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Regions and the Development of Circular Economy

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中文摘要

工业化发展,不仅推动了经济和社会发展,也消耗了地球上大量的自然资源,不断产生各种污染和有害物质。进入 21 世纪以来,国际社会对城市环境问题的响应发生了深刻变化,相应的生态对策也做了调整。面对新世纪的机遇和挑战,产业发展不能再走传统产业模式的老路,必须用全新的理念去思考、去规划产业,必须根据自身的资源禀赋和在国际、区域、国内格局中的战略定位,进行产业转型,发展循环经济,走可持续发展之路。循环经济核心点在于从经济发展上通过以产业结构生态重组为基础的产业生态化,创建一种由全新的生产消费方式支撑的经济体系与发展模式,推进产业在新型工业化的道路上发展并向着生态产业系统演进,借以不断提高经济体系的生态质态,满足不断增长的全球人口的需求和实现环境资源可持续利用。

欧洲是工业革命的摇篮,无论是过去,还是现在,欧洲工业在世界经济发展中都扮演了十分重要的角色。其中,德国的鲁尔区,英国的伯明翰—曼彻斯特,法国的阿尔萨斯—洛林地区都曾为欧洲工业的发展做出了巨大的贡献。20 世纪 50 年代至 60 年代以后,新技术革命浪潮也给这些地区的传统工业造成了巨大冲击,传统工业甚至出现衰退迹象。面对危机,20 世纪 60 年代后,欧盟老工业地区国家,特别是德国、法国和英国纷纷采取相关措施,从本国实际出发,从区域发展战略、产业结构升级和发展新兴产业等多方面促进老工业基地振兴;积极制定与完善循环经济法,通过立法将先进的循环经济理念制度化和政策化,依靠公共权力来推进公众事业;大力推行循环经济发展模式,走新型工业化道路,实施清洁生产、建立工业生态园区,完善城市基础设施建设,成功完成了对传统工业区的改造,走上了经济良性循环发展之路,实现了对传统经济增长与发展方式的根本性变革,推进了人类社会的可持续发展。

地处中国东北的辽宁、吉林和黑龙江三省总人口 1.06 亿人, 占全国的 8.4%, 土地面积为 79 万平方公里, 占全国的 8.3%。作为新中国工业摇篮的东北老工业基地曾经历过辉煌过去, 作为国家的原材料基地、重型装备基地、军事工业基地, 为建成独立、完整的工业体系和国民经济体系, 为国家的改革开放和现代化建设做出了历史性的重大贡献。1978 年, 东北地区与上海市、江苏省、山东省一样都具有良好的工业基础, 此时全国工业产值份额高于 8% 的, 只有辽宁省和上海市两个地区, 东北地区工业产值份额平均为 5.521%, 略低于长三角地区和山东省, 高于广东省。而改革开放以后, 东南沿海地区的工业产值份额一直呈上涨态势, 东北三省的工业份额却在逐渐下降。

20 世纪 90 年代初开始, 作为我国传统工业区的东北三省在体制转轨和市场化过程中, 出现了国有企业发展步履艰难、企业设备和技术老化、竞争力下降、就业矛盾突出, 资源性城市主导产业衰退等问题, 经济发展步伐相对较缓慢, 与沿海发达地区的差距在逐步扩大: 改革开放初期, 辽宁省 GDP 是广东省的 2 倍, 而现在广东省的 GDP 是辽宁的 2 倍; 1980 年黑龙江省的 GDP 与东部 6 省市的平均值相当, 现在仅为其 46.2%, 人均 GDP 仅是上海的四分之一。目前, 东北地区经济发展水平落后于珠江三角洲、长江三角洲、环渤海三大经济区。同时, 东北地区的许多城市发展与自然演进严重失衡, 生态环境问题日益突出, 部分媒体将其称为“东北现象”, 受到了全国界的广泛关注。

资源消耗多、环境污染重、经济效益不高, 产业结构不合理是导致东北地区经济增长缓慢、生态环境恶化的一个重要原因。长期以来, 东北老工业, 特别是以化工、炼油、石化、造纸、冶金等为代表的工业, 一直沿用传统的粗放型经济发展方式, 走的是以高投入、高消耗、高污染换取较高经济增长率的粗放型发展道路, 使该地区的资源、能源消耗和污染物排放强度均处于较高水平。这种发展模式一方面导致资源和能源利用不合理, 另一方面给环境带来严重污染, 而环境和资源所承受的压力反过来又对经济发展产生了严重的制约作用。目前东北老工业基地经济增长缺乏后劲, 结构不合理, 经济效益低下, 技术装备老化, 资金短缺, 企业发展后劲不足。如果东北地区继续沿用原有的生产模式, 到

