



## Financial Performance Analysis and Stock Valuation of Coal Mining Company during Covid19 Pandemic (Case Study: Adaro Energy Indonesia)

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**ABSTRACT:** Coal is one of the commodity that is mined and consumed a lot in Indonesia and also the world. The thermal coal is needed for the electricity meanwhile metallurgical coal is needed in the steel making industry. Towards mid-2021, the coal price has escalated to all time high. It affects stock price performance of several coal mining companies in Indonesia. From having a bad downturn in 2020 due to Covid-19 and less energy demand, coal starts to gain more demand in 2021 in line with more industrial activities and economy recovery. In Indonesia, one of the coal mining company with one of the largest reserve and largest market capitalization is Adaro Energy.

The purpose of this research is to analyse the intrinsic value of Adaro Energy to help investors gain insight especially after the world economy is recovering after two years in the pandemic crisis. The financial performance of Adaro Indonesia will be projected for the upcoming five years. From the calculation using Discounted Cash Flow, it is found that the intrinsic value is IDR3, 263.56. Considering the market value of Adaro in the closing date of 2021 is IDR2, 250, thus the expected rates of return is 45% or IDR1, 014. Form the calculation using Dividend Discounted Model, the intrinsic value is IDR3, 494.05 (55, 3% return); using PBV, the intrinsic value is IDR3, 513 (56% return); using EV/EBITDA, the intrinsic value is IDR2, 605 (16% return).

**KEYWORDS:** Corporate finance, Discounted cash flow, Firm value, Fair value, Financial ratio.

### INTRODUCTION

According to International Energy Agency (2019) [1], Southeast Asia is going to reach the universal access to electricity by 2030. It means the demand for electricity will increase significantly over the coming decades. It is recorded that the growth of electricity demand in the Southeast Asia region alone is averaging at 6% per year. It is considered as the fastest increasing electricity demand in the world. One of the energy source for electricity that is common and very cheap to use is coal. Thus, Southeast Asia is one of the region that relies on coal energy source a lot and even had an increase of coal demand in their power mix in 2018. In the PLN's (Indonesia's electricity power company) RUPTL 2021 – 2030, the portion of coal in the fuel mix would remain around 60% until 2030 (ADB, 2020) [2].

Indonesia is one of the biggest producer and exporter of coal in the world. It is recorded that the country's coal exports contributes to the GDP of Indonesia for about 5%, and 12% of all export income (LPEM UI, 2022) [3]. One of the biggest coal mining company that listed on IDX30 index by Indonesian Stock Exchange is Adaro Energy Indonesia. IDX30 is an index that measures the price performance of 30 stocks that have high liquidity and large market capitalization and supported by good company fundamentals (IDX, 2022) [4]. The index is updated regularly by Indonesian Stock Exchange as the institution that manage the capital market in Indonesia. Other than Adaro Energy Indonesia, only PT Bukit Asam that is able to be listed there. Per December 2021, the market capitalization of Adaro is USD\$6.5 billion.

The 2022 and future coal market prospect is supported by the economic recovery target in most countries to catch up after the slowdown of economic activities during COVID19 pandemic. The world economy is forecasted to grow by 4.1% in 2022 according to the World Bank[5]. Energy will be the key factor to achieve the target and coal will remain as the majority in total fuel mix. McCloskey by OPIS, a Dow Jones Company predicts that global coal demand in 2022 would grow by 2%, where 3% growth would happen in the Pacific market[5]. Therefore, it is interesting and also important to analyze one of the biggest coal producer in Indonesia which is Adaro Energy Indonesia to gain recommendation for investors.

One of the cause is the high energy demand from China, India and several countries in Europe following the economic recovery post pandemic. Hence, the international coal price increases reaching the highest in the period of 5 years. Tracing back to the second half

of 2018, due to unexpectedly hot weather across Asia and Europe, which resulted in greater energy usage for air conditioning, the thermal coal price reached its peak, the highest since 2012. China and India are expected to continue to be the world's largest coal consumers through 2023, with total coal consumption forecast to be roughly two-thirds of worldwide consumption.

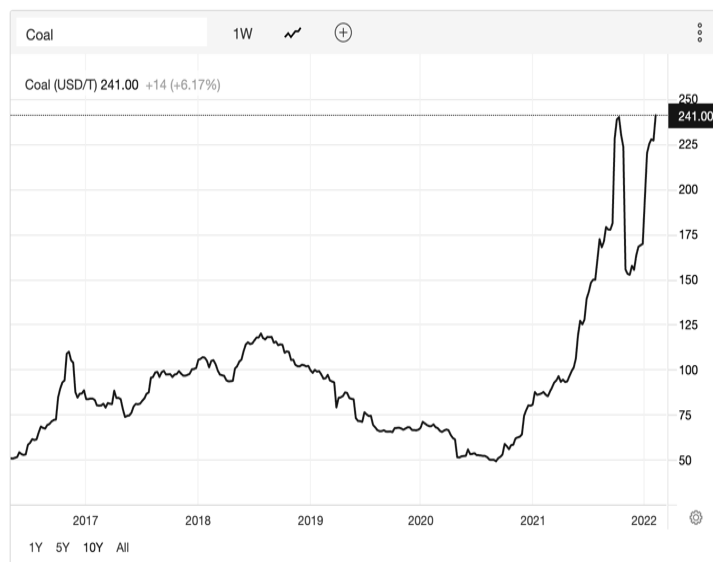


Figure 1. 2017-2022 Global Coal Price Trend (Trading Economics, 2022)



Figure 2. Adaro Stock Price Performance (Yahoo Finance, 2022)

The stock price of Adaro has reached the lowest on 15th March 2020 (during this past five years period) at IDR745 due to the less mobility of people, slowdown of economy during pandemic and thus, less energy demand. The same thing happened to the stock price of other coal mining companies in Indonesia such as Bumi Resources at IDR50, and Indika Energy at IDR480. However, the stock price of Adaro is recovering to be as high as early 2018 in the end of 2021 into 2022 faster than other coal mining companies. At the beginning of January 2022, the stock price is at IDR2,310.

