

Scientists have been working hard to find a solution to our energy problem. So far the only solution they've come up with has to do with the use of algae. There are many beneficial outcomes when it comes to using algae as a solution. Therefore, Algae could be the solution to our energy problems.

One way in which algae could be a solution to our energy problem is that it can be produced anywhere. Unlike fossil fuels, Algae can be grown anywhere in a matter of time while fossils take decades to form. One of algae's major attractions is that unlike corn for ethanol or soybeans for biodiesel, algae can be grown in places unsuitable for food cultivation, which takes away the wasted space drawback by making use of non-arable, nutrient-poor land that won't support conventional agriculture (Text 1). While other goods need to be planted in specific regions in order to grow and form, algae can be grown anywhere which saves time and money since we won't have to look for a specific place to plant them.

Another way in which algae can help solve our energy problem is the fact that algae contains a high amount of fatty molecules that are similar to vegetable oils. (Text 1) Because Algae has all these fatty molecules, they can be converted into biofuel that can act as a drop-in replacement for petroleum-based gas, diesel and jet fuel. So not only does algae have these fatty molecules, but they can be used to produce gas much faster, cheaper,

Anchor Paper – Part 2 – Level 3 – A

and easier. For example, if oil/gas begins running out, algae can be used as a replacement which would benefit all of us.

However many disagree with the use of algae as the solution for our energy problem because many things can go wrong. For example, it stated "... the use of genetically modified algae may escape into the environment and become invasive, as algae that are non-native to the location." (Text 2) However, situations like this have occurred in the United States a lot of times and the problem has been solved. The abandonment of the idea of having something solve our energy problem over a problem with an easy fix isn't good. The benefits outweigh the negatives.

In conclusion, the potential use of algae can be a solution to our energy problem since it gives off many benefits and very little ~~negatives~~ negatives.

Anchor Level 3-A

The essay introduces a reasonable claim, as directed by the task (*Algae could be the solution to our energy problems*). The essay demonstrates some analysis of the texts (*So not only does algae have these fatty molecules, but they can be used to produce gas much faster, cheaper, and easier*), but insufficiently distinguishes the claim from alternate or opposing claims (*many disagree with the use of algae as the solution for our energy problem because many things can go wrong*). The essay presents ideas sufficiently, making adequate use of specific and relevant evidence to support analysis (*One way in which algae could be a solution ... is that it can be produced anywhere and Another way in which algae can help solve our energy problem is the fact that algae contains a high amount of fatty molecules*). The essay demonstrates inconsistent citation of sources to avoid plagiarism when dealing with direct quotes and paraphrased material, identifying two texts but failing to supply line numbers [(Text 1) and (Text 2)] and failing to use quotation marks with direct quotes. The essay exhibits acceptable organization of ideas and information to create a coherent essay, with an opening paragraph that establishes a claim, two paragraphs about the ease of growing algae and of converting it to biofuel, one paragraph acknowledging a counterclaim, and a concluding paragraph, reaffirming that *the potential use of algae can be a solution to our energy problem*. The essay establishes and maintains a formal style, using precise and appropriate language and structure (*There are many beneficial outcomes when it comes to using algae as a solution*). The essay demonstrates partial control of conventions, exhibiting occasional errors (*benefical, time while, Algae ... they, replacement which, occured, a alot, adandonment, outweigh*) that do not hinder comprehension. The essay addresses fewer texts than required by the task and can be scored no higher than a 3.

Algae is not the solution to our energy problems. The reasoning behind it is because it cost too much and it use up the Earth's resources. ~~But the use of~~ algae will use up the Earth's resources (like the Earth's water supply). As stated in Text 1, "... its production also requires more energy and water than plant sources such as corn". Algae uses more supplies than other natural sources which is not good for the environment. Another example explained in Text 1 says, "The cultivation of algae requires large amounts of phosphorus as a fertilizer, ... the world is currently on the brink of a peak of availability of Earth's finite phosphate resources. The use of algae will strain the limited resources which will affect the environment that needs such resources. In Text 2 it states, ..." algae would still use significantly more water than petroleum. Other resources compared to algae would use a less amount, making algae seem needed to resources that are so limited.