2010 年实现国民生产总值翻一番时,资源消耗量和排污量也将翻番。届时,东北地区的资源将难以为继,环境将更加恶化。

因此,加速东北传统工业区转型,发展循环经济已经成为当务之急,这是贯彻和落实科学发展观,缓解资源和能源短缺状况,改善生态环境,实现国家经济社会协调发展的需要,也是规避国际贸易壁垒的需要。为加快振兴东北老工业基地步伐,2003 年 9 月,中共中央政治局召开会议,研究振兴东北地区等老工业基地问题。随后不久,《中共中央国务院关于实施东北地区等老工业基地振兴战略的若干意见》正式下发。2007 年 8 月,国务院正式对《东北地区振兴规划》做出了批复,国务院办公厅在公布的批复文件中称,要努力将东北地区建设成为综合经济发展水平较高的重要经济增长区域,将东北振兴提到前所未有的高度。怎样更好的完成振兴东北地区老工业基地的使命,实现以产业振兴为核心的经济转型成为人们关注的焦点。

振兴东北老工业基地,实现产业转型,必须采用现代工业发展模式,走可持续发展之路。党的十六大提出“要走出一条科技含量高、经济效益好、资源消耗低、环境污染少、人力资源优势得到充分发挥的新型工业化路子”。我们认为,欧洲传统工业区转型与发展循环经济实践对我国东北地区实施老工业基地转型具有十分重要的借鉴意义。我们要在借鉴欧洲传统工业区转型与发展循环经济的经验基础上,以科学发展观为指导,以优化资源利用方式为核心,以技术创新和制度创新为动力,实现相关产业的联合、不同产业的互补。形成“政府主导、企业主体、公众参与、法律规范、政策引导、市场运作、科技支撑”的运行机制,逐步形成中国特色的循环产业结构转型和循环经济发展模式,推进资源节约型社会和环境友好型社会建设。为此,我们要加快东北老工业区产业结构调整和产业转型步伐,要从实施清洁生产、建立工业生态园区、制定与完善循环经济法、加大政府政策扶持力度、完善城市基础设施建设几个方面制定策略,走新型工业化道路,达到对传统经济增长与发展方式进行根本性变革,推进人类社会可持续发展的目的。为此,我们要从以下几方面着手:

第一,提升和优化东北地区产业结构。振兴东北老工业基地是当

前国家区域战略的重点之一,其主要任务就是走新型工业化道路,全面提升和优化产业结构,实现以产业振兴为核心的经济转型。《中共中央国务院办公厅关于促进东北老工业基地进一步扩大对外开放的实施意见》(2005)提出,要立足现有基础,发挥比较优势,以增强产业整体素质和核心竞争力为重点,积极吸收外资,加快重点行业和重点企业的技术改造,加强对引进技术的消化、吸收,大力提高自主创新能力,推进产业升级。因而,在东北老工业基地振兴中,突出体制机制创新,要把改造传统制造业与发展高新技术产业结合起来,即一方面要发挥东北重化工产业优势,运用先进适用技术改造传统产业,提高其附加值;另一方面,要结合本地实际,发展具有前瞻性和战略性的高新技术产业,依托产业集聚构建新型产业基地,通过跨越式发展,逐步形成经济持续增长的支撑力量。

第二,实施清洁生产。振兴东北老工业基地,实现东北区域可持续发展,必须发展循环经济。循环经济条件下工业体系的三个主要层次是企业内部清洁生产、企业间共生形成的生态工业园区和产品消费后的资源回收再利用。建设生态工业和循环经济的前提和本质是清洁生产,清洁生产是一种工业生产组织和管理的思路,是一种新的环境策略和现代工业发展模式,是产业转型的实现方法之一。清洁生产将最终改变各国的工业结构,并直接影响各国经济发展的方向和水平,以及各国技术和产品的国际竞争力。

第三,建立生态工业园区。生态工业园区是循环经济在区域层次的发展和实践,在循环经济建设,生态工业园区发挥着承上启下的重要作用。党的十六大提出“要走出一条科技含量高、经济效益好、资源消耗低、环境污染少、人力资源优势得到充分发挥的新型工业化路子”。东北老工业基地要贯彻十六大精神,走新型工业化道路,就必须选择发展生态工业、建设生态工业园。这是振兴东北老工业基地的有效途径,可以实现经济效益和环境效益的协调发展,以及自然生态系统和社会经济系统的良性循环。