In this paper, there will be an analysis of Adaro's Absolute Valuation process using Discounted Cash Flow (DCF) method, and Dividend Discounted Model (DDM); and Relative Valuation method using Price to Book value, and EV/EBITDA to assess the fundamental and find the fair price of Adaro Energy Indonesia. We need to recalculate the fair value of Adaro after the pandemic and whether we should invest in the company to gain return or it is not recommended. Thus, feasibly this final project will help investors to get some insight and better judgement on Adaro Energy Indonesia.



## II. BUSINESS EXPLORATION

### 2.1 External Analysis

Corporate Finance Institute (2022)<sup>[6]</sup> mentioned that external analysis is exploring the industry environment of a company including macroeconomics, global, social, political and technological analysis. In conducting a business operation activities, the external factors may affect the company. It can lean towards positive or negative effects that drive profitability, growth, and profitability.

#### 2.1.1 Macroeconomics

Indonesia's gross domestic product (GDP) growth is expected to increase at 5% - 5.2% in 2022 and 2023 according to a report by Asian Development Outlook (2022). Meanwhile, Central Bank of Indonesia predicted that the national economic growth in 2022 to be 4.7% - 5.5% which increases from 3.2% - 4.0% in 2021 (Bank Indonesia, 2021). It is mainly driven by the ongoing global economic improvements and growing domestic demand in terms of consumption and investment. Furthermore, the national vaccination program to create herd immunity from the Covid19 virus has lifted some mobility restrictions and give a positive sentiment that Indonesia can move towards changing pandemic status into endemic. Thus, economic and business activities continues to normalize.

Meanwhile, inflation is forecasted to rise from 1.6% in 2021 to 3.0% to 3.6% in 2022 due to faster economic growth and higher commodity prices, but it will still be within the Bank of Indonesia's target range (ADB, 2022). The rise in commodity prices, especially energy, proven to be an unexpected advantage for Indonesia. As one of the main producers of crude palm oil (CPO) and coal, Indonesia is enjoying trade surplus of USD9.33 billion in Q1-2022. This surplus is 20% (yoy) higher compared to the same period in 2021. It is mainly caused by higher growth in exports than imports especially high coal commodity price.

#### 2.1.2 Porter Five Forces

##### Threats of New Entrants (Low)

In entering a coal mining industry, a company needs a lot of resources, skill and fund to be established well. First, they need to do their research to find coal reserves, getting a license from the government, and also acquiring the land. Furthermore, to survive in the competitive industry and to survive the cyclical nature, a company needs to conduct a low cost production and find the buyers of coal which might already has contract with other companies. Thus, the threats of new entrants is considered low.

##### Bargaining Power of Suppliers (Medium to High)

The bargaining power of suppliers remains medium to high due to the necessity of mining infrastructures, machineries, operational equipment, and vehicle. Adaro Energy Indonesia has an integrated business model from pit to port that allows them to cut cost and also be more flexible. Using their strategically integrated coal supply chain from pit to port through their subsidiaries, they manage to be cost effective during the peak and even the lowest cycle of the industry. It has enabled Adaro to achieve the cost leadership position in both thermal and metallurgical coal. Thus, the coal is sold at competitive cost and contributes to the highest operational EBITDA margin in the sector.

##### Bargaining Power of Buyers (Medium)

Considering the post pandemic situation in which every country is catching up to a faster economic development, they competitively demand for energy source. In addition, the conflict between Russia and Ukraine has made countries that rely on gas exports from Russia search for other energy source including coal. Furthermore, heat waves and also the colder winter season has increased the use of electricity for air conditioning and room heater. Meanwhile, domestic demand is still high as Indonesia is going for 100% national electrification program. However, the ceiling price is limited to US\$70 per ton as stated in Keputusan Menteri Energi dan Sumber Daya Mineral No.255.K/30/MEM/2020<sup>[7]</sup>. Thus, the bargaining power of buyers is considered medium.

##### Threats of Substitution (Medium)

Indonesia has an abundant resource of renewal energy such as geothermal, hydropower, wind power, solar power, etc. However, the program to turn Indonesia's fuel consumption into renewable energy consumption tends to be slow. For instance, Indonesia is only using 7% of their geothermal potential (ADB, 2020)<sup>[2]</sup>. The National Energy Policy (KEN) 2014 has set the target for the primary energy mix until 2025. Although, the institution aims for 23% contribution from the renewal energy, coal is still going to be the highest contributor in the primary energy mix at 55%. Meanwhile, for export, the country relies mainly to China and India that still heavily consume coal.



