

# On the Issue of “Green Expression” of Environmental and Social Technology

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## Abstract

“Green expression” of environmental and social technology is the realistic process in which the environmentally friendly feature of green technical products get fulfilled, namely, social consumption gets green. The possible space from “being green” to “to be green” constitutes the internal grounds of “green expression” of environmental and social technology. Enforcement, inducement, education and “green field effect” constitute the major path of “green expression” of environmental and social technology. Selection, use, treatment and “green embeddedness” constitute the general mechanism of “green expression” of environmental and social technology.

**Keywords:** Environmental and social technology, Green expression, Green regulation, Green consumption

Environmental and social technology is a complex system constituted by environmental policy, environmental rule and their interaction based on certain environmental ethics. If we term regulation of environmental and social technology and technical invention community to realize green innovation as “green encoding”, and regulation of environmental and social technology and industrial community to realize green production as “green decoding”, then regulation of environmental and social technology and consumption community to realize green consumption can be termed as “green expression”. This article is going to make a preliminary discussion on such issues of grounds, path and mechanism of “green expression” of environmental and social technology.

## 1. How can “green expression” of environmental and social technology be possible?

From the subjective perspective of environmental and social technology, “green expression” of environmental and social technology is the process in which the government regulates consumers to realize the intention of green. From the objective perspective of environmental and social technology, it is such a process in which consumers accept regulation of the government, so as to select, use and dispose green products, realize green consumption and realistically present the ecological effect of green products. Therefore, the issue of how “green expression” can be possible can be concluded as the issue of how regulation of the government can be possible.

The objective foundation of green regulation by the government refers to green attribute and ecological effect contained in green technical products, which is the “upper limit” of green effect that social consumption activities can attain at a specific technical level and which is termed as “to be green”. Thus, complete realization of the green intention of the government in a certain period means “to be green” that consumers abide by environmental policy and environmental rule, consume green products and get rid of non-green products and realize and express green technology.

However, the actual situation is that, consumers are not necessarily practitioners of green consumption. Frequently, they start out from immediate interests of their own, and take the economy, practicability and convenience as the standards of selection of consumer goods, so it is unlikely that they spontaneously realize “to be green”. We term the environmental effect brought about by spontaneous consumption activities of consumers as “spontaneous green”, which is the “lower limit” of environmental effect of regulation by the government. That is, the government totally has no regulation on consumption activities or the regulation is totally out of function.

Either “to be green” thoroughly regulated or “spontaneous green” totally unregulated is merely a sort of logical

hypothesis, and it is unlikely that this sort of situation exists in reality. In modern society, the government, by all means, has to make certain intervention and regulation on social consumption process and consumers can, by no means, consume according to their own economic instinct and they have to follow some environmental and legal rules. Therefore, the actual ecological effect of social consumption activities must be a certain condition between “spontaneous green” and “to be green”, which we call “being green”.

There always exists tension between “being green” and “to be green”. As a result of the sustainable existence of the pressure of ecological environmental protection, the government and the public may not be satisfied with the current level of “being green”, so they always takes all means to promote “being green” going towards “to be green” and turn “to be green” to “being green” up to the hilt. The primary function of the government in modern society is administration of social public affairs and the most obvious characteristics of power of the government is that production, existence, implementation and development are always interrelated with demand of the public, namely, always related with “production” and “supply” of public products. In the final analysis, the basic function of the government is, in one word, to organize supply of public articles. Environmental protection as an important component of modern social public affairs and is also one of the most important public functions of the government. Hence, the government regulates consumption activities through green social technology to finally encourage “to be green” to become “being green”.

The tension between “being green” and “to be green” can be gradually diminished and even eliminated. This is because, if consumers start out from their own fundamental interest and the overall interest of the society, they also hope that at the time when technical products realize functions of economy, practicability and convenience, they also have the environmentally friendly property and ecological protection function and that their own ecological and environmental rights and interests will not be devastated by others and their own non-green consumption action. That is to say, the “public awareness” of consumers in protection of environment has basic value perception. This indicates that consumers are willing to accept green regulation by the government and realize green consumption.

Therefore, the possible space of transfer from “being green” to “to be green” refers to the functional space of the government’s green regulation on social consumption, which is also the internal grounds of green expression of environmental and social technology. “green expression” of environmental and social technology is such a process in which the government regulates to generate green consumption community, attains the social consensus of ecological and environmental protection and finally encourages consumers to select green products and protect ecological environment. Thus, green expression of environmental and social technology is also a process in which consumers participate in environmental protection to generate green consensus and expand social agreement continuously. Japanese Scholar, Takada Junji, believes, “without agreement and operation of direct parties concerned, environmental protection will be nothing but empty talk.”

