8	15	39	120	200	260	312	374	449	539
Total Assets	203	340	815	1,832	3,327	5,605	7,258	8,867	10,720	12,558
Short Term Liabilities	48	114	221	474	856	1,220	1,142	1,214	1,293	1,354
ST Financial Payables	19	32	86	191	200	366	379	339	302	271
ST Trade and Other Payables	28	75	121	265	594	742	585	658	731	778
Other Short-Term Liabilities	1	7	15	17	62	112	178	217	261	305
Long Term Liabilities	73	132	393	800	1,685	3,082	3,260	2,980	2,723	2,522
LT Financial Payables	57	112	368	778	1,615	2,959	3,066	2,743	2,439	2,191
LT Trade and Other Payables	0	0	5	3	3	3	3	3	3	3
Other LT Liabilities	16	20	20	19	67	121	192	234	281	328
Equity	77	82	200	561	779	1,280	2,807	4,593	6,584	8,518
Paid-in capital	1	1	128	500	500	500	500	500	500	500
Total Liabilities	203	340	815	1,832	3,327	5,605	7,258	8,867	10,720	12,558

Macro Estimates

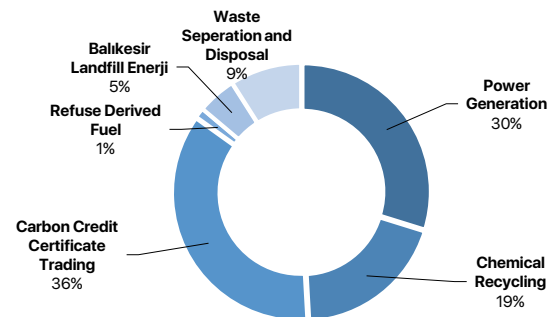
	2018	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E
USDTRY (avg)	4.8	5.7	7.0	8.9	17.0	20.0	22.0	23.1	24.3	25.5
USDTRY (eop)	5.3	5.9	7.4	13.3	22.0	25.0	27.5	28.9	30.3	31.8
Real GDP growth (y/y %)	4.4	-0.4	1.8	10.5	3.0	3.0	4.0	4.0	4.0	4.0
CPI (%)	20.3	11.8	14.6	36.1	70.0	30.0	10.0	10.0	10.0	8.0

Source: Company Data, INFO Research estimates

Biotrend Valuation

We add Biotrend to our recommendation list with a target price of 25 TL (118% return potential) and a BUY recommendation. We estimate Biotrend's fair value with a DCF-based sum-of-the-parts approach. We include the valuation of the business lines included in the consolidation (Electricity Generation, Waste Separation and Disposal, ATY, Carbon Credit Certificate, Chemical Recycling), and Balikesir Landfill Energy with equity pick-up method. We derive at a fair EV by subtracting 23E net debt. The stock is currently trading at 23E 11.2x P/E and 5.5x EV/Adj. EBITDA (24E 3.7x and 3.1x, respectively). We think that the current multiples are quite attractive considering high top-line and EBITDA growth prospects.

Chart 1. Biotrend SOTP Contributions



Source: Company Data, INFO Research estimates

Table 2. Biotrend Sum-of-the-Parts Valuation Summary

Business	EV (USD mn)	Share in EV (%)	Valuation Methodology	USD WACC (%)
Power Generation	232	30		
Biyogas (ex-Landfill Enerji Balikesir)	100	13	DCF	11.0
Biomass	132	17	DCF	11.0
Carbon Credit Certificate Trading (ex-Landfill Enerji Balikesir)	278	36	DCF	11.0
Waste Separation and Disposal (ex-Landfill Enerji Balikesir)	70	9	DCF	11.0
ATY (ex-Landfill Enerji Balikesir)	10	1	DCF	11.0
Balikesir Landfill Enerji	38	5	DCF @ 50%	11.0
EV (ex-Chemical Recycling business)	628	81		
Net Debt	59	>> 2022/2Q Net Debt		
Fair Equity Value (ex-Chemical Recycling business)	569			
Fair Equity Value (ex-Chemical Recycling business) (TL mn)	10,356			
Chemical Recycling Business EV	150	19	DCF	11.0
Net Debt	45	>> Net Debt of Chemical Recycling as of end-23E		
Fair Equity Value (ex-Chemical Recycling business)	105			
Biotrend Total EV	778			
Biotrend Total EV (TL mn)	14,159			
Fair Equity Value of Biotrend	674			
Fair Equity Value of Biotrend (TL mn)	12,273			
Target Price (TL)	25			
Last Close (TL)	11			
Target Return (%)	118%			