**Competitive Rivalry (High)**

In Indonesia itself, there are already some existing coal mining companies such as Indika Energy, Indo Tambangraya Megah, Bayan Resources, Bumi Resources, ABM Investama, Golden Energy Mines that also supply to both domestic demand and also exports to fulfil the demand from other countries. Furthermore, Indonesia is not the only country with huge number of coal reserves and exports. There are China and Australia with more amount of coal exports in the global market.

**2.2 Internal Analysis**

**Table 1.** Adaro Financial Performance Overview (Adaro, 2022)

	2017	2018	2019	2020	2021
<b>Net Sales</b>	44.143.895,48	52.417.614,23	48.057.897,75	35.753.946,41	56.972.093,14
<b>Gross Profit</b>	15.465.069,10	17.525.007,57	13.408.779,49	8.134.762,55	25.252.505,67
<b>EBIT</b>	10.145.216,58	10.146.300,90	6.247.540,33	303.045,92	18.044.705,82
<b>Net Profit</b>	10.788.827,87	6.785.955,89	5.386.748,71	1.396.423,21	15.797.281,25

The revenue and net income of PT Adaro Energy Indonesia relied heavily on the global coal price as 72% of their production is being exported. Thus when the average coal price increase in 2018 by 21%, the revenue of the company increase too by 19%. The average price started to decline in 2019 and 2020 by 21%-26% causing the revenue decrease by 8,32% in 2019 and by 24,6% in 2020. However, due to the increasing demand of coal during economic recovery in 2021, the average global coal price increase up to 140%.

**Table 2.** Global Coal Price 2017-2021 (Analysis, 2022)

Month	2017	2018	2019	2020	2021
Jan	83,00	104,35	99,00	68,50	86,20
Feb	83,45	105,10	96,05	67,40	85,10
Mar	80,75	96,40	92,75	67,85	96,25
Apr	83,55	99,40	85,20	51,25	93,30
May	73,45	110,15	85,40	52,00	118,90
Jun	81,00	114,40	70,90	52,15	128,55
Jul	93,20	119,90	69,65	51,95	149,75
Aug	95,30	118,00	65,75	49,80	172,00
Sep	97,25	113,85	65,55	58,65	218,00
Oct	99,90	105,20	66,95	58,20	223,45
Nov	96,80	101,70	67,85	63,90	152,00
Dec	100,80	102,05	87,70	80,50	222,75
<b>Average</b>	<b>89,04</b>	<b>107,54</b>	<b>79,40</b>	<b>60,18</b>	<b>145,52</b>

Hence, in 2021, Adaro Energy Indonesia finally recovered from the declining financial position caused by the crisis during the Covid-19 pandemic. Not only they finally gain an increase in their EBITDA and free cash flow, but also outperformed their 2017 and 2018 financial performance. As seen on the Figure 24 below, operational EBITDA increases 138% y-o-y in 2021 with 30.021.976 (IDR million), and 102% increase y-o-y for the free cash flow with 18.135.899 (IDR million). With the huge amount of cash generation in 2021, Adaro closed the year in a net cash position. The company’s liquidity becomes at solid position of US\$2.3 billion.

**2.2.1 Operating Profit Margin**

**Table 3.** Operating Profit Margin of Indonesia Coal Mining Companies (Analysis, 2022)

Companies	2017	2018	2019	2020	2021
ADRO	29.2%	25%	26.5%	29.1%	38.3%
ITMG	21.4%	18.3%	10.8%	6.1%	29.9%
PTBA	30.3%	29.4%	23%	14.5%	36.9%
INDY	16.9%	9.8%	5.6%	6.8%	15.8%
BYAN	40.5%	41.8%	23%	21.2%	52.9%



It is a measure of how a company is able to generate profit from its operating activities. The bigger percentage is generally better. From the calculation above, the trend is similar again similar with gross profit margin with the decrease from 2017 to 2020 and gain a significant increase in 2021. One of the factor is more demand, more production and more expensive coal price after the pandemic. However, due to the successful effort of Adaro to be more efficient in their operation, the operating profit margin of Adaro has outperformed PT Bukit Asam by 1.4% in 2021. Meanwhile, PT Bayan Resources still the best performer in this profit margin ratio. The difference between Bayan and Adaro is 14.6% to increase its efficiency or increase the market share.

2.2.2 Quick Ratio

Table 4. Quick Ratio of Indonesia Coal Mining Companies (Analysis, 2022)

Companies	2017	2018	2019	2020	2021
ADRO	2	1.7	1.5	1.4	2
ITMG	1.7	1.5	1.3	1.5	2.4
PTBA	2.1	1.9	1.6	1.9	2.2
INDY	1.6	1.7	1.6	1.7	1.2
BYAN	0.5	0.8	0.5	2.3	2.6

It is a measure of company’s short term liquidity whether the company can meet all of its current liabilities or not using near cash or quick asset. From the calculation above, Adaro quick ratio decreased from 2018 to 2020 to the ratio of 1.4. The cash and other current asset increased but so did the current liability that causing the decreased quick ratio. However, the company improve its ability to turn near cash or quick asset to pay all of its current liabilities in 2021 to 1.8. It means that Adaro is liquid enough but is outnumbered by other companies. Adaro is making use of the short term financing (leverage) to sustain the company especially during the bad cycle of coal.