Algae cost pretty high in consideration that other alternative resources cost less money. In Text 4 it states, "High cost remains the big obstacle to commercial production. The algae business has suffered from "fantastic promotions, bizarre cultivation systems, and absurd productivity projections". The amount of money that goes into algae products is wasted! In Text 4 it also suggest that "producing oil from

Anchor Paper – Part 2 – Level 3 – B

algae grown in ponds at scale would cost between \$240 and \$332 a barrel, far higher than current petroleum prices. People can save money by using other resources instead of algae.

However other people believe that algae is a good source to use. Reasoning behind is that it is a good reusable source and cost less. Algae cost is cheap because of its reusable features. In text 3 it states, "not having to dry the algae is a big win in this process that cuts a great deal. So not only are you saving money but you are saving time.

Anchor Level 3-B

The essay introduces a reasonable claim, as directed by the task (*Algae is not the solution to our energy problems*). The essay demonstrates some analysis of the texts (*The use of algae will drain the limited resources which will affect the environment and People can save money by using other resources instead of algae*), but insufficiently distinguishes the claim from alternate or opposing claims (*However other people believe that algae is a good source to use and So not only are you saving money but you are saving time*). The essay presents ideas briefly, making use of some specific and relevant evidence to support analysis (*Algae uses more supplies than other natural sources and Algae cost pretty high in consideration that other alternative resources cost less money*). The essay demonstrates inconsistent citation of sources to avoid plagiarism when dealing with direct quotes and paraphrased material, failing to identify line numbers (*As stated in Text 1 and In text 2 it states*). The essay exhibits some organization of ideas and information to create a mostly coherent essay by introducing a claim and two supportive arguments, one focused on algae fuel production's need for phosphorus and water and the other on the financial drawbacks of algae-based fuel, ending with a paragraph that presents an unrefuted counterclaim, and no unifying conclusion. The essay establishes but fails to maintain a formal style, using primarily basic language and structure (*Another example claimed and use a less amount*) that is sometimes imprecise (*The amount of money that goes into algae*). The essay demonstrates emerging control of conventions, exhibiting occasional errors (*resources the; corn". Algae; sources which; states, ... "algae would; petroleum. Other; wasted!; it also suggest; However other; money but*) that hinder comprehension.

Growth can be seen throughout our culture. From day one we are growing socially, mentally and technologically.

It was a short while ago the United States was dependent on Rockefellers oil. Now as we reach peak oil we must seek out new technologies and new forms of fuels to keep our growth moving forward. Algie, cheaper on the pocket but costly on the environment. Pro's & cons are rich in conversations on the potential for this green oil.

Producing fuel from food has been controversial from the beginning. So maybe Algie won't meet that much resistance.

In text one line 36, we find that the production of bio-diesel from other products such as corn takes less energy and water. In text two line 34 we also find that there could be the potential for supply and demand issues. In this case demand exceeding the supply. This would result with high prices and with other fuel sources still available the bio-diesel would be dead before it got started.

Despite the cons there are pros to every situation. In text one line 20

we learn that producing Bio-fuel from algae can be done on wasted space, Space that conventional agriculture could not formally utilize to its full potential. In text 3 we learn that scientist are able to turn the algae into patrolm in just 30 minets. A mind blowing achievement that showcases the growth of technology in our culture.

Again we come back to growth.

How can we grow? I believe that the most economical decision is the best way to determine if this form of Green Bass. In my eyes the concerns of Supply and demand are enough to make a logical decision to not continue the use of Bio-diesel from algae especially while we know more about other clean, renewable energy sources that are already developed.

To grow big, we must be economically smart.

