Company Valuation- US Ecology

We Value US Ecology's stock at $68.35 while it is currently trading At $59.16 and forecast a 17.8% upside

Key Takeaways

We believe Industrial & Field services will continue to be a similar proportion of their overall business.

We found no reason to imply the Industrial & Field service is an area of considerable growth for the business and noted the historical relationship with environmental services. We expect this relationship to hold in the future.

Environmental Services' Base Business will continue to grow.

Based on US Ecology's future plans for expansion in their Base Business, we believe that the Base Business will continue to grow at a moderate level. This growth will be compounded by recent acquisitions made.

Environmental Services' Event Business will remain relatively constant in the future.

We believe there is a ceiling on the Event Business annual revenue due to the lack of transportation infrastructure. US Ecology have no clear plans to improve this and we believe it will remain at an average level in the future

The market may have overreacted to a recent explosion in US Ecology's Grand View Idaho facility.

Examining past accidents that have caused shutdowns in US Ecology's facilities, we believe the market has overreacted to the long-term effects of a recent explosion.

RECOMMENDATION:BUY

MARKET PRICE:$59.16
AS OF (20/04/2019)
TARGET PRICE: $68.35

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Company Overview

US Ecology is a leading provider of environmental services to commercial and government entities across North America, with operations in the United States, Canada and Mexico.

US Ecology operates in the $25 billion environmental services industry, specializing in the $11 billion hazardous waste market (source US Ecology Annual Growth Conference 2017 – Seeking Alpha). One of their main advantages are the considerable barriers to entry in the industry:

- Highly regulated industry
- Strategic landfill and permitted facilities
- Broad geographic reach
- Industry expertise and execution track record.

Their environmental services business operates as below, with the below customer breakdown being relatively consistent historically.

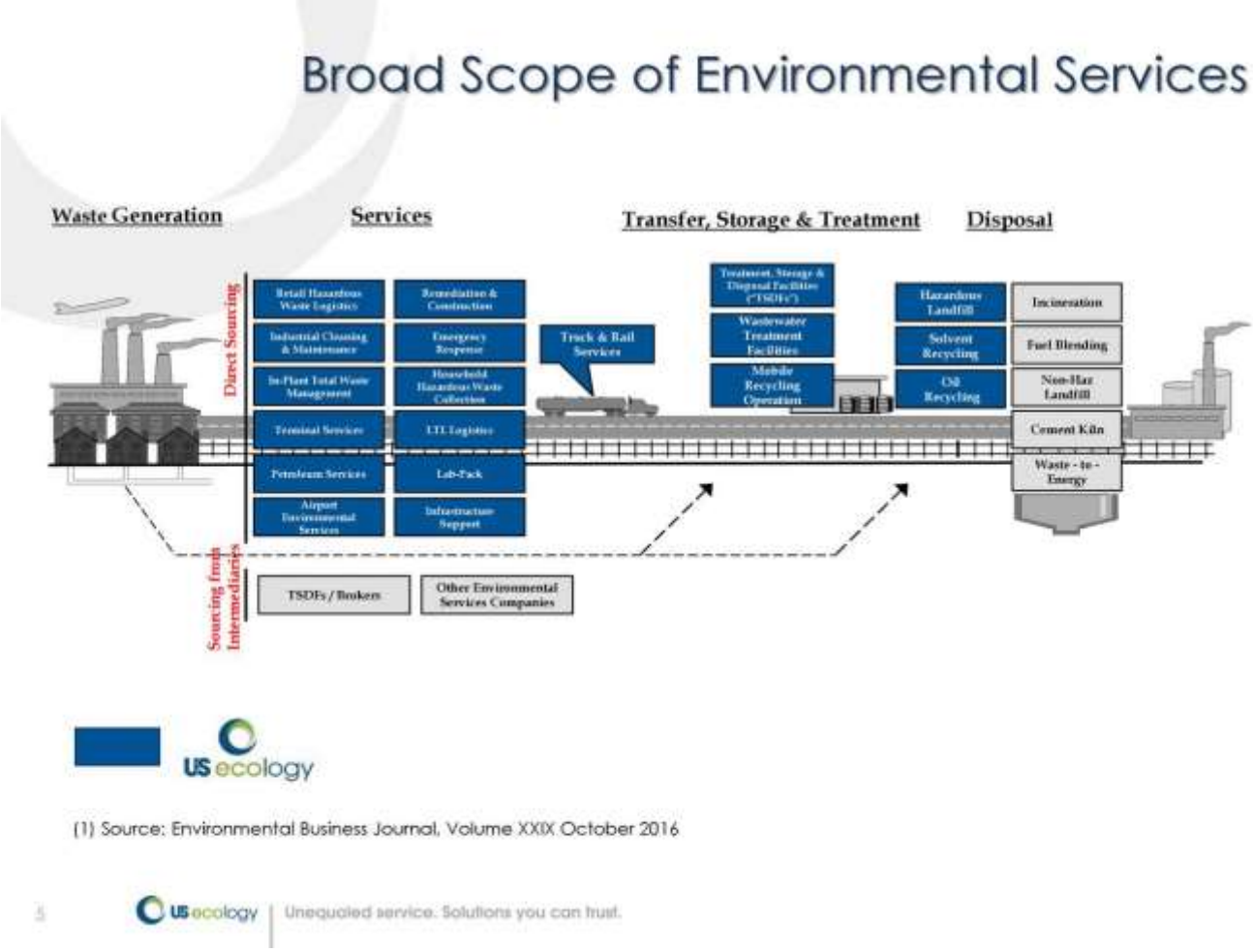

Figure 1 :Source US Ecology Annual Growth Conference 2017.