2.2.3 Price to Book Value

Table 5. Price to Book Value of Indonesia Coal Mining Companies (Analysis, 2022)

Companies	2017	2018	2019	2020	2021
ADRO	1.3	0.7	0.9	0.9	1.2
ITMG	1.7	1.5	1	1.2	2.2
PTBA	2	3.1	1.7	1.9	1.5
INDY	1.8	0.6	0.5	0.8	1.4
BYAN	7.9	6.9	6.6	6.4	5.1

It is a measure of whether the company’s stock is valued fairly, undervalue or overvalue. Higher ratio indicates that the stock is overvalued compared to its book value. From the calculation above, there is no coal mining company that has price to book value ratio below 1 in 2021 since all the ratio has gone up following the economic recovery and the low rate of Covid-19 virus. The lowest ratio belongs to Adaro at 1.2 followed by PT Indika Energy and PT Bukit Asam. It means that Adaro share price is the most undervalued compared to other companies. To support this analysis, there will be further calculation and other valuation model.

2.2 Business Strategy Analysis: Diamond Framework

This strategy framework is created by Don Hambrick and Jim Fredrickson with the purpose to understand the business strategy of a big company with more complex operational aspects by visualizing it into five elements. They are arena, vehicle, differentiators, staging, and economic logic.

Arena is filled the answer about where will we be active; vehicle is about how will we get there; differentiators is about how will we win or achieve the target; staging is about what will be our speed or sequence of moves; and economic logic is about how will returns be obtained. Here is the diamond strategy framework for Adaro Energy Indonesia:



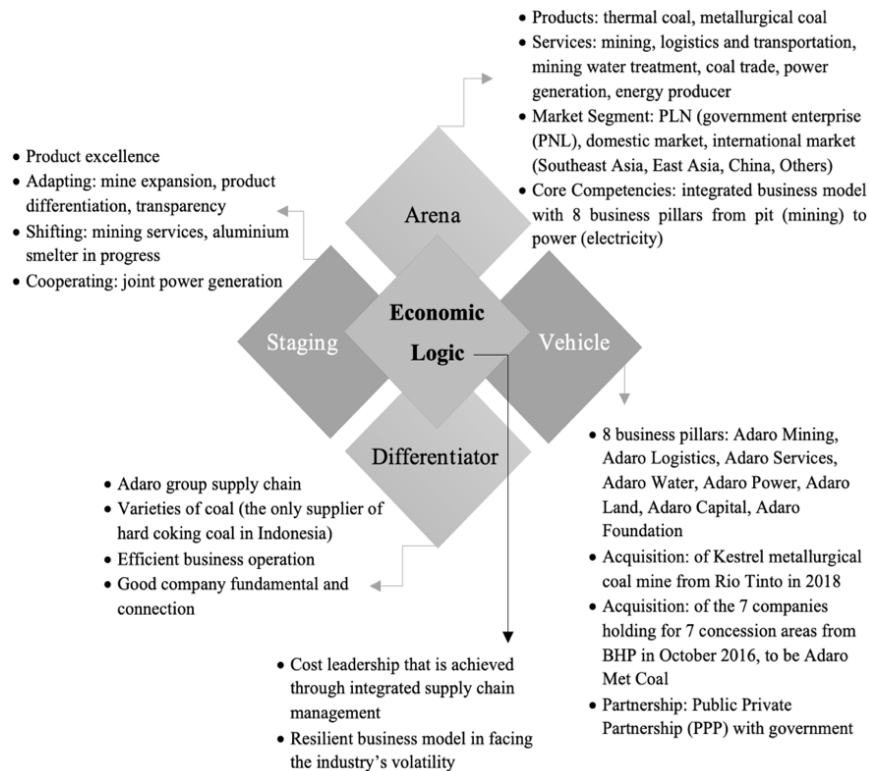


Figure 3. Adaro Diamond Strategy Framework (Analysis, 2022)

There are some relations between this diamond strategy framework towards the financial performance of the company thus link with the valuation of Adaro. In arena section, Adaro is adapting by also providing premium hard coking coal besides their usual thermal coal that helps increase their revenue, join in the government project of PLTU Batang for their power generation business, and the group also plan to shift into green energy gradually since Indonesia plan to consume more renewable energy and utilize more electric vehicle by building aluminum smelter for cable, battery, chassis, and for other industries such as solar panels and electric vehicle. The aluminum smelter will add more revenue, free cash flow, and of course the value of the company too.

In December 2021, Adaro Energy Indonesia has signed the Letter of Intention to Invest for as much as US\$728 million to build the aluminum smelter that will be operated in 2024. The location is in Kalimantan Industrial Park which will be the biggest green energy powered industrial area in the world. The signation of the letter by Vice President of Adaro Energy Ario Rachmat is witnessed by President Jokowi, Coordinating Minister for Maritime and Investment Affairs Luhut Binsar Pandjaitan, and Chairman of Indonesia Investment Coordinating Board Bahlil Lahadalia.

Indonesia plans to stop exporting bauxite by 2023, and turn the bauxite into aluminum that can be exported up to 10 times more expensive considering the value added process. Currently, Indonesia relies mainly on import to fulfil the demand of up to 1 million ton per year. PT Indonesia Asahan Aluminium (Inalum) produces 200,000-250,000 ton of aluminum per year, thus the remaining 750,000 ton comes from export. The global price of aluminum has also increased significantly in 2021 up to US\$3,000.