## **2. Where is the path of “green expression” of environmental and social technology?**

Realistic paths of the government to conduct green regulation on consumption behaviors include enforcement, inducement, education and “green field effect” formed by interaction of all these factors. The path of “green expression” of environmental and social technology refers to path and means of the government to conduct regulation on the process of consumption and realize the situation of “to be green”.

### *2.1 Enforcement*

Enforcement means the government employs such non-market means as administration and law to make intervention on consumption activities. The market economy has the negative outcome of spontaneity, but nothing can be achieved with spontaneity of the society under environmental protection and enforcement of the government is indispensable. “Government is an institutional arrangement which provides security, order and justice and has the economy of scale.”

Enforcement of the government means that the government makes direct intervention on consumption process and deprives citizens of their independent rights of consumption, including production permit, market admittance and compulsory withdrawal from the market, etc. As for those technical products that have been verified to have caused serious ecological and environmental pollution, the government should prohibit their production and consumption pursuant to the law. As an alternative, the government can also, resort to the mass media it controls to “persistently convey information and viewpoints chosen to the public and transmit analysis and assessment of these information and viewpoints” to affect behaviors of the public and form leading utterance to make consumers perceive social pressure brought about by non-green consumption, so as to encourage them to transfer to green consumption.

Under the circumstance when the market rules don't work and consumers are unable to choose green consumption with consciousness, the government should resort to enforcement means to attempt to create a green field of social consumption, so as to rapidly keep down environmental devastation and bring obvious ecological effects.

### *2.2 Inducement*

Inducement means that the government makes policy design according to market rules and attracts consumers to consume and use green products by means of increasing cost performance of green products and non-green products so as to realize anticipated ecological effects. Interest inducement is the most commonly used path by modern social government to conduct green regulation on consumption activities according to rules of the market economy.

According to economics, "each individual is a rational economic man who always voluntarily pursues maximization of their own welfare, without others putting words into their mouth". Therefore, first of all, consumption behavior refers to economic activity of independently purchasing commodities by consumers. More often than not, pure market selection behavior is unlikely to overcome the environmental externality outcome of products. In addition to enforcement, the government also employs fiscal levy policy in support of production and consumption of green products, internalize external environmental cost of non-green products into price of products (eg., levying charge for use of these products and the sewage charge, etc) and establish relevance of consumers and the cost covered for consumption of products to stimulate consumers to choose green products. A Japanese poll indicates, "more than 60% of Japanese citizens intend to purchase commodities favorable for the environment. For instance, if the price is equal, 41% will choose regenerative toilet paper and 56% will purchase low-emission vehicles. Even if the price is 10% higher, there will also be 24% who would like to purchase the low-emission vehicles."

### *2.3 Education*

Green education is a fundamental means to mould a new generation with the thought of environmental protection and is also an important path for green regulation of the government. According to Jaspers, "education refers to education of the soul of human being, but not packing of intellectual knowledge and recognition." Kant also emphasizes, "Only education can enable human being to become human being in its real sense".

As a sort of ideology, environmentalism is a set of beliefs in a broad sense, which believes that change of relationship between human kind and the environment conforms to what is required and is of probability. The government sets up courses on environmental education, inculcates to social members the thinking of green environmental protection at an early age and internalizes the thinking of environmental protection into the value orientation of citizens to make the new generation equipped with more environmental protection awareness and more willing to come to action and make necessary efforts for environmental protection. The ecological and ethical education on citizens is aimed to let them learn to "respect and protect the nature, get along with the nature in a harmonious way and make use of the nature in a rational way without damaging the self-recovery ability of the nature."

The green regulation of the government gradually evolves into the social field of green consumption. Within this field, the consumption activity of consumers is no longer purely individual behavior, but within the restraint of the overall green field effect of the society. What's more, green consumption behavior itself is also continuously converting to part of green field effect and strengthening the green field effect of the whole society, further restricting consumption activities of other consumers. The government promotes green consensus by means of continuously reinforced green field effect, encourages generation and expansion of green consumption community, stimulates consumption from "being green" to "to be green", gradually resolves the internal tension between the two conditions and realizes "green expression" of environmental and social technology.

## **3. What is the mechanism of "green expression" of environmental and social technology?**

The general mechanism of "green expression" of environmental and social technology refers to the "embeddedness" mechanism of the thinking of green environmental protection in consumption activities, including specific aspects of selection, use and treatment, etc. The green regulation of the government on consumption process is put into each aspect of consumption activities, so that the feature of environmental protection of green technical products gets realistically presented and the "green expression" of environmental and social technology is fulfilled.

### *3.1 Green selection*

Green selection is the primary aspect of "green embeddedness". There are mainly the following several factors

which lead to green selection of consumers.