Figure 2 :Source US Ecology Annual Growth Conference 2017.

Segment Analysis

US Ecology has two main segments of operation: Environmental Services and Field & Industrial Services. The Field & Industrial Services is the legacy operation from their acquisition of EQ in 2014. We forecast that these two segments will remain in a similar proportion of revenue going forward as they have been since the acquisition of EQ.

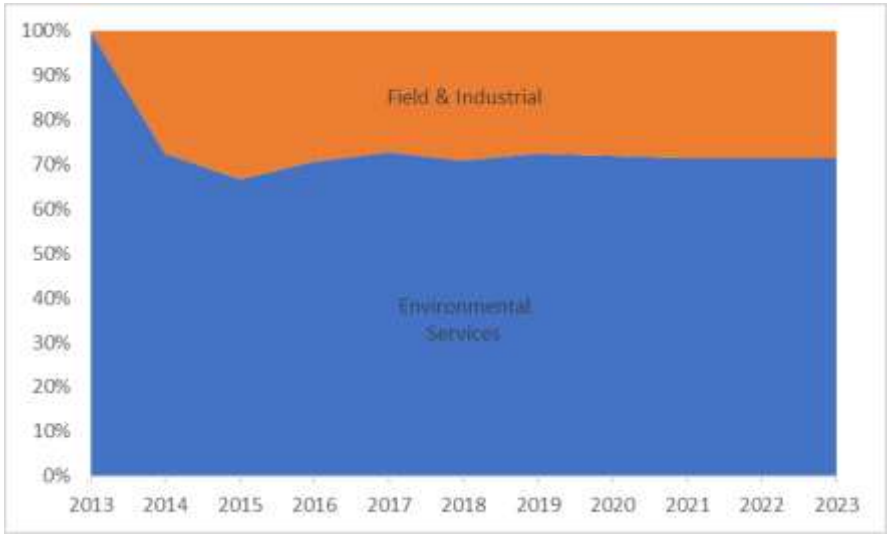

Figure 2: Company 10K

Environmental Services

The environmental services segment provides range of hazardous waste services including transportation, and recycling, treatment and disposal of hazardous waste through operations at company landfills, wastewater and other treatment facilities (2018 10k). Environmental Services revenue stream is broken down into treatment & disposal (T&D) and transportation revenue. T&D is then made up of Base Business and Event Business.

Base business tends to be waste generated through on-going industrial processes that are recurring in nature and typically expected to be less than 1000 tonnes of waste. Event business is defined as non-recurring projects that are expected to equal or exceed 1,000 tons. They have defined event business in this manner since 2015. US Ecology long term goal is to expand their base business while securing short term event business.

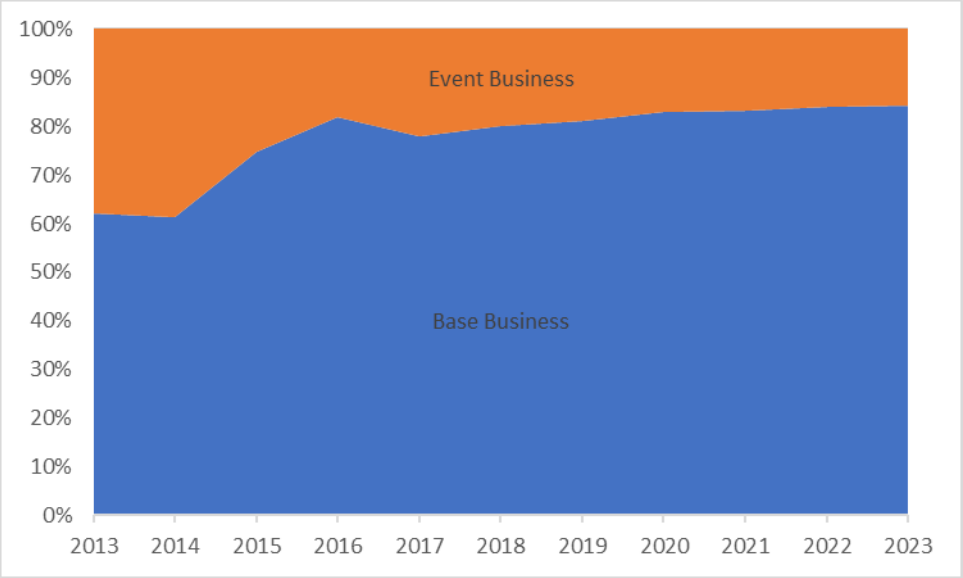

Figure 3 Source: Company 10K

Environmental Services Forecast

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Environmental Services	188.2	335.9	372.8	337.7	366.3	400.7	463.6	481.4	487.2	512.9	519.0
Growth		78%	10%	-9%	8%	8%	16%	4%	1%	5%	1%
T&D	152.8	272.0	297.4	275.2	298.3	319.3	369.4	383.6	388.2	408.7	413.6
Growth		78%	9%	-7%	8%	7%	16%	4%	1%	5%	1%
Transportation	36.0	64.0	75.4	62.5	68.0	81.4	94.2	97.8	99.0	104.2	105.4
Growth		78%	18%	-17%	9%	20%	16%	4%	1%	5%	1%

Figure 4 Source: Company 10K, Team Estimates

The table below shows the proportions of base business and event business since 2013 and for our forecasted period. US Ecology redefined how they classify base and event business in 2015 which slightly affected the proportions.