Regarding the aluminum smelter that Adaro built for operation in 2024, the initial investment is US\$728 millions, Table 1 is the scenario of how the company can gain certain revenue and net profit. The optimistic assumption is 500,000 ton (the same as the target set by the company) while the pessimistic assumption 250,000 ton production per year (the same as PT Inalum Indonesia amount of production) with the average price of aluminum is US\$2,000 per ton based on the average 2021 price, and the assumption for the net profit is 15% from the revenue based on the margin from the financial performance of Adaro.



**Table 6.** Scenario of Adaro Aluminium Smelter Production and Revenue (Analysis, 2022)

Scenario of Adaro Aluminum Smelter in 2024				
Initial Investment (US\$)	Production (ton)	Price (US\$ per ton)	Revenue (US\$)	Net Profit (US\$)
728,000,000	500,000	2,000	1,000,000,000	150,000,000
728,000,000	450,000	2,000	900,000,000	135,000,000
728,000,000	400,000	2,000	800,000,000	120,000,000
728,000,000	350,000	2,000	700,000,000	105,000,000
728,000,000	300,000	2,000	600,000,000	90,000,000
728,000,000	250,000	2,000	500,000,000	75,000,000

If Adaro manages to produce the same amount of aluminum production as PT Inalum Indonesia as much as 250,000 ton per year, and the average price is US\$2,000 then the revenue will be US\$500 million with net profit US\$75 million added to the income for the group in 2025 which is a year after the smelter is operating. It will further increase the value and fair price of the company.

In vehicle and differentiator, Adaro acquisitioned the Kestrel mine in Australia to have differentiator compared to other coal mining company which is premium hard coking coal and utilize their integrated business model that consists of eight business pillars. Thus, in the financial performance, Adaro managed to be more efficient with the total expenses is only 13.6% from EBIT in 2021, decreased up to 15% from the average expenses from the previous years.

**III. BUSINESS SOLUTION**

The stock valuation of Adaro Energy Indonesia will be calculated using both absolute and relative valuation method in order to provide solution for investors regarding fair value of the company.

**3.1 Absolut Valuation**

In order to calculate the fair value of Adaro stock, absolute valuation model is used. The income statement and balance statement will be projected based on the historical financial statement of Adaro. The projection uses pro forma income statement, and Indonesia coal industry growth rates which is 5.3% (Mordor Intelligence, 2022) to generate the free cash flow for the next five years.

*3.1.1 Discounted Cash Flow*

The free cash flow will be discounted using the discount rate from weighted average cost of capital (WACC). To calculate the WACC, first we need some assumptions to find the cost of debt and cost of equity.

**Table 7.** Assumption for WACC Calculation

No	Variable	Value	Remark	Source
1	Risk Free Rate	7.5%	10 years government bond yield (June 2022)	Bank Indonesia
2	Company Default Spread	0.63%	Adaro Interest Coverage, 2021	Damodaran
3	Country Default Spread	1.62%	Government sovereign 5 <sup>th</sup> January 2022	Moody's and Damodaran
4	Beta Stock	1.088	ADRO beta stock 3 <sup>rd</sup> March 2022	Pefindo
5	Equity Risk Premium	6.12%	Indonesia Equity Risk Premium 5 <sup>th</sup> January 2022	Damodaran
6	Country Risk Premium	1.88%	Indonesia Country Risk Premium 5 <sup>th</sup> January 2022	Damodaran
7	Tax Rate	30%	Average Tax Rate	Financial Statement



Cost of debt is an interest rates or return that is provided from the company towards their fund lender. Meanwhile, cost of equity is the rates of return that is provided for the equity investors or shareholders. The formula and calculation is as follow:

$$\begin{aligned} \text{Cost of Debt} &= \text{Risk Free Rate} \\ &+ (\text{Company Default Spread} + \text{Country Default Spread}) \\ &= 7.5\% + (0.63\% + 1.62\%) \\ &= 9.75\% \end{aligned}$$

$$\begin{aligned} \text{Cost of Equity} &= \text{Risk Free Rate} + (\beta \times \text{Equity Risk Premium}) \\ &= 7.5\% + (1.088 \times 6.12\%) \\ &= 14.71\% \end{aligned}$$

After finding the cost of debt and cost of equity, here is the calculation for the weighted average cost of capital. The total debt and total equity is obtained from the 5 years financial projection.

$$WACC = (W_e \times CoE) + (W_d \times CoD) \times (1 - t)$$

**Table 8.** Adaro WACC Calculation (Analysis, 2022)

Variable	Value
Total Firm's Debt (million IDR)	26,403,428.95
Total Firm's Equity (million IDR)	20,093,834.10
Total Firm's Debt + Equity (million IDR)	46,497,263.05
Weight of Debt	56.78%
Weight of Equity	43.22%
Estimated Cost of Debt	9.75%
Estimated Cost of Equity	14.21%
Corporate Tax Rate	30%
<b>WACC</b>	<b>10%</b>

Next, the free cash flow to the firm is calculated. This cash flow it considered to be the company's profitability after accounting for taxes, capital expenditures, and net-working capital. Thus, the formula is

$$FCFF = ((EBIT \times (1 - \text{tax rate})) + \text{Depreciation} - \text{Capital Expenditure} - \Delta \text{Net Working Capital})$$

All of the variables are obtained from the financial projection in million IDR. The fifth year's free cash flow which is IDR 191,649,177.34 million is calculated to find the terminal value.

$$\text{Terminal Value} = \frac{FCF_n \times (1 + \text{growth rates})}{WACC - \text{growth rates}}$$

The growth rates is assumed to be 4% since the World Bank predicts that the global economy will grow after the pandemic for approximately 4%. Although, PLN (the state enterprise that provides electricity) predicts that the demand for electricity will grow for 6% per year, Adaro Energy Indonesia sells 75% of their products abroad/exports.





