PUBLICATION OF THE COMMITTEE FOR THE FUTURE 7/2014

CHINESE–FINNISH GREEN GROWTH COOPERATION

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Content

1. China and Finland aiming for sustainable growth through cooperation

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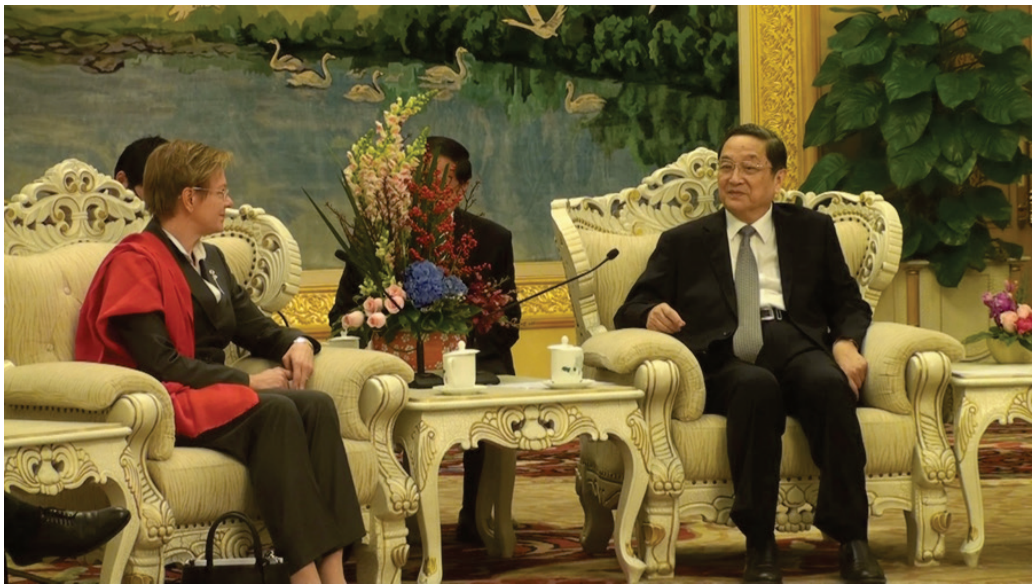
Chairman Yu Zhengsheng of the Chinese People's Political Consultative Conference (CPPCC) visited Finland in spring 2013 and proposed that the bodies in the Eduskunta of Finland and the People's National Congress of China that concentrate on foresight should begin collaboration with each other. In December 2013, on the invitation of the CPPCC and Chairman Yu, a delegation from the Eduskunta's Committee for the Future and Finnish industry paid a visit to Beijing to familiarise themselves with Chinese environmental technology and present Finnish cleantech know-how.



The growth of the Chinese economy into a world power and the lifting of hundreds of millions of people out of poverty are noteworthy achievements. Economic growth has also had its price. The immediate challenge that China faces is to combine strong economic growth with sustainable development of the environment. The Chinese want to buy greener technology, as long as the price is right and the quality good. China has firmly grasped environmental issues. The political leadership has outlined the challenges facing the economy and noted the need to make inputs into tackling environmental challenges.

The industrial and energy facilities that the Committee for the Future visited used cutting-edge technology both developed in China and acquired from western countries. One of the things that we saw was how China recovers carbon dioxide from the most modern coal-fired power stations and turns it into ice. This is then sold. The next five years will see these new practices introduced in other production facilities. The Committee for the Future was also shown how China produces energy from wastes and exploits ground heat.

During the visit, also Finnish companies introduced their own know-how to their Chinese cooperation partners. Ahlstrom presented water-treatment techniques. BMH Technology gave a presentation on how bio waste can be used as a fuel or even as recycled metal. Using Watrec's bio-processing technology, organic waste produces gas and fertiliser. Metso, in turn, demonstrated how a gasification method featuring the world's highest efficiency coefficient enables heat and electricity to be generated from waste. The more efficient a combustion process is, the fewer emissions are produced. EkoHarden presented a soil-purification method based on electricity. Soil can be cleansed without earthmoving and the cost saving is significant. Groundwater is also purified in the process. Chinese and Finnish companies have continued negotiations about cooperation since the visit.