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
T&D	152.8	272.0	297.4	275.2	298.3	319.3	369.4	383.6	388.2	408.7	413.6
Growth		78%	9%	-7%	8%	7%	16%	4%	1%	5%	1%
Base Business	94.7	166.8	222.3	225.7	232.7	255.4	299.2	318.1	322.8	343.2	348.3
	0.62	0.61	0.75	0.82	0.78	0.80	0.81	0.83	0.83	0.84	0.84
Event Business	58.1	105.2	75.1	49.5	65.6	63.9	70.2	65.5	65.4	65.6	65.3
	0.38	0.39	0.25	0.18	0.22	0.20	0.19	0.17	0.17	0.16	0.16

Figure 5 Source: Company 10K, Team Estimates

Base Business

US Ecology has clearly laid out plans for its' base business expansion over the next 5 years through its landfill expansion. Landfill expansion is more than simply increasing the capacity in the landfills; it involves investment into the expansion of waste streams that a landfill/waste treatment centre can accept which will in turn increase revenue streams.

Year	2019	2020	2021	2022	2023
Expansion Plans	Heavy Landfill Expansion in its' Michigan facility	No Expansion	Landfill Expansion in its' Michigan facility	No Expansion	Potential Expansion

Figure 6 Source: Company Earning's Call 2018 Q4

2019: US Ecology has planned expansion of its' Michigan facility. There is no planned expansion for 2020, which will then be followed by further expansion into its Michigan facility. However, this investment will be lower than the previous one in 2019. In 2022 no expansion will occur and in 2023 we may see further expansion but there is no confirmation of this.

Based on future plans for landfill expansion we determined two different growth rates to understand the effects of future landfill expansion. The costs associated with these plans are discussed in the capital expenditure section.

First, we estimated the growth rates when no landfill expansion occurs. To estimate this, we looked at a historic period where no expansion occurred. We found that from 2010-2013 there was no significant landfill expansion and the growth during this period was driven by acquisitions. We removed the impact these acquisitions had on revenue during this period to estimate the growth when no landfill expansion occurred.

Year	2010	2011	2012	2013
Base Revenue	79.307	85.474	129.049	145.687
Revenue from Acquisitions	5.7	36.5	43.2	48.8
Revenue Without Acquisitions	43.87492	42.21989	47.01155	45.94158
CAGR	1.5%			

Figure 7 Source: Company 10K

Next, we estimated the growth rate associated with a typical landfill expansion. We found that the most recent landfill expansion occurred in its' Texas facility and spanned from 2016-2018.

Year	2016	2017	2018
Base Revenue	225.6935	232.6896	255.4256
CAGR	6.5%		

Figure 8 Source: Company 10K

We then used these two growth rates to predict future growths for our forecast period based on the planned landfill expansions of US Ecology. From the above table we see that expansion began in 2016 and revenue increased the following year, we believe this pattern will continue and estimate revenues will increase the year after an expansion.

2018 Ecoserv Acquisition

In late 2018 US Ecology acquired Ecoserv, a company which operates a waste management treatment centre in Texas. As this acquisition occurred in late 2018 it had no effect on 2018 results. As of yet there have been no expected revenue figures released by US Ecology regarding this acquisition. To estimate potential revenues, we examined the impact of previous acquisitions of US Ecology. In 2012 US Ecology acquired Stablex, a waste treatment centre located in Canada for $77.5 million. This acquisition added 7926 cubic yards of capacity and in its first year of full operations it recorded $36.5 million of revenue. Due to the acquisition of Ecoserv costing $87.1 million and adding 9763 of capacity, which is similar a size to the Stablex acquisition, we used this as a benchmark. Due to the acquisition cost of Ecoserv being 12% higher than Stablex we're predicting revenues to be 12% higher for Ecoserv's first year of full operations and adding $41.02 million revenue in 2019.

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023
Base Business	222.3	225.6	232.6	255.4	300.8	319.8	324.6	345.07	350.25
Revenue from Ecoserv					41				
Growth		2%	3%	10%	18%	7%	1.5%	7%	1.5%

Figure 9 Source: Company 10K, Team Estimates

Event Business

US Ecology defines event business non-recurring projects that are expected to equal or exceed 1,000 tons. They have defined event business in this manner since 2015. Revenue from event business has been an average of $64.9M annually since 2015.

In a given year US Ecology can normally predict the revenue arising from Event Business in the following year due to long contract negotiations nature of the business. 2018 revenues from Event Business was lower than expected due some delays in the commencement of a large project. US Ecology lacked the transportation infrastructure then to catch-up on the waste treatment of all their projects due to project delays, which will cause a portion of revenues from these projects to spill over into 2019. Due to the lack of transportation infrastructure, US Ecology appears to have a soft limit on the amount of revenue they can derive from their event business each quarter.

We used US Ecology's forecasted event revenue for 2019 ($70M). For 2020 onwards, we implied a soft limit on their quarterly event revenue of $23M, based on their max revenue of $20.7M in Q3 2017 (minimum $10.6M in Q1 2017). This suggests that the highest level of quarterly revenue observed represented 90% of the maximum possible level of quarterly revenue the firm can derive from event business.

We built a simulation model, assuming quarterly revenue followed a normal distribution with mean and standard deviation implied from historical quarterly revenue, and previously forecasted quarterly revenue. With a ceiling imposed on the simulated revenue of $23M each quarter.

Year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Event	75.11	49.54	65.63	63.86	70.24	65.59	65.45	65.65	65.50
Growth		-34%	34.47%	-2.70%	10%	-6.67%	-0.22%	0.18%	-0.10%

Figure 10 Source: Company 10K, Team Estimates

Transportation

We forecast transportation revenue to grow at the same rate as their T&D revenue.