第四,制定与完善循环经济法。欧盟发展循环经济的经验表明,实施循环经济必须依靠国家立法,强制执行。尤其是在环境保护方面,必

须加强执法力度。1979年以后,我国的环保立法和管理进入全面蓬勃发展的时期。基本环保法的出现,标志着我国环保法作为独立法律的地位正式确立。而宪法中增加了环保有关内容,则进一步确定了环保工作在我国总体发展中的主要地位。多年来,我国已先后出台了水污染防治法,大气污染防治法,野生动物保护法,海洋环境保护法等数十项专项环境法,并已制定了包括基础标准、样品标准、方法标准、质量标准、污染控制标准在内的数百部国家环保标准;但是,总的来讲,我国还没有建立完善的发展循环型经济的法律法规体系。在资源再生利用和可持续消费等循环经济的重要领域,我国的立法基本上还处于空白。据此,我们要借欧盟国家发展循环经济的先进经验,在现有清洁生产发展实践的基础上,加快制定促进清洁生产发展的法律、法规,构建涉及生产、消费和资源循环利用等领域的循环经济法律法规体系。同时,要构建环境执法机构,加强执法力度。

第五,加大政府政策扶持力度。欧盟传统工业区改造的经验揭示,实现老工业基地转型,需要政府的大力扶持。政府在老工业基地改造过程中起着积极主导作用,政府要给予传统工业区相关的财政、税收及金融优惠政策,采取积极的就业政策,多种渠道,解决就业问题。为此,在东北老工业基地转型中,要借鉴欧盟经验,加快政府职能转变,综合运用价格和税收手段,制定区域金融政策,采取积极的就业政策,促进东北老工业基地改造,实现东北经济可持续发展。

第六,完善区域基础设施建设。随着改革开放的深入进行和经济建设的持续发展,抓好基础设施建设已成为党中央、国务院以及东北地区各级人民政府面临的一项紧迫的战略任务。近几年来,东北地区基础设施建设得到全面发展,面貌有了很大改观,在促进社会经济发展等方面取得了明显成效。为贯彻党中央的振兴东北政策,还要在借鉴欧盟传统工业区转型与发展循环经济经验的基础上,进一步加强东北地区道路交通建设、新型能源利用工程、城市园林绿化及生态小区建设,以促进东北老工业基地经济建设。

关键词:传统工业;产业转型;循环经济;可持续发展

ABSTRACT

Industrialization improved the development of economy and society. In the meanwhile, it also exhausted large amount of natural resources and produced each kind of poison materials. In 21st century, environment problems were paid more attention. Many countries advocated changing the traditional industrial mode and adjusting the strategy to develop Eco-industry. Under the new situation, we should transform the industries, develop circular economy and take a path of sustainable development according to our own resources and the position both in international and national markets. The kernel of circular economy is industrial ecology which based on the transformation of Eco-industrial structure. The industrial transformation is completely a new economic system and developing mode, which is supported by a new produce-consume fashion, and can promote industries to develop in a new industrialization road. With Eco-industry growth, it could fit the need of global population growth and use environmental resources sustainability.

Industrial revolution originated from Europe. The European industry always played a very important role in global economy. Ruhr regions in Germany, Birmingham-Manchester in Great Britain and Alsace-Lorraine in France, for example, have contributed a lot to the development of European industry. But after 1950s, traditional industry in these regions was impacted by the new technology revolution wave, even began to show signs of decline. After 1960s, countries of EU old industrial regions, such as Germany, France and Great Britain which

were facing this crisis have taken correlative methods. They made strategies to upgrade industry and expanded newly industry. They actively make and improve circular economy law, institutionalize and policize the advanced ideas of circular economy, carry out the circular economic developing mode and take a new industrialization road by cleaner production, Eco-industry parks, circular economy and improving the urban infrastructure construction. Traditional industry in those regions achieved transformation and changed the way of economic growth and the developing mode totally. The practices in EU proved that developing circular economy is the inevitable way to sustainable growth of region economy.

In northeast of China, total population of three provinces, Liaoning, Jilin and Heilongjiang, are 106 billions, 8.4% of the whole national population. Total areas are 790 thousands square kilometers, 8.3% of all areas in China. Northeast old industry bases had brilliant history in the beginning of a new country, and then became the bases of original materials, heavy equipment and military industry, made important contribution for setting up independent and entire industry system and economy system. In 1978, the northeast regions and Shanghai city, Jiangsu Province, Shandong Province all had the good industry foundation. At that time, only in Liaoning Province and Shanghai the output value of industry was higher than 8%. The average industrial output in northeast regions was 5.521%, which was slightly lower than in Yangtze River delta regions and in Shandong Province, but higher than in Guangdong Province. After opening, the output value of industry in southeast coastal regions had appeared to be raising continuously, the output value of industry in the northeast three provinces had declined gradually.