As recently as a few decades ago, the Finnish paper industry was still discharging its wastewater untreated into water bodies. Then new legislation was developed and acted as a driver encouraging the industry to acquire and develop new cleaner technology. Now the water in the lakes and rivers is fit to drink and at the same time technological innovations have enabled the mills to increase their output several times over.

Our delegation outlined the Finnish model, in which legislation is the driver in emphasising economic growth and environmental values. The Finns' message was that outlining the life curve of products and reflecting on the time needed to pay off costs are important things. The investments that must be made in environmental technology cannot be seen only as a cost item or as something that lessens the efficiency of production. An

animation made by the Finnish company GreenSound was used to illustrate how individual technologies are associated with each other and form a comprehensive system in every segment of production. Cooperation and management of the totality increase the benefit many-fold. Sustainable development is a competition factor for Finland. At the same time the wellbeing of the society in other respects as well also improves.

Introducing new technology changes the structure of labour and offers job opportunities to highly trained people. China has invested a lot in technical training. In a rapidly changing world, companies must constantly develop and evolve. Sustainable development helps also in this task: efficient use of materials and energy helps modernise the economy.

The Chinese market is competitive, but it is growing. Also Finland must be able to develop technology and operational methods that specifically suit China. In particular, there is a need for cultural understanding. In a world that is virtualising and becoming increasingly technological, it would be good for us Finns to remember that in the final analysis everything happens between people and then it is ultimately a question of trust. Trust is either there or it isn't. It is capital that must also be grown.

The cleantech export promotion experiment that the Committee for the Future conducted in 2013 – 2014 succeeded well. All of the companies that took part in it gained new contacts and strengthened existing ones. The Committee for the Future and the CPPCC have acted as facilitators and conveners. In 2014 the Committee for the Future is also arranging a follow-up seminar in support of the China-Finland cooperation that has gotten off to such a good beginning. Hopefully this will lead to concrete deals.

For the Finns, an unspoilt natural environment is a part of our identity, culture and design. Now it is also cleantech. Both in Finland and in China, development and people's hopes rest on economic growth. Because the limits of our planet's carrying capacity are clear to us, we need sustainable, green growth. Economic growth must be sustainable both socially and ecologically. We need growth in which more is done with less, the emphasis is on renewable materials, recycling is practised and processes are made more efficient.

Finland possesses industrial and technological competence of a high standard. There are reforms that can be carried out at once and the results of which will be immediately felt. For example, direct cleansing of water and air. There are also innovations that will alter industrial processes and reduce emissions. They can be commenced at once, but their effect will be seen only after time has passed. Both are needed.

Economic growth, competitiveness and sustainable development go hand in hand. We need partnership so that we can pool our competence. Only together can we solve global problems. We Finns want to cooperate with China as resolvers of global problems. Finland and China can in the future also cooperate with third-party countries – for example in Africa.

In conjunction with its visit to China, the Committee for the Future also cooperated with the China-based Beautiful Beijing network belonging to the Finnish Funding Agency for Innovation (Tekes), Finpro and our embassy in Beijing. Finpro is an organisation that promotes exports and internationalisation on the part of Finnish companies and strives to attract foreign investment to Finland. An actor like the Committee for the Future can draw attention, open doors and speed up activities – but making benefits take root requires permanent structures. Also in this cooperation important experience was gained. It is splendid that Finland has such strong, diverse and permanent competence in China. This provides a foundation on which to build further cooperation over the long term.

Cooperation with the CPPCC will hopefully continue also in the future. The experience of a new kind of cooperation that we have gained will continue to be put to good use in projects run by the Committee for the Future and hopefully also by the other Eduskunta bodies.

中芬合作具有广阔前景

中国人民政治协商会议主席俞正声在2013年春天访问芬兰时曾指出芬兰议会和中国人大将会在一些重点领域有密切的合作。芬兰议会未来委员会以及芬兰企业家代表团应中国政协和俞主席的邀请也于2013年12月访问了北京，熟悉了解中国的环保技术，同时也介绍芬兰的清洁技术专业技能。

中国经济的增长已成为世界的驱动力，中国使数亿民众脱离贫困是极为伟大的成就。经济增长也让中国付出了代价。中国近期的挑战就是把强有力的经济增长同环境可持续发展结合起来。中国方面想购买更绿色的，特别是价格合理、优质先进的技术。中国已非常严肃地对待环境问题。政治领导层已经可以应对这些经济挑战和那些需要重点投资的环境挑战。