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Transportation	36.0	64.0	75.4	62.5	68.0	81.4	94.2	97.8	99.0	104.2	105.4
Growth		78%	18%	-17%	9%	20%	16%	4%	1%	5%	1%

Figure 11 Source: Company 10K, Team Estimates

Field & Industrial Services

US Ecology generates revenue from industrial & field services; this segment includes industrial cleaning and maintenance, remediation, lab pack, transportation, emergency response and industrial maintenance at refineries, chemical plants steel and automotive plants, and other government, commercial and industrial facilities.

This business is the heritage business from their 2014 acquisition of EQ. Previously, they had industrial services as part of their Allstate business, which was divested in 2015.

As a result of the changes in structure in their field services side, they have reported their field services revenue in differing manners throughout their period of ownership. We used the below breakdown to forecast industrial & field services:

Treatment & Disposal Revenue	Treatment and disposal of hazardous & Non-hazardous waste	Forecasted as a proportion of Environmental Services Treatment and Disposal
Transportation & Logistics	Collection and transportation of hazardous and non-hazardous waste.	Forecasted as a proportion of Environmental Services Transportation & Logistics
Industrial Services	Industrial cleaning and maintenance for refineries, chemical plants, steel and automotive plants, marine terminals and refinery services such as tank cleaning and temporary storage.	Forecasted at 5 year CAGR depreciated down towards terminal growth rate, with adjustment made for the divestiture of Allstate
Technical Services	Aggregated segment currently reported as Small Quantity Waste Generation, Total Waste Management and Remediation.	Forecasted at 4 year CAGR depreciated down towards terminal growth rate. We choose a 4 year CAGR as this sector had exceptional growth in 2014, which was left out as it lead to an unrealistic forecasted growth estimate.
Other	Includes Emergency Response & other services.	Due to variability and overall immaterial nature of this segment, we forecasted as constant, taking the average value over the past 5 year period.

Field & Industrial Services	2014	2015	2016	2017	2018	2019E	2020E	2021E	2022E	2023E
Treatment & Disposal Revenue	-	-	12.68	11.08	12.86	15.04	15.98	16.22	17.25	17.50
				-12.6%	16.1%	16.9%	6.3%	1.5%	6.3%	1.5%
Transportation & Logistics	24.11	28.37	17.81	21.89	33.03	38.22	39.69	40.17	42.29	42.79
		17.6%	-37.2%	22.9%	50.9%	15.7%	3.8%	1.2%	5.3%	1.2%
Industrial Services	48.70	83.71	22.44	19.12	24.15	27.92	31.39	34.31	36.42	37.51

		71.9%	-73.2%	-14.8%	26.3%	15.6%	12.4%	9.3%	6.1%	3.0%
Technical Services	51.64	69.59	85.63	82.80	86.43	91.25	95.74	99.85	103.48	106.59
		34.8%	23.1%	-3.3%	4.4%	5.6%	4.9%	4.3%	3.6%	3.0%
Other	3.12	5.55	1.32	2.82	8.75	4.32	4.32	4.32	4.32	4.32
		77.6%	-76.2%	113.8%	209.5%	-50.7%	0.0%	0.0%	0.0%	0.0%

Figure 12 Source: Company 10K, Team Estimates

Below is a breakdown of US Ecology's industrial services segment with an allowance made for the divestiture of Allstate.

	2014	2015	2016	2017	2018	2019E	2020E	2021E	2022E	2023E
Allstate	37	59	-	-	-	-	-	-	-	-
Industrial Services Less Allstate	11.71	24.61	22.44	19.12	24.15	27.92	31.32	34.31	36.42	37.51
Growth		110.3%	-8.8%	-14.8%	26.3%	15.6%	12.4%	9.3%	6.1%	3.0%

Figure 13 Source: Company 10K, Team Estimates

Below is revenue from treatment & disposal and transport & logistics shown as the proportion of field & industrial to environmental services revenue for these segments. We see that for both segments these proportions have remained constant historically and throughout our forecast.

Field & Industrial/Environmental	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Treatment & Disposal	0.000	0.000	0.000	0.046	0.037	0.040	0.041	0.042	0.042	0.042	0.042
Transportation and Logistics	0.000	0.377	0.376	0.285	0.322	0.406	0.406	0.406	0.406	0.406	0.406