Anchor Level 3-C

The essay introduces a reasonable claim, as directed by the task (*the concerns of Supply and demand are enough to make a logical decision to not continue the use of Bio-diesel from algae*). The essay demonstrates some analysis of the texts (*This would result with high prices and with other fuel sources still available the bio-diesel would be dead before it got started*), but insufficiently distinguishes the claim from alternate or opposing claims (*producing Bio-fuel from algae can be done on wasted space, Space that conventional agriculture could not formally utilize*). The essay presents ideas briefly, making use of some specific and relevant evidence to support analysis (*production of bio-diesel from other products such as corn takes less energy and water*). The essay demonstrates inconsistent citation of sources to avoid plagiarism when dealing with direct quotes and paraphrased material (*text one line 36 and text 3*). The essay exhibits some organization of ideas and information to create a mostly coherent essay, with an introduction that presents the issue of oil dependence followed by one paragraph about problems with algae fuel, one paragraph acknowledging a counterclaim, and a final paragraph that reaches the conclusion supporting a claim against the use of algae fuel. The essay lacks a formal style, using some language that is inappropriate or imprecise (*Pro's & cons are rich in conversations and A mind blowing achievement*). The essay demonstrates a lack of control of conventions, exhibiting frequent errors (*Algie, cheaper on the pocket, but costely on the enviornment; controversial; beggining; resitiance; depand exciding the supple; scientst are; patrlion; belive; clean, renuable*) that make comprehension difficult.

Algae can not be the solution to our energy problems because it's too expensive and it is using up all of our resources such as corn, water and sugar cane.

In the article text 1 it simply states "for the wealthier nations to waste food products, like corn, soy, sugar cane, and rapeseed, as well as food cultivation space on filling gas tanks." This quote explains how wealthy people want to use our resources and crops to create gas for the cars. This is not a solution for our energy problems because cars are one of the reasons why we use too much gas and energy for transportation. What could happen if we use all of the corn and soy that are currently going to eat?

Even though algae is based on biofuel it still uses far more energy than regular gas... in text 1 it states "while algae-based biofuel may use far less land and have a higher energy yield than other biodiesel crops."

This is the reason why production of the final product is more complex and therefore more energy is being used,

Anchor Paper – Part 2 – Level 2 – A

So ~~also~~ there for not helping at all
what so ever.

In Conclusion Alge is not a solution to our energy because it uses up more energy than regular gas. Also it is very expense and uses up all of our crops and resources.

Anchor Level 2-A

The essay introduces a reasonable claim, as directed by the task (*Algae can not be the solution to our energy problems because its too expensive and it is using up all of our resources*). The essay demonstrates confused and unclear analysis of the texts (*This quote explains how wealthy people want to use our resources and crops and Even though Alage is based on biofuel*), failing to distinguish the claim from alternate or opposing claims. The essay presents ideas inaccurately, in an attempt to support analysis (*it still uses far more energy then regular gas ... in text 1 it states "while Alge-Based biofuel May use far less land and have a higher energy yield than other biodiesel crops*), making use of some evidence that may be irrelevant (*wealthy people want to use our resources and crops to create gas for the cars*). The essay demonstrates little use of citations to avoid plagiarism when dealing with direct quotes and paraphrased material, citing just one text with no line numbers (*In the article tex 1 and in text 1*). The essay exhibits inconsistent organization of ideas and information, failing to create a coherent essay, beginning with a one-sentence claim that contains inaccuracies, followed by a paragraph about using up food sources that exhibits further misinterpretation (*Alage is based on biofuel*) and use of a non-supportive quote confusing higher energy use with higher energy yield (*it still uses far more energy then regular gas ... "while Alge-Based biofuel May use far less land and have a higher energy yield than other biodiesel crops*). The essay lacks a formal style, using some language that is imprecise (*the reasons why all use too much gas and Also it is very expense*). The essay demonstrates emerging control of conventions, exhibiting occasional errors (*its for "it's"; transportaton; what would happen if we use; Corn and soy what; Alge-Based; "while Alge ... biodiesel crops; proutuct; So there for; Conclution*) that hinder comprehension.

Scientists and Entrepreneurs have been experimenting to figure out if algae will be the solution to our energy problems. Algae could be the answer to our energy problems.

This plant or unnamed algae is a single-celled form and complicated. The algae is found in large bags or ponds. Also, people can make it into oil-fuel. This plant is a biofuel that may use less land and have a higher energy than other biodiesel crops (text 1, lines 35-36).