在我们未来委员会所访问的工业和发电站等部门都使用了中国自己或是从西方采购的先进技术。我们看到了诸如中国如何在火电厂收回排放的二氧化碳，并把它变成固体冰。回收的二氧化碳则可以进行商业化市场销售。在未来五年中将继续改造其他电厂。而且还向我们未来委员会介绍了中国如何将垃圾转变成能源以及使用地热等。

在访问期间，芬兰企业也向中国合作伙伴们介绍了自己的专有技术。奥斯龙集团公司介绍了水处理技术。BMH技术公司介绍了如何使生物废物作为生物燃料使用，甚至金属的回收利用。瓦瑞克公司的生物处理技术可使有机垃圾产生燃气和肥料。美卓公司则展现了世界上最先进的如何通过气化的方法从垃圾生产热电的专有技术。燃烧工艺越有效，则所产生的排放越少。埃克哈尔登公司介绍了电基土壤清洁方法。土壤可以在不用挪动的情况下得到净化，该方法极大地降低了成本。同时还可以净化地下水。中国和芬兰企业在访问之后仍都在继续洽谈合作。

就在数十年前，芬兰造纸工业的污水排放还是未经处理的。随后芬兰颁布了新的法规，这为鼓励推动工业项目的发展和新的更清洁技术的开发发挥了重要作用。今天水排放已达到了饮用标准，同时在技术革新帮助下，企业产量成倍增加。

我们的代表团介绍了芬兰模式，其中法规是经济增长以及环境价值得到重视的驱动力。芬兰人的思想是要深刻认识和了解产品的寿命周期和成本折旧。环境技术的投资不能仅从所耗费的成本或是降低了生产效率等方面来看。芬兰的“绿色声音”以动漫的形式展示了如何把不同的单一技术结合在一起以及制定完整的系统，而每一系统又有自己的生产单元。合作以及整体控制会产生巨大的作用。对芬兰而言，可持续发展可以提高竞争力。同时社会其他方面的福祉也得到了发展。

新技术的使用改变了劳动力的结构，为受过高等教育的阶层提供了就业。中国已非常重视技术方面的培训。在迅速变化的世界中，企业必须不断地发展和创新。可持续发展，如材料与能源的高效使用有助于现代化经济。

中国市场极具竞争性，市场发展迅速。芬兰也应能够制定出适合中国的技术和运营方法。特别是需要对文化的了解。在视觉化和技术化的世界里，我们芬兰人必须记住，最后所有的事情是发生在人之间，届时从本质上而言就是信任的问题了。要么有信任，要么无信任。而现在我们这种互信资本在不断增加。

未来委员会2013至2014年在实现促进清洁技术出口尝试方面已取得了很好的成绩。所有参与企业或是获得了很多新的合作关系或是强化了现有的合作关系。芬兰未来委员会和中国人民政治协商会议在其中起着机会创建者和服务员的作用。2014年未来委员会还将安排组织进一步的研讨会，支持那些已经开始了的中芬合作。我们希望具体的商业合同可以由此产生。

洁净的大自然是芬兰人在民族认同、文化和设计等方面的重要特征之一。现在洁净的大自然也是芬兰清洁技术的代表。芬兰同中国一样，发展与希望依仗于经济的增长。因为我们已非常清楚地球可承载的极限，所以我们需要可持续性的、绿色的发展。经济增长不仅在社会层面而且也要在生态层面可持续，我们需要多快好省的发展，而且重视新材料、可回收利用以及更有效的创新工艺。

芬兰拥有很高的工业与技术专业技能。我们需要实施性强、见效快的创新。如在水和空气的及时净化方面。我们也需要改变加工工艺以降低排放。这些都是可以马上开展的，但其效果得需要一些时间才能产生。两者都需要兼顾。

经济增长、竞争力以及可持续发展三者紧密相连。我们需要一种可以连结我们优势的伙伴关系。只有在一起我们才能解决全球性的问题和困难。我们芬兰人愿意同中国合作为全球性问题和困难提供解决方案。在未来芬兰同中国还可以在第三国一起合作，比如在非洲。