At the beginning of 1990s, which was a period of system transformation and marketization, in the three northeastern provinces as Chi-

nese traditional industrial regions, the state-owned enterprises developed slowly, the equipments and the technology became old, the competitive power weakened, the employment problem occurred, the dominant industry in resource city declined. The economic growth was relatively slow and the gap with the coastal developed regions became wide. In the beginning of the opening, the GDP of Liaoning Province is twice as Guangdong Province, but now the GDP of Guangdong Province is twice as Liaoning. In 1980 the GDP of Heilongjiang Province was equal to the mean value of the 6 eastern provinces or city. But now it was only 46.2%. The per capita GDP of Heilongjiang is only one fourth of Shanghai. At present, economic growth in the Northeast regions is slower than in the three big economic zones, Zhujiang River Delta, the Yangtze River delta, the Bohai Sea Ring area. At the same time, the city development and natural evolution in northeast regions are unbalanced greatly, and the ecological environmental problems have become increasingly prominent. Some media called it the northeast phenomenon which was paid more attention in China.

The main reasons of economic growth slowly and ecological environment worse in northeast regions are over-Consumption of resources, heavy pollution and low benefit and the unreasonable industrial structure. The dominating industry in northeast old industrial bases, especially the chemical industry, oil refining industry, petrochemical industry, paper making industry, metallurgy industry, has been taking the traditional extensive economic development mode which is characterized by high input, high consumption, high pollution to raise high economic growth rate. The result leads to exhaust much energy and resources and to produce high pollution. Such development mode, on the one hand, utilizes resources and energy unreasonable, and on the other hand, it also pollutes the environment greatly. The interaction between environment and resources and economic growth restricts

the economic development. There are lack of the stamina of economy growth in northeast old industrial bases. If we don't change the traditional produce mode, such as unreasonable industrial structure, low benefit, old technical equipment and lack of fund, the goal of two times GDP in northeast regions by the end of 2010 will exhaust twice resources and produce twice poisonous materials. Then the resources will be exhausted and the environment in northeast regions will be worse.

Therefore, the key problems in northeast traditional industries regions are the industrial transformation and circular economy, which is relative to implement the scientific development idea, to save resources and energy, to improve the ecological environment and to develop the economy and society harmonically, and is also a good way to avoid international trade barriers. In September 2003, the Central Political Committee held a meeting in order to revitalize the northeast old industrial bases. Shortly after, "the CPC Central Committee and State Council on the implementation of the northeastern region and other old industrial bases revitalization strategy for a number of opinions" was formally issued. In August 2007, the State Council made official reply to "revitalization plan in Northeast China". General Office of the State Council claimed that efforts will be made to construct the northeast regions into an important economic growth region. How to revitalize the northeast old industrial bases and transform the economy has become the focus.

In order to revitalize the northeast old industrial bases and transform industry, we must adopt modern industrial development mode, and take the sustainable development road. The 16th National People's Congress proposed that "blazing a new trail to industrialization featuring high scientific and technological content, high benefit, low resources consumption, little environmental pollution and a full display

of advantages in human resources.” We believe that the transformation and circular economy in the European traditional industrial regions are profound implications to the Chinese northeast old industrial bases. We should learn from the European traditional industrial restructuring and development of the circular economy, under the guidance of the scientific development concept, optimizing the way of the use of resources, technological and institutional innovations as a driving force. We can link the related industries, and the compliment of different industries. It is established a “government-led, enterprises as center, public participation, laws and regulations, policy guidance, the operation of the market, scientific and technological support” operation mechanism, and gradually forms a transformation structure circle and circular economic development mode with Chinese characteristics, and promotes a resource-saving and environment-friendly society. In order to speed up the readjustment of the industrial structure and restructure in old northeast industrial regions, strategies should be made from the following aspects: implementing cleaner production, establishing eco-industrial park, legislating circular economic laws, increasing government policy support, and improving urban infrastructure. The aim is taking a new industrialization road to achieve the fundamental changes of the traditional mode of economic growth and development, promoting sustainable development of human society. Therefore, we must proceed in the following aspects:

Firstly, Promote and optimize industrial structure in northeast regions. The revitalization of the northeast old industrial bases is one of the key national region strategy now, which primary mission is taking a new industrialization road. “The CPC Central Committee General Office of the State Council on the promotion of the old industrial bases in Northeast China to further expand opening up the implementation of views” (2005) proposed that, we should be based on the existing

foundation, exploit the display comparison superiority, improve the industrial quality and the core competitive ability, absorb foreign investment actively, accelerate key industries and key enterprises in technological innovation, strengthen the digestion and absorption ability of the introduced technology, greatly enhance the ability of independent innovation, promote industrial upgrading. Thus, in the revitalization of the northeast old industrial bases, it is necessary to transform traditional manufacturing industries and the development of high-tech industries through innovative institutional mechanisms. On the one hand to transform the traditional industry and increase added value through advanced and applicable technologies based on the heavy industry superiority in Northeast China. On the other hand to make the forward-looking strategic to develop the high-tech industry according to local conditions. And we should also set up a new industrial base through industrial cluster and form gradually the supporting force that will push sustained growth.

Secondly, put cleaner production into practice. In order to promote the northeast old industrial bases, develop the region growth sustainably, we must develop the circular economy. Under the circular economy conditions, the three major industrial system levels are the internal cleaner production in the enterprises, enterprises of the symbiotic form of Eco-industrial parks and the recycling use of resources consumed products. The essential and premise of ecological industry and circular economy are cleaner production. The cleaner production is a new way to produce and manage in industrial production and also a new environment strategy and modern industrial development mod. It is one of the methods to transform industrial structure. Cleaner production will change the industrial structure in various countries eventually, and then directly affect the economic development, the economic level, the technology and the international competitive-

ness of products.

Thirdly, establish Eco-industrial parks. Eco-industrial parks are the development and practice of circular economy at the regional construction level. Eco-industrial parks play an important role in the circular economy. If the northeast old industrial bases take a new industrialization road; we must develop Eco-industry and establish Eco-industrial Parks. This is the effective way to revitalize the northeast old industrial bases, to develop economic and environmental benefits jointly, as well as to get a good natural ecosystem and the social economic system.

Fourthly, legislate and consummate the circular economic laws. The practice of circular economy in EU indicates that it must rely on the national legislation and enforcement. We should strengthen to execute the laws, especially in the section of environmental protection. After 1979, our country environmental protection legislation and management is becoming flourishing. The basic environmental law symbolized that environmental protection laws were independent legal system in our country now. It has strengthened the main status of environmental protection laws in the development process in our country when added environmental protection in Constitution. We have promulgated Water Pollution Prevention Act, Air Pollution Prevention Act, Wild Animal Protection Act, Marine Environment Protection Act and so on about 10 special environmental laws in last several years. And also have formulated hundreds of national environmental standards including a basic standard, sample standards, methods standards, quality standards, pollution control standards. However, generally speaking, we have not established a legislation system of circular economy. Legislations in renewable resources and sustainable consumption which are the most important area in circular economy are still blank. All above, we should learn from the practice of circular e-

conomy in EU to regulate the cleaner production and to legislate the system involving in the production, consumption and resources cycling use base on present cleaner production practice. At the same time, we should set up environmental institute and strengthen to execute the laws.

Fifthly, to increase the government policy support dynamics. The experience in traditional industrial regions of EU reveals that, governments should give full support to the restructuring of old industrial bases. The government plays an active role in the process of the transformation of the old industrial bases and should give the traditional industrial areas preferential policies related to taxation and financial, and take positive employment policy to solve the employment problem. Therefore, the old industrial bases transformation in Northeast China, should learn from EU experiences, and pay more attention to speed up the transformation of government functions, the integrated use of price and tax measures, the development of regional financial policies, to adopt a positive employment policy, in order to promote the old industrial base transformation of the economy and achieve sustainable development in Northeast China.

Sixthly, improve the regional infrastructure construction. With the deepening of reform and opening up and the continued development of economic construction, achieving the construction of infrastructure has become an urgent strategic task of the Party Central Committee. In recent years, the northeastern region of infrastructure construction has achieved all-round development and the situation has changed greatly in the promotion of social economy development and got remarkable results. In order to implement the Party Central Committee's revitalization of the Northeast policies, to learn from European transformation in traditional industrial regions and the development of circular economy, we must strengthen the building of road traffic in the

Northeast China, implement the new energy projects, build the city landscape and the ecological district to promote the northeast old industrial base economic growth.

Keywords: Traditional industry, industrial transformation, circular economy, sustainable development