Switch to Renewable- Our Future Depends on It

Our lives are built upon energy. Everything we do requires it, from charging our phone to driving to work, energy propels our day to day lives. In the highly industrialized world of today, the world's economies are requiring more and more energy. The global production of natural gas has almost quadrupled since 1994 (Natural). We are using more energy now than any point in history, and rightfully so, as the world becomes more and more interconnected individual countries are fighting to stay on top. Our economies are highly dependent on energy and to stay ahead in the world, we have put current economic gain ahead of long-term success. The problem with supporting our economies in the way we do is very simple: it's not sustainable. When we burn oil, coal, and gas, large quantities of carbon dioxide are emitted which trap heat in the atmosphere resulting in global warming. Our focus on output today comes at a cost: no output tomorrow. But the future is not so dim, there are many options to the energy sources we use today, in fact, many of them are very promising. The problem is not finding renewable energy, the problem is getting the world to adopt it. We need to utilize different, renewable energy sources or the effects on future generations will be devastating.

Although the necessity to turn to renewable energy sources is a global problem, many of the reasons behind the slow adoption of it are exasperated in developing countries such as Iran. As of 2016, renewable energy accounts for 7% of Iran's energy resources with the remaining percentage being made up of coal, natural gas, and oil (Tehran). If we want to have a sustainable future, it is important that not only developed countries make the switch; it has to be a global goal, one which will require the devotion of all countries as we pursue a cleaner future.

To solve this problem, we have to look at the cause of it; what is preventing countries like Iran from switching to renewable? In a report done by the U.N. on energy and sustainable

development in Iran, a few causes were found, some unique to Iran and some apparent in other developing countries (Sabetghadam). Since Iran is a large producer of natural resources- particularly crude oil, which they produced 3.8 million b/d of in 2017- they have become reliant on it as an energy source due to its relative abundance (EIA). Another key factor is the price of renewable. In many developed countries the price of renewable energy has substantially dropped because of learning curves, which cause the price of renewable energy to decrease as the installed capacity increases (Roser). Most developing countries, including Iran, don't benefit from this price drop which will make it even harder for them to eventually catch up. The final factor indicated by this U.N study is that of minimal private sector involvement in the energy industry. In most developed countries the private sector has recognized the potential the renewable energy industry holds as more and more countries begin their switch to renewable. In contrast, there has been very low private sector involvement in Iran's energy industry which prevents further innovation and reform in this field. These problems are not unique to Iran and many of them are apparent across other developing countries, indicating a broader trend.

The first problem I will address is that of the ease of access of non-renewables in Iran. Since these resources are so readily accessible, and much cheaper than renewable energy as a result, there is no need for Iranians to switch. This brings us to the question: how could we make access to renewables cheaper and readily accessible? As spoken about earlier, renewables function on a learning curve, the more installed capacity the cheaper they become. Although the Iranian government may not have the resources or the drive to install the infrastructure, many other countries do. If other countries with the ability to contribute to Iran's renewable infrastructure decide to contribute, the cost to Iran will become much lower. Even though Iran does have 10% of the world's oil reserves, their economy has been trying to move away from

their dependance on petroleum products and as of 2018 only 17% of their economy is dependent on petroleum exports (Tavakol). This change will not only reduce the negative impact of petroleum on the environment but will also aid Iran in their goal of economic reform.

In mixed economies like Iran the public sector plays a large part in advancement of industry. Because the Iranian government controls the energy industry, it is up to them to make positive changes that will benefit both the future of their economy and the world. At this time the Iranian government has not shown much interest in making the switch to renewable, but change is needed in order to ensure a sustainable future. So how do we bring this about this change? One thing that has been successful thus far are sanctions upon Iranian petroleum exports. Through financially incentivizing Iran's switch to renewable the switch will benefit both Iran's future diversified economy and the world. Although it may be hard for them to accept these changes and will come at an economic cost, something must be done to ensure a clean future for all.

The movement towards renewables has gained considerable ground in the past years with support of the young and old alike. Many people have realized the devastating impact climate change will have on the future of our society if we don't act now. In Iran, the percentage of the population under 30 is over 60% which means Iran's response to this pressing issue is largely in the next generations hands. I believe through proper education of the huge Iranian youth population regarding climate change and the effect it will have on them, Iran will be able to move towards renewable energy solutions and change the course of their country, and the world, for the better.

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