## **Intention Note**

The issue of climate change and the degradation of the environment has helped to bring ecological and environmental concerns back to the fore. For industrialized as well as developing countries, the challenge is now to rebuild the foundations of their economy on "Low Carbon emission" strategies. The greenhouse effect is the physical phenomenon causing global warming. This effect is highly due to the CO2. We released this gas in the atmosphere by various ways. But the main one is transport. It accounts for 30% of the total CO2 emissions (in Europe). Out of this, 72% is from road transport. Therefore, we chose to tackle this problem and to find a way to diminish the CO2 emission caused by vehicles as soon as possible. Many projects are already trying to fix this issue like the electric car, but this is a long-term patch as almost every car nowadays has an explosion engine. Our goal is to act on the existing vehicles in order to have on effect on the short-term.

Based from the "Low Carbon" Strategy, Electrolysis is an HHO generator kit used in carburetor engines which gives significantly improved combustion and better performance. Our product allows to consume less fuel up to a value of -30 %.

So, our project and as a first step, targets car drivers by fuel consumption and reduction of dangerous gases with the principle of the electrolysis of water which decomposes water into dioxygen and dihydrogen gas with the help of the electrical current.

With out getting into too many details, you can see below a schematic version of our product:



To understand better the concept of electrolysis, we invite you to consult our website.

By lowering the consumption of fuel by 30% and with a penetration rate of 50% (which seems achievable), considering people keep on driving the same amount of kilometers, we would allow the CO2 emission to be reduced by 15%.

To deploy our product, we have a strategy. To start, Youssef ADDADI had the opportunity to build a prototype of our module but only on a lone engine (ie not in a driving car) during his engineer school in Morocco. This proof of concept allowed him to measure the yield gain. We will now start to work on a real prototype in order to show to our investors and to the company we wish to partner with. We would like to get car mechanic to work with us in order to distribute our product as they are qualified to install it as well as in a good position to "sell" our product. They would benefit from doing this as they would earn extra money paid by the customer for the installation. Obviously, we would end our deployment strategy by producing our product on an industrial level and aiming to engage the European market. Our studies show that the American and Asian markets are not enough concern with global warming yet to actually buy our product.

The first risk is the one of the market penetration. The fear is that our product does not get adopted by many drivers. Even if our invention is profitable on the long run, people could think on a short-term scale and choose not to invest in the module we would sell. People could also be discouraged by the time needed to install our product as well. It is true that upgrading your car with our tool would need some organization: you need to drop your vehicle to the mechanic for at least a day. We think that both those issues could be negated (or at least minimized) by the partnership with mechanics. The underlying idea is that the "pain" created by the cost and the time of the installation would be diminished if it is mutualized with a classic car repair. The extra few hours with no car and extra few euros spent would look less of a burden. Aren't people more eager to buy new speakers when they're buying their new television?

Still on the matter of market penetration, we fear that car manufacturers would either block the installation of our system by making unopenable air intake or do our system by themselves. To stop them from doing the former, we cannot really act proactively but in case they do it, we could lead a "shaming campaign" on social media explaining how they fight technologies that would benefit the environment. To prevent the latter, we will use patents.

The second risk we identified is the market size. Of course, it is pretty huge at the moment: there are about 39 million cars in France. But this figure includes vehicles we cannot install our system on: electric cars. Their rise, even if we share the same goal of reducing CO2 emissions, is a threat for our business which relies on explosion motors. At this stage the electric car is no real concern as there are less than 150 000 of them in France. They also have many detractors advocating that the fabrication of batteries is highly unecological. However, with the fast pacing environment of electric vehicles, we must predict that their market share will increase. Another similar threat to our market is the overall diminution of cars. As big cities tend to limit the car use by promoting buses, subways and trams, we can expect the car market to shrink over the next years. Regarding those "issues", I don't think we must find any

direct solution. If the market tends this way, that will be a win for mankind as that will lower our CO2 emissions. We just see this "risk" as an opportunity to challenge ourselves in few years and to tackle another environment challenge.

The financial plan of our company depends on important assumptions. From the beginning, we recognize fixed and variable costs at a pre-determined amount. Interest rates, tax rates and labor costs are based on conservative assumptions.

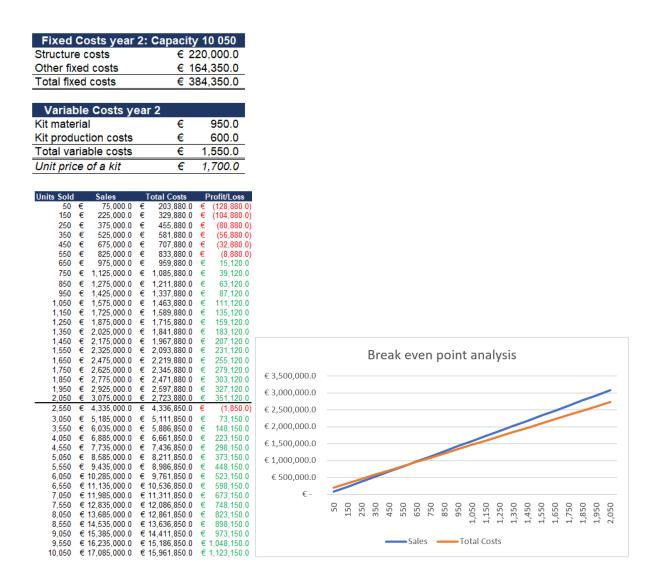
Some of the most important underlying assumptions are:

- We assume a robust economy, without major a major recession.
- We assume that there are no unforeseen changes in economic policies, leading our service to immediately become obsolete or unwanted.

Our break-even analysis is based on running costs, meaning the costs we shall incur in keeping the business running. We established a cap of 2,050 units produced and sold as it corresponds to the yearly capacity of our current factory. Our variable costs are mainly correlated with our production costs which are material and necessary labor for our factory to be functioning. Given those costs we will ensure that our sales level are running comfortable above breakeven. In order to achieve that, we must ensure that we meet our break-even target of 587 units sold. Above that, given the potential of our product and the partnerships we developed that enable us to have a strong distribution system we aim at producing at full capacity from year 1 onwards. In that case we would achieve a profit of 351,120€ which will partly be put in our balance sheet as reserve and partly distributed to common shareholders.

Fixed Costs year 1: Ca	pac	ity 2050
Structure costs	€	75,210.0
Other fixed costs	€	65,670.0
Total fixed costs	€	140,880.0
Variable Costs year 1		
Kit material	€	860.0
Kit production costs	€	400.0
Total variable costs	€	1,260.0
Unit price of a kit	€	1,500.0
Break even point in units		
Break even point		587

From year 2 we are planning to expand our production capacity to 10,050 units per year. This would drive total fixed costs at  $384,350 \in$  and new total variable costs at  $1,550 \in$ /kit. Given this new costing model we will increase our selling price of to  $1,700 \in$ . Given this new pricing structure if we attain our goal we would produce sales of  $15.961M \in$  and a net profit of  $1.123M \in$ .



We noticed that a long-term bank loan is needed and most suited to meet our financial needs. A 10 year revolving credit facility of 150,000€ in year one would enable us to cover fixed expenses and our working capital requirements. We will also use capital from the founders to finance our operations and expansion.

To conclude, we think that our team is qualified such a project. We have a strong diversity of profiles. Two people studied engineering; they will of course conduct the development of the product. Then we have on financial analyst and one marketer.