Figure 14 Source: Company 10K, Team Estimates

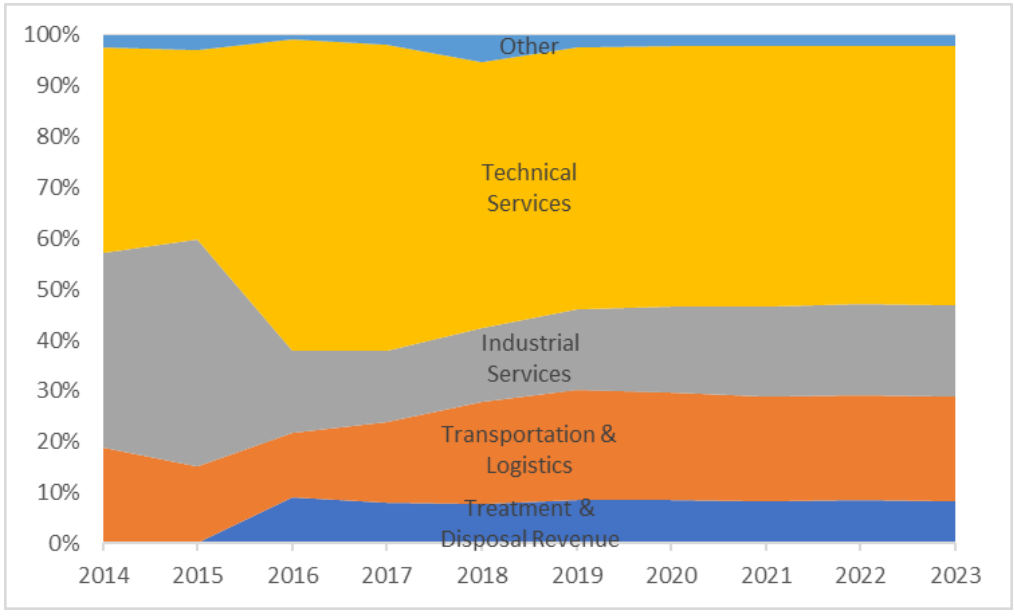

Figure 15 Source: Company 10K, Team Estimates

Idaho Explosion

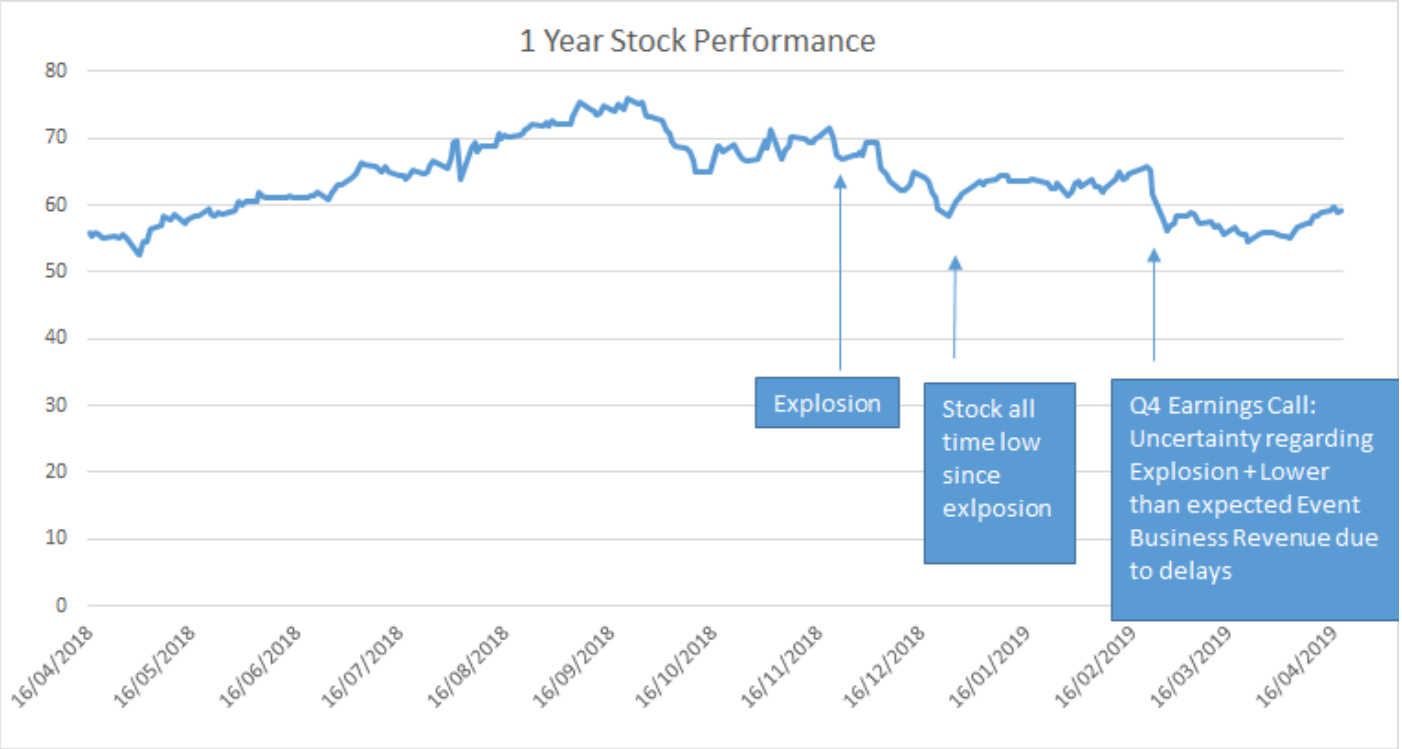

Figure 16 Source : Yahoo Finance

On 17 November 2018 an explosion occurred at US Ecology's Grand View, Idaho facility. The Grand View, Idaho facility remained shut until February 2019 as an investigation commenced into the cause of the explosion. From February the Grandview facility began reaccepting into its landfill operations, which typically contributes exactly half of revenue associated with a waste treatment facility. US Ecology expects the other half of Grandview operations to recommence operations in the latter half of 2019. US Ecology is covered by insurance for all property damage and business interruption. US Ecology has not been subject to any lawsuits or litigation as of yet, and if any occurs, they are expected to be covered by insurance. Despite these insurance policies US Ecology expects headwinds from the shutdown of this facility to reduce EBITDA for 2019 by roughly $5million, which we have accounted for. Following the explosion US Ecology, stock price fell from $72 to $58 within the month.

While this was the first time an explosion occurred in one of US Ecology facilities, we found that in 2004 its' Robstown, Texas facility experienced a fire which caused a shutdown of the facility for 6 months. The Texas facility remained shut till August 2004 and they restarted half their operation and began to accept waste into their landfill operations again. Within 6 months, the Texas facility was in full operations again. This is consistent with US Ecology's expectations to fully reopen the Idaho facility in the latter half of 2019.

We found that the 2004 fire had no long-term effects on revenue or on costs of the business. This can be seen by the table below.

	2004	2005	2006
Revenue	$54.17	79.39	116.84
COGS	$30.897	48.35	80.25
SG&A	10.53	12.50	12.83

Figure 17 Source: Company 10K

US Ecology received a payment of $954,000 to offset property damages of $679,000 and $2.1 million in business interruption proceeds.