芬兰未来委员会对中国的访问也是芬兰未来委员会同芬兰国家技术创新局在中国所参与的“美丽北京”关系网络、芬兰贸易协会以及芬兰驻华使馆等一起的合作。芬兰贸易协会是芬兰企业出口和促进国际化以及吸引外资投资芬兰的组织机构。未来委员会的使命是对合作实施影响，开启合作之大门，加快合作之步伐 - 但是利益之基础需要持续性地营造。从这些合作中还可以获得很多重要的经验。衷心希望芬兰在中国拥有强有力的、多样化的和持久性的专业知识从而确保我们长期稳定的合作。

未来同中国政协的合作将会更富于成果地持续下去。今后未来委员会以及整个议会的其他机构也将受惠于新型的企业合作所获得的经验。

柏维 • 利波宁 (Päivi Lipponen)

芬兰议会议员

未来委员会主席，哲学博士，工商管理学硕士

2. Chinese – Finnish Green Growth Cooperation

Mikko Kantero (ed.)

Entrepreneur, Greensound

2.1. Working Towards a Balance Between the Five Elements

Summary of the cleantech seminar between the Chinese People's Political Consultative Conference (CPPCC) and the Committee for the Future of the Finnish Parliament and suggestions for the next steps in the cooperation

The Committee for the Future visited China together with a Finnish cleantech business delegation on the December 9–13, 2014. The main event of the visit was to attend the Chinese-Finnish cleantech seminar arranged by the CPPCC and its chairman Mr. Yu Zhengsheng.

The seminar was arranged after Mr. Yu Zhengsheng's visit to Finland in early 2013 and his initiative to establish a longer cooperation with the Committee for the Future of the Finnish parliament.

In the cleantech seminar both Chinese and Finnish representatives from the politics and business held several presentations regarding the environmental and economical situation in China and the Finnish approach to the environment and economic growth.

The seminar was arranged on the following week after the general assembly of the Central Committee of the Communist Party of China.

Chinese point of view

The last few decades China has enjoyed a period of one of the most impressive economic growths in the modern times. For example in 2007 the annual production increased by 14,2%. Without a doubt China has become an economic superpower.

Lately compared to the record figures the economic growth has been slowing down and recent estimates predict an annual growth of 7-8%. Even though compared to the European economies the Chinese economy is still growing fast, the trend is decreasing and signals a need for improving and rebuilding the structures of the economy. In order to maintain and increase the well being of the nation, China needs to keep and even increase the level of the economic growth.

The fast economic growth has not come without side effects. The use of natural resources has been enormous and sometimes compromising the nature and the living environment.

Further economic growth is coming challenging if the environmental dimension is not taken care of at the same time.

Today 16 of the 20 most polluted cities in the world are located in China, air pollution being one of the most severe challenges. WHO's (World Health Organization) guideline limits for the maximum small particle content in the air is rearly achieved and for example in Beijing the worst days exceed the limits by 500 times.

At the same time when China has become the world's biggest energy consumer and the biggest air polluter, the country is going through the world's biggest demographical change. Currently over 50% of the Chinese live in an urban environment and in the coming years over 20 million people annually are expected to move into cities from the countryside.

Also the population is aging fast: the amount of people over 60 years is expected to triple in the coming 30 years.

Water and soil resources have also suffered from the economic growth. Three quarters of the Chinese rivers are not suitable for fishing purposes anymore. One third of the river water resources are not suitable for irrigation on fields used for food production. Soil and ground waters are widely polluted.

China has acknowledged the environmental challenges and the need for developing their industry and economy towards sustainability. The matter is being taken seriously.

According to the general assembly and the Central Committee of the Communist Party of China, in addition to the economic growth and reforms in the economy, sustainability and solving the environmental challenges is a top priority for China. This emphasis can be seen in the 12th 5-year plan running until the end of 2015, as well as in the plans for the coming 5-year plan of the Communist Party. For example, the Chinese government has announced to invest 1,5 billion USD to renewable energy, energy saving and pollution prevention measures by the end of the 2015.

Having to solve environmental challenges, to secure economic growth and to create a sustainable urban living concept for aging people at the same time, China is signalling a high level of determination and readiness to execute major measures for achieving the desired direction and results.