**Table 9.** Adaro Free Cash Flow to the Firm (Analysis, 2022)

	2022F	2023F	2024F	2025F	2026F
<b>FREE CASH FLOW TO THE FIRM</b>					
Earnings Before Interest and Taxes (EBIT)	9.611.648,65	8.834.667,08	8.734.872,17	8.821.977,15	11.971.210,40
Tax of EBIT	2.959.426,62	2.720.193,99	2.689.467,14	2.716.286,76	3.685.935,68
<b>Net Operating Profit After Tax</b>	<b>6.114.473,09</b>	<b>6.045.405,03</b>	<b>6.105.690,38</b>	<b>8.285.274,72</b>	<b>8.285.274,72</b>
Depreciation & Amortization	4.372.799,46	4.485.224,84	4.982.669,61	5.410.800,58	5.283.048,47
<b>Operating Cash Flow</b>	<b>10.487.272,55</b>	<b>10.530.629,87</b>	<b>11.088.359,99</b>	<b>13.696.075,30</b>	<b>13.568.323,18</b>
Changes in NWC	(2.519.206,97)	1.226.060,38	710.077,09	853.423,70	(5.299.609,31)
Changes in CAPEX	6.733.830,04	3.797.913,20	3.690.247,03	4.684.119,21	6.542.462,14
<b>Free Cash Flow to the Firm</b>	<b>6.272.649,47</b>	<b>5.506.656,29</b>	<b>6.688.035,87</b>	<b>8.158.532,39</b>	<b>12.325.470,36</b>
<b>Terminal Value</b>					<b>214.353.823,09</b>
<b>Total Cash Flow</b>	<b>6.272.649,47</b>	<b>5.506.656,29</b>	<b>6.688.035,87</b>	<b>8.158.532,39</b>	<b>226.679.293,44</b>

The terminal value of Adaro then being averaged by EV/EBITDA as the future value. Then, it will be discounted to the net present value as the Enterprise Value below. It is further calculated to find the intrinsic value per share of Adaro Energy Indonesia based on their financial performance.

**Table 10.** Adaro Intrinsic Value (Analysis, 2022)

<b>Intrinsic Value</b>	
Enterprise Value	104,905,051
Plus: Cash	25,886,320
Less: Debt	26,403,429
Equity Value	104,387,943
<b>Equity Value/Share</b>	<b>3,263.56</b>

In the intrinsic value calculation above, the total equity value is divided by the total shares outstanding which is 31.9 billion. It is found that the fair value of Adaro energy Indonesia is IDR3,363.56.

**Table 11.** Adaro Market Value (Analysis, 2022)

<b>Market Value</b>	
Market Cap	71,968,392
Plus: Debt	26,403,429
Less: Cash	25,886,320
Enterprise Value	72,485,501
<b>Equity Value/Share</b>	<b>2,250.00</b>

However, the market value per share in the closing date of 2021 is IDR2,250. Thus there is an upside between the price on the market. It is resulted in the target price upside of 45% and internal rate of return IRR of 20%.

**Table 12.** Adaro Return (Analysis, 2022)

<b>Rate of Return</b>		
Target Price Upside		45%
Internal Rate of Return (IRR)		20%
<b>Market Value vs Intrinsic Value</b>		
Market Value	IDR	2,250
Upside	IDR	1,014
Intrinsic Value	IDR	3,264

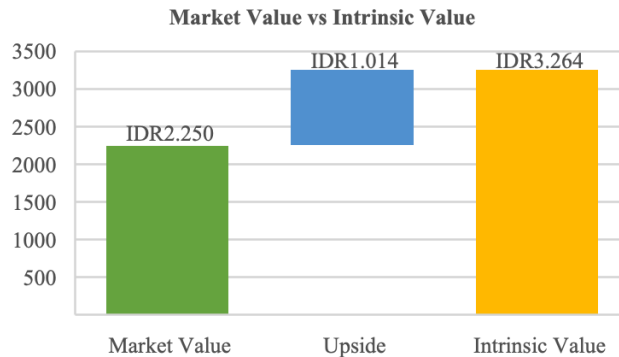


Figure 4. Adaro Share Price Upside (Analysis, 2022)

Thus, the stock price of Adaro Energy Indonesia is undervalued relatively to its fair value. The potential reward is 45% or IDR1,014.

3.1.2 Discounted Cash Flow with Aluminum Smelter

Adaro Energy Indonesia already signed the Letter of Intention to Invest for as much as US\$728 million to build the aluminum smelter that will be operating in 2024. The target of production in 2024 according to Adaro management is 500.000 ton aluminum.