Following the 2004 fire US Ecology's stock fell 17%. However, within a year of operation the stock price regained its losses and was trading at pre-fire price.

It is worth noting that US Ecology was a much smaller company in 2004 and the shutdown of its' facilities for nearly a year would have a greater influence than it would today as the company has grown and operates out of many more facilities. Taking this into account, US Ecology should be adequately covered by its' insurance policies to deal with any potential losses. The fact that historically an accident of this nature did not have any long-term impact on revenue or costs, we believe the market may have overreacted to the impact of the Idaho explosion.

Gross Margins

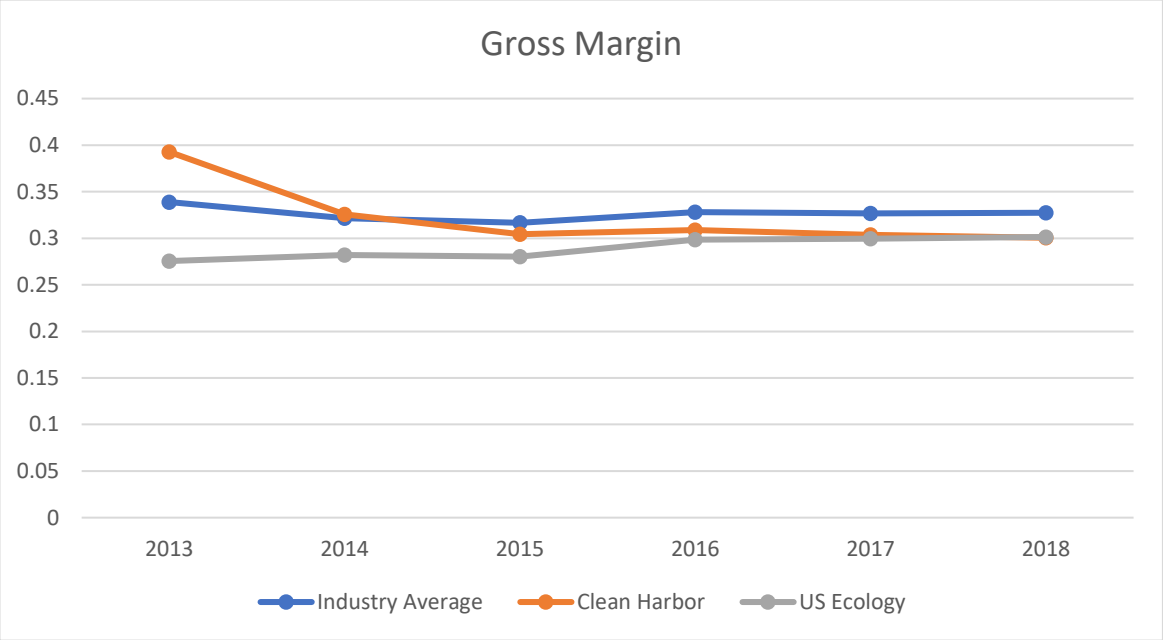

Figure 18 Company 10K

When we evaluated the gross margins of US Ecology in comparison with the industry average, we found that they are operating at slightly lower than the industry average. However, in comparison with Clean Harbor, US Ecology operates at the same gross margin level. In terms of competition Clean Harbor is US Ecology's biggest competitor which makes them a useful benchmark. Clean Harbor operates and competes in the same markets as US Ecology i.e the two companies have environmental services and industrial & field service segments. Therefore, a consistent .3 gross margin would seem accurate for the projected period.

However, US Ecology has invested in a new operating system that will begin to rollout in phases at the end of 2019. US Ecology has stated they will see benefits of this new operating system as the company will now shift to one centralised operating system which will enable them to improve efficiency of waste transportation to the best site location, by leveraging their waste network and infrastructure. Essentially this could provide cost reduction as the

company would start to use the most efficient routes in the transportation of the waste to their facility. As of yet there is no financial target, if any, on this project.

Due to the uncertainty regarding this new project we created two scenarios:

Scenario 1) The new operating system has no impact on gross margins, and they stay at the historical levels. This is what we will use as our base case and we will discuss scenario 2 in sensitivity analysis.

Scenario 2) The new operating system impacts gross margins and converges them to the industry level.

