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Title: Industrial Nanotech Inc & Its new product named Nansulate

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Industrial Nanotech Inc and its new product named Nansulate solar have made the highlight on news recently, which is going to be analysed in this essay. The chosen article is mainly about the issue of demand and supply which have been discussed so far in Microeconomics unit. Particularly, it is focusing on the demand side of the market. Apart from that, the issue of externalities is also mentioned as it is part of the article's content.

First of all, this article is obviously a microeconomic topic according to the definition of Microeconomics, "the study of how households and firms make decisions and how they interact in markets" (Gans, King, Stonecash & Mankiw, 2005, p25). In this case, Industrial Nanotech Inc is a company that produces and provides technological goods to the solar equipment market, "The Company develops and commercializes new and innovative applications for nanotechnology." Any of their innovation has contribution to the growth of nanotechnology which is allegedly the tool of modern industry. Importantly, the latest product, as mentioned above, was forecast to raise the demand for solar equipment because "Nansulate Solar" is currently being specified on both solar panels and the pipes and tanks of solar hot water systems to increase efficiency and lower operating costs. Additionally, the operation of Nanotechnology industry and Industrial Nanotech Inc's in particular, are supposed to have had some considerable positive effects on external parties. That is concerning the topic of Externalities in Microeconomics.

Being involved in the solar energy market as well as taken into this analysis, the chief entity is the company Industrial Nanotech Inc whose Nanosulate solar has just been released. However, the market cannot operate with only one entity, but more than that are the other companies in the whole Nanotechnology Industry and Solar Energy Industry. They are suppliers in this market while consumers are households who buy and utilise such technology instead of conventional energy sources.

When it comes to analysing the issues, there is a need to understand clearly the theory of those issues. Supply and Demand and Externalities are included, therefore, the following section is explaining what topics are, how they work, and then connecting the article's content to the theory discussed.

Firstly, when looking at the demand side of the market, if price is the only component causing changes in quantity demanded, then there are many external factors influencing the buyers' decisions on how much of goods they purchase from the market. They are prices of related goods, tastes, expectations, number of buyers. In other words, while the changes in market price may lead to movements along the demand curve, there are other variables that can shift the demand curve (to the left or the right). These shifts show the changes in quantity demanded at any given price in accordance to those elements (Gans, King, Stonecash & Mankiw, 2005, p25). Moreover, not only are those factors determinants of demand, but the release of some discovery that directly relates to goods sold in the market may have impact on consumers' decision or the demand side of the market.

In the case of Industrial Nanotech Inc, they have contributed their innovative products to Nanotechnology Industry, providing such products to companies in Solar Energy Industry, and then to the buyers. The crucial point is Nanosulate solar has the function that can save the customer money by lowering the total cost of the solar system, but still boosts wintertime performance. As the world demand for energy continues to rise but solar energy systems are still quite costly, this news is seemingly affecting the demand (of solar companies) for such equipment, especially the demand (of consumers) for solar systems set in their house. It is suggested that, with the new advent buyers can utilise the clean and safe source of energy as well as reduce the cost of solar systems usage; therefore, it is encouraging people to purchase the systems which are combined with this equipment. As more and more households realise the

advantages brought about by using solar systems for production and other application, the demand for this technology is estimated to grow. This is also the main point in the analysis.

(graph)

The above was talking on the issue of Demand and Supply, particularly on demand side as there seems to be no immediate impact on the supply side. However, when it comes to the topic of Externalities, supply side or production side is going to be covered. The following part of this essay is looking at “the uncompensated impact of one person’s actions on the wellbeing of a bystander” as the definition of externalities (Gans, King, Stonecash & Mankiw, 2005, p189) . There are four types of externalities : positive externalities in production, negative externalities in production, positive externalities in consumption, negative externalities in consumption. The emphasis of this article is on nanotechnology development and its beneficial impact on the solar energy market as well as bystanders. Solar energy is seen as the substitute of conventional energy resources, then it has accounted for the development of other modern sectors and industries. The advancement of solar energy industry itself heavily depends on contemporary technology and its application. Nanosulate solar is one of that contribution, which known as technology spillover or a positive externality as not only does it benefit the companies, but the whole society. This is because it helps improve the efficiency of solar systems, reduce the cost of usage, and importantly, encourage people to take advantage of the natural clean energy sources. Let’s assess this issue by looking at the graph summarising the actual meaning :

(graph)

Because of the high value of this technology spillover, the cost to society of producing more solar system equipment is lower than the private cost (shown on the graph). Consequently, the optimum quantity is larger than the market quantity and there is a need to raise this under-production probably by subsidies from governments. The article, however, asserts that “Solar power's ability to compete with conventional energy sources - called grid parity - will open new markets and allow it to survive without subsidy”. This highly regards such technology spillover as Nanosulate solar as well as illustrates the increasing strength of the solar equipment market.

Last but not least, it is also interesting to glance at an example in the article mentioning the usage of solar systems as a positive externality in consumption. As the value created to society is higher than to private users, it is suggested to speed up the use of this technology. It can be seen and learnt from the case of Hawaii that all new homes will be required to have solar water heaters installed starting in 2010 under a law approved by the Legislature.

In conclusion, this article quite widely covers the microeconomics issues including the topic of demand and supply and externalities. Therefore, the essay may be short of deep analysis in spite of having attempted to consider the key issues.