Algae can be turned in oil-fuel. The oil would be used in transportation that is will help with jet fuel, power, and ethanol (Text 2, lines 1-2). This has a challenge that is it safe to use? Under the Clean Air Act that this algae is being treated and how the carbon dioxide use power plant with this algae.

Unlocking this unnamed algae is being helped by scientists and entrepreneurs engineering. They have tried all different hypothesis on this algae and what it can do to help our energy problem. When George W. Bush was president, he

stated that Americans were interested and addicted to oil (Text 4, lines 15-16). People from the government and business were trying to see if there would be money coming out of this algae. The issue is that where they are getting this algae at a indefinitely pond. But engineering is still processing because the government is giving them money.

These people are experimenting this algae to change the world.

If this works out then oil-fuel would come from an algae from a pond. There will be tough times with making the fuel but people will find a way.

Anchor Level 2-B

The essay introduces a claim (*Algae could be the answer to our energy problems*). The essay demonstrates a confused and unclear analysis of the texts (*The algea is found in large bags and Under the Clean Air Act that this algae is being treated and how the carbon dixoide use power plant with this algea*), failing to distinguish the claim from alternate or opposing claims. The essay presents ideas inconsistently and inaccurately, in an attempt to support analysis (*This planet or unnamed algae is a single-celled form and complicated and But engineering is still processing because the government is giving them money*). The essay demonstrates proper citation of sources when dealing with direct quotes [(text 1, lines 35-36) and (Text 2, lines 1-2)] but there are no citations for paraphrased material (*Under the Clean Air Act ... and They have tried all different hypothesis on this algea and what it can do to help our energy problem*). The essay exhibits inconsistent organization of ideas and information, with an opening paragraph that states the claim, followed by three body paragraphs, each of which lacks in focus and contains loosely connected bits of information and a conclusion of generalized commentary (*There will be tough times with making the fuel*), failing to create a coherent essay. The essay lacks a formal style, using some language that is imprecise (*planet* for “plant”, *Algae can be turned in oil-fuel, Unlocking this unnamed algea, at a indefinitely pond*). The essay demonstrates a lack of control of conventions, exhibiting frequent errors (*scienitists, entrepeneurs, theses, people will found a way*) that make comprehension difficult.

There are arguments that algae can or can't help solve our energy problem. There are 3 texts that talk about how it can. We have problems with our fuel. is what they say and we think that algae can help stop that energy loss.

In the second text "algae's potential as a transportation biofuel" talks about what we can use algae for. Algae can be turned into many varieties of fuel. bio diesel, jet fuel, electric power, and even ethanol (Text 2, line 1)

Another text that talks about what it can do is text three "Green oil: Scientists Turn Algae into Petroleum in 30 minutes" It states that most of the oil that we drill out of the ground comes from algae (Text 3, lines 11-12).

These are just some facts that came out of these texts. It state that we can use algae to make fuel but it might not be enough to solve our problems. The only down fall is it takes a lot of energy to run the algae.

Anchor Level 2–C

The essay does not introduce a claim (*There are arguments that algae can or can't can stop our energy probablom*). The essay does not demonstrate analysis of the texts, mainly summarizing two of the texts (*talks about what we can use algae for* and *talks about what it can do*). The essay presents ideas inconsistently, in an attempt to support analysis (*Another text that talks about what it can do ... states that most of the oil that we drill out of the ground comes from algae*). The essay demonstrates little use of citations to avoid plagiarism when paraphrasing material [*In the second text and (Text 3, lines 11-12)*]. The essay exhibits inconsistent organization of ideas and information, failing to create a coherent essay, moving from *arguments that 3 texts the talk about to some facts* from two texts and a confused conclusion (*It state that we can use algae to make fuel but it might not be enough ... the only down fall is it takes a lot of energy*). The essay lacks a formal style (*We have probablms with our fuel is what they say*), using some language that is imprecise (*can or can't can, the for "that", lose for "loss" and pum the algae*). The essay demonstrates a lack of control of conventions, exhibiting frequent errors (*probablom; potential; varioties; fuel. bio desel; sciendest; Putronium; text's; It state; down fall*) that make comprehension difficult.