Ratio Analysis

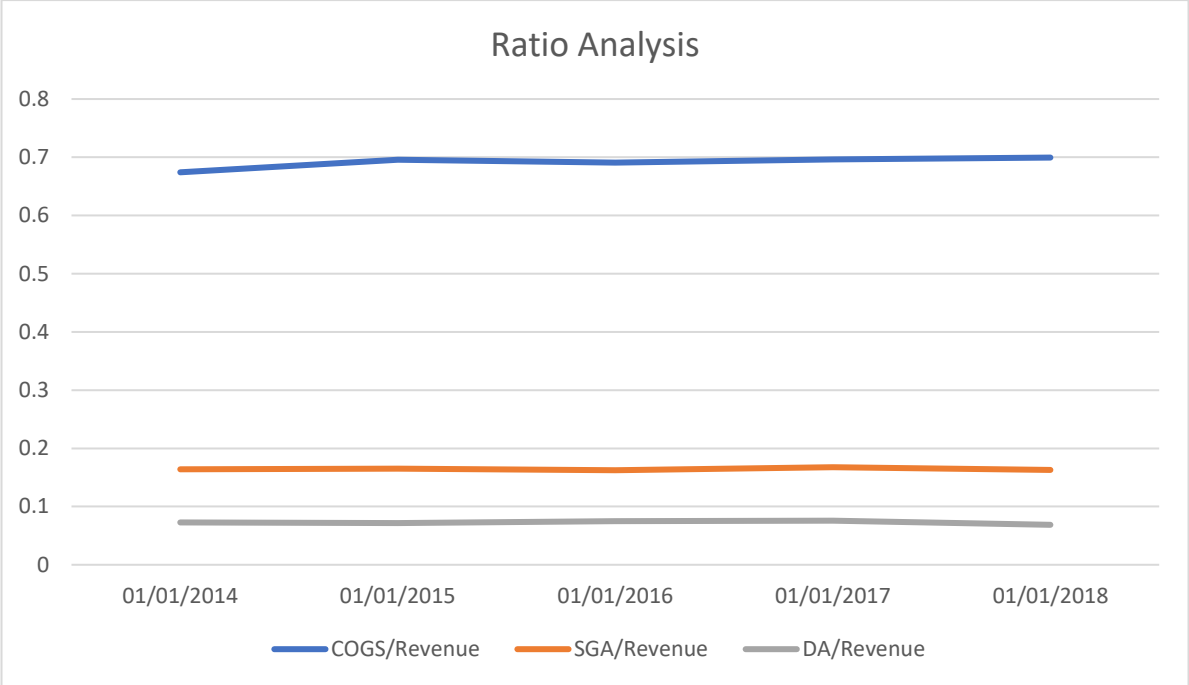

Figure 19 Source: Company 10K,

The above graph shows that the COGS, S&A and Depreciation & Amortization have all been consistent since 2014. 2014 was chosen as the base year since it was when they acquired EQ, which transformed the structure of US Ecology. Therefore, we used these ratios going forward.

COGS

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
COGS	301.62	389.56	330.07	350.91	395.83	445.42	464.98	474.41	498.50	506.22
% of revenue	67.4%	69.6%	69.1%	69.6%	69.9%	69.6%	69.6%	69.6%	69.6%	69.6%

Figure 20 Source: Company 10K, Team Estimates

SG&A

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SG&A	73.33	92.58	77.56	84.46	92.34	105.32	110.04	112.11	118.52	118.75
% of revenue	16%	17%	16%	17%	16%	16%	16%	16%	16%	16%

Figure 21 Source: Company 10K, Team Estimates

Depreciation & Amortization

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
D&A	32.62	40.23	35.87	38.19	38.85	48.52	50.65	51.67	54.30	55.14
% of revenue	16.39%	16.53%	16.24%	16.76%	16.32%	16.45%	16.46%	16.44%	16.48%	16.43%

Figure 22 Source: Company 10K, Team Estimates

Capex

Year	2013	2014	2015	2016	2017	2018	2019E	2020E	2021E	2022E	2023E
Capex	21.20	28.23	38.42	34.70	35.26	40.26	60	21	34	21	34

Figure 23 Company 10K, Team Estimates

In the most recent call, management has forecasted their capital expenditure for the next 5 years based on their plans for landfill expansion. Next year is estimated to be a heavy construction year on landfill expansion in its Michigan facility and estimated to be $60 million. This $60 million will comprise of $21 million in maintenance capital, $14 million in landfill expansion and the remaining $25 million on technological improvements in their Michigan Facility. 2020 will be a normal year and capital expenditure will be devoted to maintenance “capex”. Management has stated this will be $21 million. 2021 will be a normal landfill expansion year which is estimated as $34 million, which will be followed by maintenance capital in 2022 and potential expansion in 2023.

Bringing it all together

Tax Rate

The effective tax rate is expected to be 27% for 2019.

Market Premium

Market Premium was taken from the NYU Stern data base of market risk premiums. The risk premium for the United States was 5.75%

Risk Free Rate

We used the 1-month treasury bill as our risk-free rate. Currently this is a rate of 2.43%.

Cost of Debt

We used the most recent yield of 3.6% on US Ecology bonds from Bloomberg

Beta Analysis

We performed an analysis of the movement of the 3-year beta for US Ecology. We took the market return as the return on the S&P500. Since our median beta of 0.71 was close to our industry beta of 0.78 (taken from previous industry report) we felt that this was the most appropriate value to take as the beta appears to be oscillating around the median. This value also agrees closely with Yahoo Finance and Bloomberg. We also conducted a sensitivity analysis on beta which will be discussed in later.

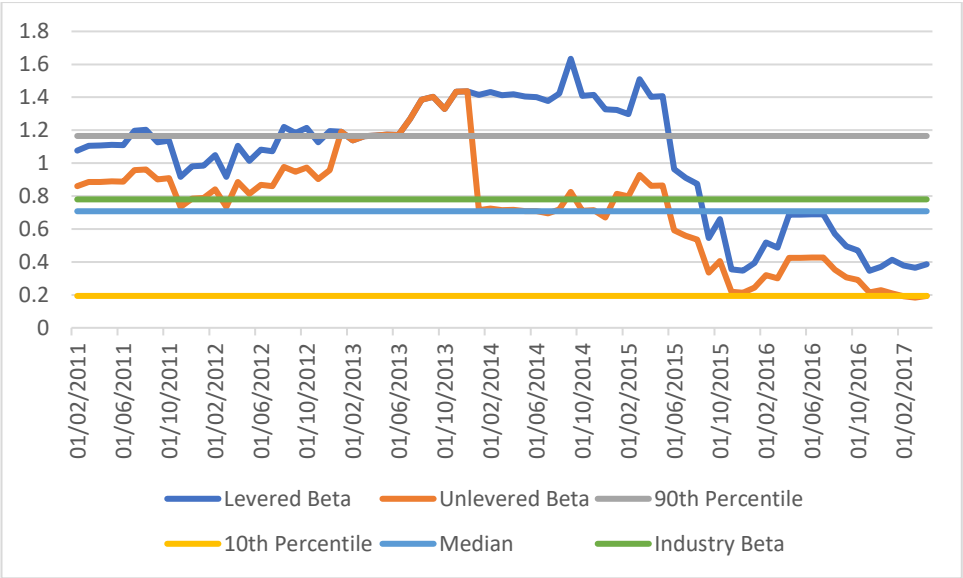

Figure 24 Source: Yahoo Finance & Bloomberg

WACC

Since the company has a consistent Debt to Equity ratio we used WACC.