Table 13. Adaro Aluminum Smelter Revenue (Analysis, 2022)

Initial Investment (US\$)	Production (ton)	Price (US\$ per ton)	Revenue (US\$)
728,000,000	500,000	2,000	1,000,000,000

Thus, the addition revenue of US\$1,000,000 per year starting in 2024 until the final projection year in 2026 will increase the terminal value of the company up to 33.3%.

Table 14. Adaro Free Cash Flow to Firm with Smelter (Analysis, 2022)

	2022F	2023F	2024F	2025F	2026F
<b>FREE CASH FLOW TO THE FIRM</b>					
Earnings Before Interest and Taxes (EBIT)	9.611.648,65	8.834.667,08	8.646.311,75	8.146.534,08	12.317.929,16
Tax of EBIT	2.959.426,62	2.720.193,99	2.662.199,39	2.508.317,84	3.792.690,39
<b>Net Operating Profit After Tax</b>	<b>6.114.473,09</b>	<b>5.984.112,36</b>	<b>5.638.216,23</b>	<b>8.525.238,77</b>	<b>8.525.238,77</b>
Depreciation & Amortization	4.372.799,46	4.485.224,84	6.110.073,19	6.636.299,48	7.410.126,00
<b>Operating Cash Flow</b>	<b>10.487.272,55</b>	<b>10.469.337,20</b>	<b>11.748.289,43</b>	<b>15.161.538,25</b>	<b>15.935.364,77</b>
Changes in NWC	(2.519.206,97)	1.226.060,38	710.077,09	853.423,70	(5.299.609,31)
Changes in CAPEX	6.733.830,04	3.797.913,20	3.690.247,03	4.684.119,21	6.542.462,14
<b>Free Cash Flow to the Firm</b>	<b>6.272.649,47</b>	<b>5.445.363,63</b>	<b>7.347.965,31</b>	<b>9.623.995,34</b>	<b>14.692.511,95</b>
<b>Terminal Value</b>					<b>255.519.344,51</b>
<b>Total Cash Flow</b>	<b>6.272.649,47</b>	<b>5.445.363,63</b>	<b>7.347.965,31</b>	<b>9.623.995,34</b>	<b>270.211.856,46</b>

Table 15 Adaro Intrinsic Value with Smelter (Analysis, 2022)



Intrinsic Value	
Enterprise Value	133,784,607
Plus: Cash	18,961,099
Less: Debt	29,866,040
Equity Value	122,879,667
<b>Equity Value/Share</b>	<b>3,841.68</b>

The calculation is similar with the first discounted cash flow, but after adding the revenue projection from aluminum smelter in 2024 the equity value per share becomes IDR3,841.68. There is an increase of IDR578.12 per share or 17.7% from the previous DCF calculation.

Rate of Return	
Target Price Upside	71%
Internal Rate of Return (IRR)	24%

Market Value vs Intrinsic Value		
Market Value	IDR	2,250
Upside	IDR	1,592
Intrinsic Value	IDR	3,842

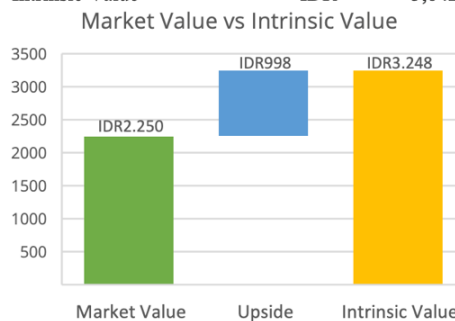


Figure 5. Adaro Share Price Upside After Smelter (Analysis, 2022)

### 3.1.3 Dividend Discount Model

Since 2008 up until 2021, Adaro Energy Indonesia has always paid dividends every year for the investors. The historical dividend pay-out ratio of the company is used to obtain the projected dividend per share for the next five years. Adaro has paid approximately US\$1.7 billion in dividend with average pay-out ratio of 67% for the last five years. For FY20, Adaro paid US\$147 million dividend, or 99.92% pay-out ratio. In addition, there is also interim dividend distribution for FY21 amounting US\$350 million paid on January 14, 2022. Starting from September 2021, Adaro has also initiated their first share buyback program to further enhance shareholders' returns.

Table 16. Adaro Dividend Discount Model (Analysis, 2022)

DIVIDEND DISCOUNT MODEL (DDM)					
<u>Dividends</u>	2022F	2023F	2024F	2025F	2026F
Dividends Per Share (DPS)	204,78461	262,17754	335,65540	429,72617	550,16122
Cost of Equity (Ke)	14,7%	14,7%	14,7%	14,7%	14,7%
<b>Present Value (PV) of Dividend</b>	<b>178,52</b>	<b>199,25</b>	<b>222,38</b>	<b>248,19</b>	<b>277,00</b>
<u>Share Price Calculation</u>					
PV of Total Dividends	1.125,34				
Terminal Value	4.704,54				
PV of Terminal Value	2.368,71				
<b>Value Per Share (\$)</b>	<b>3.494,05</b>				



From the calculation above, the dividend per share increases following the net income projection and dividend pay-out ratio. The present value of total dividend per share per year is IDR1,125.34 with present value of terminal value is IDR2,368.71. Thus, the value per share of Adaro is IDR3,494.05 which means the current market price of the company is undervalued.