Algae could potentially be the solution for energy in the world. Although algae could be very efficient, many people don't fully appreciate the power of the sun. In the U.S. if we put solar panels in all our empty deserts we would have more than enough power to provide for the U.S.

Solar power gets its energy from the Sun's powerful omnitions. An element that does not require a lot of energy to become excited is in these panels and when it gets enough energy the elements shoot out electrons to send power. John F. Kennedy set a goal for the U.S. to get to the moon by the end of the 60s, if the US set a goal to be fully functioning country only using solar power.

In countries that can be overcast often cannot get the same quality of energy from the sun. In Scotland where I was born, there are many wind turbines as Great Britain is an island and can get large amounts of high speed winds coming from the coast. Wind turbines take mechanical energy from the wind turning the turbine and converts it into electrical energy. This something a young man in Africa taught himself and made his own turbine with wood and any materials available to him. He accomplished this construction and provided electricity for his entire village.

As we see from ~~the other~~ texts 1, 2, 3, and 4 green algae could be beneficial, but difficult. I believe that even though it could work, it would take

Anchor Paper – Part 2 – Level 1 – A

too long to have a major effect, so we should build on top of what we already know to work and put more money in because there's proof it can provide enough for one of the highest populated and largest consuming countries in the world.

Anchor Level 1–A

The essay introduces a claim (*Algae could potentially be the solution for energy in the world*), but does not demonstrate analysis of the texts. The essay presents no evidence from the texts and does not make use of citations. The essay exhibits inconsistent organization of ideas and information, failing to create a coherent essay, consisting of two introductory paragraphs about *solar power*, a paragraph about creating wind power, and a concluding paragraph stating that green algae *would take too long to have a major effect*. The essay lacks a formal style, using language that is inappropriate (*In Scotland where I was born, there are many wind turnbinds*) and sometimes imprecise (*An element that does not require a lot of energy to become excited is in these panels and when it gets enough enery the elements shoot out electrons to send power*). The essay demonstrates partial control of conventions, exhibiting occasional errors (*the the Sun's powerful ommitions, enery, turnbinds, This some thing*) that do not hinder comprehension. The essay is a personal response, making no reference to the texts, and can be scored no higher than a 1.

Anchor Paper – Part 2 – Level 1 – B

I think Algae could be the
solution to our energy Problems because
Algae comes from the sun which
comes from energy.

Anchor Level 1–B

The essay introduces a claim (*I think Algae could be the solution to our energy Problems because Algae comes from the sun Which Comes from energy*) but does not demonstrate analysis of the texts. The essay presents no evidence from the texts and does not make use of citations. The essay exhibits little organization of ideas and information, consisting of a single sentence which introduces a claim. The essay is minimal, making assessment of conventions unreliable.

Over the course of several decades, mankind's dependence on oil as a source of energy has only increased. Realization that oil is a non-renewable resource has made way for research in alternative energy sources. Many scientists have come to the conclusion that there could be one viable answer to the alternative energy crisis: algae. An easy to produce renewable resource, many agree that algae is the best solution in ~~the~~ filling the gap for an energy source.

Algae is an easy to grow renewable resource that scientists believe could solve the world's growing need for an alternative source of energy. Algae can be grown just about anywhere, including places unsuitable for food cultivation, taking away the wasted space drawback. (Text 1, lines 20-22). With ~~the~~ a growing population, the use of unsuitable land for crop cultivation to grow algae does not interfere in any way with food production. Compared to other biofuels, algae produces higher biomass yields per acre of cultivation. This, along with the fact that algae can be grown in almost any environment, makes it ideal for an alternative energy source. (Text 2 line 3)

Although it's agreed that algae is the most viable option for an alternative

Part 2 – Practice Paper – A

energy source, there are some drawbacks. The biggest concern with large scale commercial production is high costs. (Text 4, line 23) Researchers at the Berkeley National Laboratory have estimated that producing oil from algae would cost between \$240 and \$332 a barrel, which is far higher than current prices. (Text 4, lines 30-32.) Economically, the production of oil from algae is unappealing compared to petroleum extracted from the earth. Also, all members of the National Renewable Energy Laboratory say that of the few life-cycle assessments they've done of algae, unpromising energy returns and weak green house gas benefits are seen. (Text 4, lines 35-37.) With so many drawbacks, why bother investing time and money into algae as an alternative energy source? The ~~simple~~ fact is that there is only so much oil, and while ~~simple~~ production of oil from algae may not fair well economically or environmentally, it is a sustainable, renewable resource that can be used indefinitely.