Beta	.07	Cost of Debt	.035
Market Risk Premium	.0575	**Tax-rate**	.27
Risk-Free rate	.0243	**Debt/Value**	.503
Cost of equity	.065		
Equity Value	.059		
WACC		.0457	

Figure 25

Recommendation: Buy

Forecasted DCF

	Historical Period				Projected Period				
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Total Revenue	560.06	477.67	504.04	565.93	640.38	668.50	682.07	716.70	727.79
Growth %		-0.15	0.06	0.12	0.13	0.04	0.02	0.05	0.02
Environmental Services	372.84	337.77	366.31	400.68	463.63	481.36	487.19	512.94	519.07
Industrial & Field	187.22	139.89	137.73	165.25	176.76	187.14	194.87	203.76	208.72
Total COGS	389.57	330.07	350.92	395.83	445.42	464.98	474.42	498.51	506.22
% of Revenue	0.70	0.69	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Total SG&A	92.58	77.57	84.47	92.34	105.32	110.04	112.12	118.52	118.75
% of Revenue	0.17	0.16	0.17	0.16	0.16	0.16	0.16	0.17	0.16
Other Operating Expenses	-8.17	2.49	-7.60	-0.98	-2.84	-2.84	-2.84	-2.84	-2.84
Operating Income	69.74	72.52	61.07	76.77	86.79	90.64	92.69	96.83	99.98
% of Revenue	0.12	0.15	0.12	0.14	0.14	0.14	0.14	0.14	0.14
Loss on Idaho			5.00						
Interst Expense	23.31	17.22	18.10	11.92	15.00	15.00	15.00	15.00	15.00
% of Revenue	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02
Tax Expense	21.24	21.05	-6.40	15.26	18.30	20.42	20.98	22.09	22.94
Net Income	25.19	34.25	49.37	49.60	49.49	55.21	56.71	59.73	62.03
Plus: Depreceation	40.24	35.88	38.19	38.85	48.52	50.65	51.68	54.30	55.14
Less: Capex	-38.42	-34.71	-35.27	-40.26	-35.00	-21.00	-35.00	-21.00	-34.00
Less: Change in NWC	-22.35	-1.74	28.35	30.31	20.42	24.00	27.58	31.17	34.75
Unlevered Free Cash Flow	49.36	37.17	23.94	17.87	42.59	60.86	45.81	61.87	48.42
PV of Free Cash Flow					40.73	55.65	40.05	51.73	38.72

PV of FCF from 19 to 23	226.88
Terminal Growth Rate	0.02
Pv of Terminal Value	1571.67
Enterprise Value	1798.56
Less: Net Debt	327.09
Plus: Cash & Cash Equivalents	36.91
Equity Value	1508.38
Shares Outstanding	22.07
Share Price	68.35
Current Share Price	58.00
Upside	17.8%

Figure 26

Based on our assumptions we value US Ecology stock price at $68.35. Currently it is trading at $58.00, therefore we recommend a buy on this stock with an upside of 17.8%

Sensitivity Analysis

We conducted a sensitivity analysis of our valuation based on the beta and the terminal growth rate and concluded that given our forecasted income and expenses, the majority of reasonable assumptions of Beta and terminal growth result in a market undervaluation and a recommendation to buy.

Terminal Growth Rate	**Beta**								
	0.4	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1**	**1.1**	**1.2**
1.0%	67.3	59.8	53.6	48.4	44.0	40.2	36.9	33.9	31.3
1.5%	83.1	72.3	63.7	56.8	51.0	46.1	41.9	38.3	35.2
2.0%	108.2	91.1	78.3	68.3	60.4	53.9	48.5	43.9	40.0
2.5%	153.9	122.3	101.0	85.5	73.8	64.6	57.3	51.2	46.1
3.0%	263.8	184.9	141.2	113.5	94.4	80.4	69.6	61.2	54.3
3.5%	892.8	372.5	232.6	167.6	130.1	105.6	88.4	75.6	65.7

Valuation < 50% Market	
Valuation < 95% Market	
Valuation between 95-105% Market	
Valuation > 105% Market	
Valuation > 2X Market	

Figure 27

Scenario 2)

Assuming the US Ecology new operating system will lower costs and therefore improve gross margins using the following future COGS ratios, which converge to the industry average.

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023
COGS/Revenue	0.696	0.691	0.696	0.699	0.696	0.690	0.685	0.685	0.685

Figure 28

Scenario 2 Share Price

Enterprise Value	1996.80
Less: Net Debt	327.09
Plus: Cash & Cash Equivalents	36.91
Equity Value	1706.62
Shares Outstanding	22.07
Share Price	77.33
Current Share Price	58.00
Upside	33.3%

If this occurs, we believe US Ecology could potentially have an upside of 33.3%.

References

Source US Ecology Annual Growth Conference 2017, Available at http://www.investors.usecology.com/~/media/Files/U/US-Ecology-IR/events-pdfs/2018/investor-presentation-aug-sept-2018.pdf

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