**3.2 Relative Valuation**

Another valuation method is the relative valuation that consists of price to earning (P/E), price to book value (PBV), and EV/EBITDA. Each ratio will lead to the target price of Adaro per share. There are four other coal mining companies as the comparison that is also being the benchmark in the financial ratio analysis in chapter II. The companies are PT Indo Tambangraya Megah (ITMG), PT Bukit Asam (PTBA), PT Indika Energy (INDY), and PT Bayan Resources (BYAN). They have the biggest market capitalisation beside Adaro Energy Indonesia.

**3.2.1 Price to Book Value**

Price to book value compares the company’s market value to the book value of its equity. It can be used to find whether the company stock price is undervalued or overvalued. If the ratio is below 1, it indicates that the company is undervalued and anywhere above 1 indicates that that the stock price is trading at premium.

**Table 17.** Price to Book Valuation (Analysis, 2022)

Companies	2017	2018	2019	2020	2021	2022F
ADRO	1.3	0.7	0.9	0.9	1.2	1
ITMG	1.7	1.5	1	1.2	2.2	
PTBA	2	3.1	1.7	1.9	1.5	
INDY	1.8	0.6	0.5	0.8	1.4	
BYAN	7.9	6.9	6.6	6.4	5.1	
Average	2.94	2.56	2.14	2.24	2.28	
Delta	56%	73%	58%	60%	47%	56%
<b>Target Price</b>						<b>3,513.16</b>

From the calculation, there is no coal mining company that has price to book value ratio below 1 in 2021 since all the ratio has gone up following the economic recovery after the low rates of Covid-19 virus. The lowest ratio belongs to Adaro at 1.2 followed by PT Indika Energy and PT Bukit Asam. From the calculation, the target price of Adaro using PBV ratio is IDR3,513.16 per share. It means that the current market price is undervalued.

**3.2.2 EV/EBITDA Valuation**

EV/EBITDA is a valuation method that assess the company’s ability to generate profit using its worth. It is best to compare the ratio with companies in the same industry since the ratio may vary across different industries. In general, the ratio below 10 is considered as healthy. The higher the ratio, the more likely for the share price to be overvalued.

**Table 18.** EV/EBITDA Valuation (Analysis, 2022)

Companies	2017	2018	2019	2020	2021	2022F
ADRO	3.9	2.3	3.2	3.9	3.2	3.15
ITMG	3.4	2.6	2.2	4.5	4.5	
PTBA	4	4.6	3.9	6.7	3.3	
INDY	18.2	2.3	3.1	6.5	2.6	
BYAN	7.2	6.2	8.1	14.5	5.1	
Average	7.34	3.6	4.1	7.22	3.74	
Delta	47%	36%	22%	46%	14%	16%
<b>Target Price</b>						<b>2,604.95</b>



From the calculation above, the target price of Adaro from the EV/EBITDA analysis is IDR2,604.95 per share. It means that the current market price is undervalued.

#### IV. CONCLUSION

- Commodity prices are expected to continue to rise in 2022 and remain there until 2024 amid uncertain global developments and geopolitical conflicts
- Increasing electricity consumption in Indonesia and abroad to increase demand for thermal coal
- Adaro focus remains on controlling costs, integrated business model (pit to port), prioritizing capital investment in aspects that have growth potential and infrastructure.
- Efficiency in production cost, selling cost, and G&A
- ADRO carried out coal mining activities, and project with government (PLTU Batang)
- Branching out to premium hard coking coal (metallurgical coal)
- Begin the shift to green energy by building a facility in Kalimantan Green Industrial Park to produce 500,000 tons of aluminum in 2024
- Build solar-powered plants with over 200 megawatt capacity on retired mine sites in Kalimantan, Batam and Bintan provinces
- Build hydro power plants in a green industrial park being set up by the government in North Kalimantan

In conclusion, based on their historical financial performance, Adaro Energy Indonesia is a healthy and liquid company especially when the managed to increase their operating profit margin and now in a strong cash position. However, their Return on Asset and Return on Equity is outperformed by smaller sized company. Adaro just acquired Kestrel 2018, they still have years ahead to utilize their asset to the maximum potential. For the PBV value, Adaro PBV is at 1.2 which is the lowest among others. It indicates that the company is more fair valued than others with higher PBV ratio.

Meanwhile, the intrinsic value is higher than the market value. Thus, the market value is considered undervalued. It is a good sign for investor to consider buying Adaro stock. From DCF calculation, the fair value is IDR3,264 which gives some room for return with the rates of 45% if using the price of closing date in 2021 at IDR2,250; from DCF calculation that includes the aluminum smelter operating in 2024, the fair value is IDR3,842 (undervalued with return 70.6%); from DDM calculation, the fair value is IDR3,494.05 (undervalued with 55.3% return); from PBV calculation, the fair value is IDR3,513 (undervalued with return 56%); from EV/EBITDA calculation, the fair value is IDR2,605 (undervalued with return 16%). As mentioned in the introduction and also business issue, the prospect of coal commodity is still quiet promising due to high demand from both domestic and international.

In conclusion, Adaro Energy Indonesia is considered a healthy and undervalued company referring to the comparison of market value and intrinsic value. However, investors should also pay attention to the current stock price and compared them to the intrinsic value calculation in this paper. In addition, it is advised to be watchful regarding the commodity price if investor is investing in commodity stock, as coal commodity price heavily influences the revenue and stock price as mentioned in the business issue.

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The author realizes that this report still far from perfect, criticism and suggestion for this report are very much welcomed.





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