With the realization of the depletion of oil, scientists found a viable, alternative solution: algae. ~~After all, there's no oil left.~~ Algae, being able to grow in almost any environment without ~~thinner~~ any space drawback makes it a prime candidate as a renewable source of energy. (With the rapid depletion of petroleum, algae may be the most viable ~~option~~ ~~option~~ ~~option~~ option.

Algae could be the solution to our energy problems. In text-2 it states that "Algae can be converted into various types of energy for transportation including, biodiesel, jet fuel, electric power, and ethanol." Higher biomass yields per acre of cultivation gives algae an advantage over other biofuel pathways.

Interaction

According to text-3 it states that scientists can turn algae into petroleum in 30 minutes. "Pressure cooking" for 30 minutes have given the scientists at PNNL success ~~in turning algae into~~ crude oil. High costs still remain an issue for the algae oil business to really flourish as seen in text-4 but for algae to be a crucial part in society would probably take around 5 to 10 years so the algae business will not be shot on anytime soon. Algae oil day will be our #1 source of oil.

As seen in text-1 "Algae can be grown in ponds, tubes, or even large bags." This shows the algae's flexible growing capabilities unlike any other which shows it has an advantage over any oil making product.

It has been a very controversial topic whether or not algae would be a good alternative for biofuel gas.

Based on the 4 previous test it is not a good alternative to gas biofuel.

According to FLAT

I acquired algae is less beneficial. "higher energy yield than other biodiesel crops,

its production also requires more ~~energy~~ and water." This quotes demonstrate how using algae as biofuel may be more costly and use more resources than using the biofuels we use today.

Although some people may say that it is more beneficial to use ~~the~~ algae, that is not completely true.

Problems involving energy are circulating the United States every single day. Many people such as scientists, environmentalists, etc are trying to solve this energy crisis. One new method being tested is the use of algae to be the solution to energy problems. Algae does ~~not~~ present some positives, but the negatives it presents ~~do~~ outweigh their positive impacts. Algae is not a good solution to the energy problems because of the many negative aspects that are presented.

Algae is not an energy saver. The production of algae requires more energy than most of the other biodiesel crops. (text 1, line 36) So as we try to solve energy problems, algae is going to need more and more energy. Another problem Algae has is that it needs a lot of phosphorus as fertilizer. This is bad because the world's phosphorus levels are at their peak. (text 1, lines 42-44) Another huge problem with the use of Algae, is the amount of water needed. This a big concern, and in this aspect algae would hurt the environment more than many other fuels would. (text 2, lines 30-33)

Although algae doesn't seem like a good way to solve energy problems, it does have its positives. ~~One~~ One plus that algae presents is its ability to grow, algae can grow really easily almost anywhere. (text 1, lines 19-22, lines 12+13) "Algae is the most promising source of renewable transportation fuel that we have today." (text 4, lines 6+7) This says that there really isn't anything better, which when you put it like that, why not algae?

Algae is not a good solution to energy problems because of ~~the~~ the harm it could cause to the environment, and the money aspect. Algae is way out of the price range. (text 4¹, So even though some positives could look promising, the negatives override them.

Part 2 – Practice Paper – E

As we approach a point of peak oil - the point at which fossil fuels become scarcer and more expensive - the interest in biodiesel has been revived. As the planet's population and demand for fuel grows it becomes more unscrupulous.

Practice Paper A – Score Level 5

Holistically, this essay best fits the criteria for Level 5.

Practice Paper B – Score Level 3

Holistically, this essay best fits the criteria for Level 3.

Practice Paper C – Score Level 2

Holistically, this essay best fits the criteria for Level 2.

Practice Paper D – Score Level 4

Holistically, this essay best fits the criteria for Level 4.

Practice Paper E – Score Level 0

Holistically, this essay best fits the criteria for Level 0.