Winter\_2024

Brainstorm sheet \_Essay 2 Argumentative essay

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| **Your topic: The implementation of mandatory electric vehicle (EV) adoption.** | | | |
| 1. Your position | | PRO-position (For your topic) | CON-position (Against your topic) |
| Formulate your research question: Is the mandatory adoption of electric vehicles an essential solution for addressing environmental concerns, or is it a premature decision? | | | |
| Formulate your thesis statement: While transitioning to electric vehicles can reduce carbon emissions, mandating their adoption at this stage is impractical due to inadequate infrastructure, economic burdens, and unresolved environmental concerns related to battery production and disposal. | | | |
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| Main arguments | | Major supporting details | Your research links |
| Body Para 1 | Inadequate charging infrastructure. | The lack of sufficient charging stations limits EV usability, particularly in rural areas.  Infrastructure expansion requires significant investment, which may not be feasible in the short term. | <file:///C:/Users/USER/Downloads/123-126+Advantages+and+Disadvantages+of+Electric+Cars.pdf> |
| Body Para 2 | Economic burden on consumers. | The initial purchase cost of electric vehicles is significantly higher compared to internal combustion engine vehicles. | <https://www.nature.com/articles/s41467-024-49157-5> |
| Body Para 3 | Environmental concerns regarding battery production and disposal. | The process of lithium mining and the improper disposal of electric vehicle batteries can lead to water contamination and environmental destruction due to toxic metals. | <https://www.jeeng.net/pdf-189187-110778?filename=Environmental%20Impact.pdf> |
| Body Para 4 | The fire risk of lithium-ion batteries. | Lithium-ion batteries, used in electric vehicles, offer high energy density and long lifespan, but they also pose risks, including overheating and fire hazards when overcharged or physically damaged. The internal heat generated during a fire makes it difficult to extinguish, adding to the danger. | <https://www.sciencedirect.com/science/article/pii/S0957582024003823> |
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| Counterargument: The government continues to invest in expanding charging infrastructure. | | | |
| Possible refutations: Although the electric vehicle (EV) charging infrastructure is expanding rapidly, there are limitations such as a high number of non-public charging stations and concentration in Seoul and the surrounding areas. Over 57.5% of domestic charging stations are non-public, with 66.5% of those located in Seoul. Furthermore, 49% of the total charging stations are concentrated in Seoul and the metropolitan area, making the insufficient number of charging stations a significant issue, especially when considering the limited driving range of EVs. | | | |