Consumers abide by the environmental rules formulated by the government and select green products. The fact that consumers abide by green rules embodies the realistic effect of the green regulation by the government. For instance, it says in the third Article of “Stipulations of Compulsory Scrap Standards for Motor Vehicles (Exposure Draft)” to come into effect, “Motor vehicles should be compulsorily scrapped, which are registered within the border of China and whose gaseous pollutant and noise do not comply with standards of the country in which they are discharged after being repaired and adjusted or adopts the technique of emission control.” Similar punitive and prohibitive stipulations make consumers not select products with the property of economy but serious pollution, but choose products with green environmental protection, which is the basic premise for green expression of the environmental and social technology.

Consumers make a positive response to the signal of price. The economic inducement of the government will necessarily give support to consumption of green products in the form of increasing the price performance and levy a heavy duty on non-green products and the luxurious consumption that exceeds daily necessities to encourage consumers to select environmentally friendly green technical products. The country has already implemented auto replacement subsidy to encourage consumers to select environmental-friendly and energy conserving green products and to eliminate products that waste energy and do not protect the environment. Some local areas have unveiled the policies of metered water price and metered electric price and makes a punitive charge on non-green consumption parts that exceed the limited amount. All the above has gained recognition and positive response of consumers and has achieved great green effects.

Consumers should generate the consciousness of environmental protection. Through popularization of the knowledge of ecological environmental protection and education and propaganda activities of ecological environmental protection, consumers can deepen the imminent feeling of ecological environment crisis and can select green technical products more consciously. According to overseas research, the group of people with higher educational background are more likely to accept the idea of ecological environmental protection and have higher will of consumption of green products. In addition, the green purchase of the government is favorable for generation of public opinions of green consumption and cultivation of green consumption fashion, having a positive effect on the tendency to green selection.

### 3.2 Green use

The sufficient expression of the ecological function of products can not go without the realistic use process of consumers and in this process, the green idea of “embeddedness” is extremely critical. There are mainly the following green regulations on use of products:

Introduction of products has to be able to guide consumers’ correct use of products. Producers have to transfer professional technical terms into popular unequivocal language that is easy to understand, so as to avoid misuse and mis-operation of the public and achieve the green effect of use of products. “If the subjects of consumption of technology are not able to accurately unscramble functions of technical products, to view the need of augmentation, and to get a mastery of the complex relationship between technical products and demand of people, then green expression of the environmental and social technology will be encountered with obstacles.”

The government should punish behaviors that abuse products according to the law. Without doubt, it is important to direct use of green products, but punishment pursuant to the law of abuse of products is also quite important. For instance, in the Incident of Sanlu Milk Powder Contamination, it is difficult to classify melamine as technical products that can cause serious pollution, but illegal use by people caused great social damage, namely, “functions and value of technical products were ‘magnified’ by ‘off-side’ cognitive illustration.” Thus, only if the government gives definite shock to violators, can we purify the social environment in which green products are used and the green expression of environmental and social technology can be finished successfully.

The government should advocate consumption means and reduce the total amount of social consumption. Consumption of green products can also consume resources and energy, and also has non-green ingredients, so augmentation of the amount of consumption may unavoidably cause effects on the ecological environment. “The life, essence and value of technology are realized in the process and result of its ‘interference’ and ‘damage’ in the nature”. Therefore, even use of green technical products has to be restricted, which can protect the environment up to the hilt.

### 3.3 Green treatment

In the aspect of treatment of green products, “embeddedness” of green idea includes the following several aspects:

To encourage products to conduct green recycle and cyclic utilization of products. The government formulates system about waste treatment and recycle, which asks manufacturing enterprises to assume the responsibility of recycle and treatment of products and set up a recycle channel of junk products to enable consumers to more conveniently redeliver products that have already lost their function of use and to enable producers to conduct green treatment and cyclic utilization.

The government should stimulate consumers to offer green treatment. The government should force consumers to surrender a certain amount of product treatment fee and require them to dispose products according to regulations. For example, in USA, the government charges consumers for the container used to deposit and dispose rubbish to encourage the family to reduce rubbish and waste and charges 1 dollar for bags of 32 gallon. This policy has led to reduction of waste and has achieved great ecological effect.

The social public should take a positive attitude in participation and supervision. As a result of disperstiveness of the process of consumption, the social public reports to governmental departments about non-green treatment of getting out of line to dump to manifest their own green interests and the governmental departments punish pursuant to the law those legal persons and natural persons who violate the law according to information within their control. Combination of both is the key to reduce and put an end to non-green treatment of products.

Through regulation on the three aspects of the process of consumption, namely, selection, use and treatment, the government promotes unlimited approaching from “being green” to “to be green” to enable consumption activities to more and more embody the green idea of environmentally friendly, exhibit the ecological effect implied in green products, protect the ecological environment and, meanwhile, complete the process of “green expression” of the environmental and social technology.

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