Source: Company Data, INFO Research estimates

Table 3. Biotrend Segment Sales

Consolidated Business Segments					2018	2019	2020	2021	22E	23E	24E	25E	26E	27E	28E	29E	30E	31E
Power Generation	10.3	14.7	34.4	47.9	82.1	116.4	146.4	155.0	163.3	163.9	163.5	162.8	147.8	108.5				
Waste Separation and Disposal		0.1	0.7	0.7	6.1	8.9	14.1	16.4	20.9	23.7	26.5	28.7	29.6	30.5				
RDF						4.0	4.2	6.0	6.2	6.6	7.0	7.3	7.7	5.9				
Carbon Credit Certificate Trading (CCS)					3.5	12.0	20.0	30.0	50.0	75.0	75.0	75.0	75.0	75.0				
Chemical Recycling							20.0	30.0	31.5	33.0	35.0	35.0	35.0	35.0				
Other	0.0	1.7	0.8	1.7	2.0	2.4	2.9	3.4	4.1	4.9	5.9	7.1	8.5	10.2				
Total Consolidated Gross Sales	10	17	36	50	94	144	208	241	276	307	313	316	304	265				
Discounts (-)	0	0	-1	-2	-3	-5	-7	-8	-10	-11	-11	-11	-11	-9				
Total Consolidated Net Sales	10	16	35	48	90	139	200	232	266	296	302	305	293	256				
y/y %		282	210	102	65	53	44	16	15	11	2	1	-4	-13				
Landfill Enerji Balikesir (equity-pick-up)																		
(USD mn)	2018	2019	2020	2021	22E	23E	24E	25E	26E	27E	28E	29E	30E	31E				
Power Generation		0.1	5.8	7.5	9.9	12.2	13.0	13.9	13.9	13.9	13.9	13.9	9.4	9.4				
Waste Separation and Disposal		0.0	0.0	0.0	0.4	3.5	4.5	4.7	4.9	5.0	5.0	5.1	5.2	5.4				
RDF						1.1	1.6	1.6	1.7	1.8	1.9	1.9	2.0	0.0				
Carbon Credit Certificate Trading (CCS)					2.0	2.9	3.6	5.4	9.0	10.8	10.8	10.8	10.8	10.8				
Total Net Sales		0.1	5.8	7.5	12.3	19.7	22.7	25.6	29.4	31.4	31.6	31.7	27.5	25.5				
y/y %			5587	28	64	61	15	13	15	7	1	1	-13	-7				

Source: Company Data, INFO Research estimates

Table 4. Biotrend Segment EBITDA

(USD mn)	2018	2019	2020	2021	22E	23E	24E	25E	26E	27E	28E	29E	30E	31E
Power Generation	2	4	9	14	20	33	45	50	54	57	59	61	56	35
Waste Separation and Disposal	0	0	0	0	4	8	12	14	17	19	21	22	22	23
RDF	0	0	0	0	0	3	3	5	5	5	5	6	6	4
Carbon Credit Certificate Trading (CCS)	0	0	0	0	3	11	19	29	48	71	71	71	71	71
Chemical Recycling	0	0	0	0	0	0	14	22	22	24	25	25	25	25
Other	3	1	0	-1	1	2	2	3	3	4	5	6	7	
Total Consolidated EBITDA	5	6	10	13	29	58	96	121	150	180	186	191	188	157
Balikesir Landfill Enerji @ %50 EBITDA	0	0	2	3	4	4	5	6	7	7	7	7	6	6
Total Adjusted EBITDA	5	5	12	16	32	62	101	127	156	187	193	198	194	163
Total Adjusted EBITDA (TL mn)	23	31	82	141	550	1,241	2,232	2,931	3,789	4,753	5,158	5,550	5,720	5,049
Adj. EBITDA Margin (%)	47	34	33	33	36	45	51	54	59	63	64	65	66	64
Adj. EBITDA Margin (%) (ex-CCS)	47	34	31	31	30	34	39	40	39	37	38	39	40	34

Source: Company Data, INFO Research estimates

DISCLAIMER & DISCLOSURES

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Rating Methodology:

We employ Discounted Cash Flow (DCF) model and peer multiple analysis to derive at our target prices. Our recommendation methodology is as follows:

Buy: If Target Price is 5 percentage points higher than the estimated Cost of Equity

Hold: If Target Price is within -5 and 5 percentage points of the estimated Cost of Equity

Sell: If Target Price is lower than 5 percentage points of the estimated Cost of Equity

Please note that the analyst's short-term view may occasionally diverge from the stock's longer-term fundamental rating.

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