China has invited a number of other nations to cooperate in solving the major challenges and changes the country is facing and going through. In this respect China has also chosen Finland as one of the partners. The cleantech seminar between the CPPCC and the Committee for the Future of the Finnish Parliament held on December 9-13, 2014 in Beijing, was a part of the cooperation process.

The seminar focused on 'green growth' which was also recognised as the path for China and China's economy.

In the cleantech seminar the Chinese representatives outlined the following key areas of environmental challenges where cooperation and technological solutions are wished for:

- Air pollution prevention
- Soil and ground water cleaning
- Prevention further polluting of soil and water resources

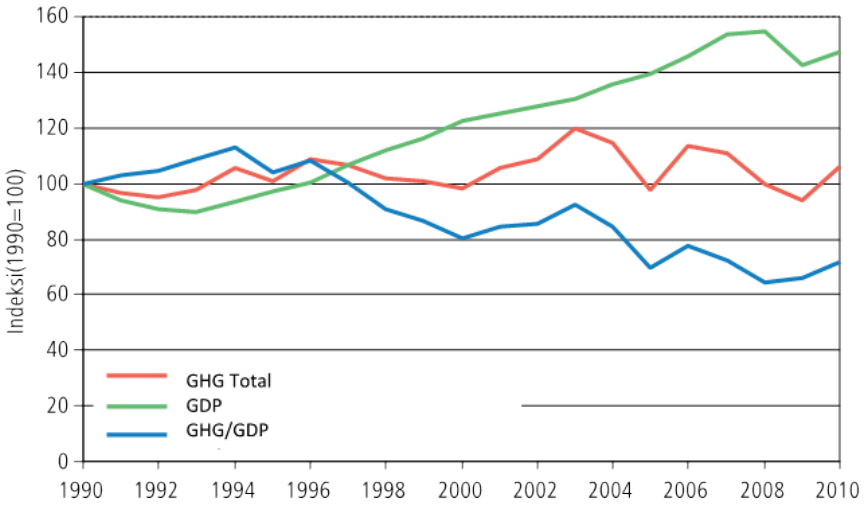
Green growth and the Finnish cleantech ecosystem

In the European context Finland is an example of a country that was one of the poorest after the Second World War and grew to one of the wealthiest countries today without compromising the well-being of the nature, environment and the people. This development is the basis for our green growth concept.

The key message of the green growth concept is that reducing pollution, supporting the sustainability and the environment, and economic growth is possible to achieve at the same time.

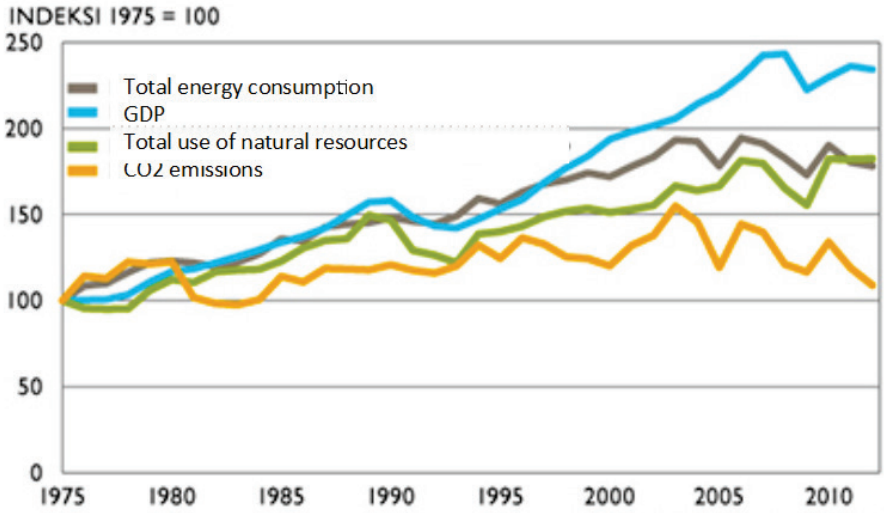
Looking into the history of the Finnish economy there are some key indicators that prove the claim.

1. Finland has reduced the green house gas (GHG) emissions compared to the gross domestic production (GDP) by almost 25% in the last 20 years. In other words the GHG have remained on the same level where as the GDP has increased by 50% in the measurement period.



Source: Statistics Finland

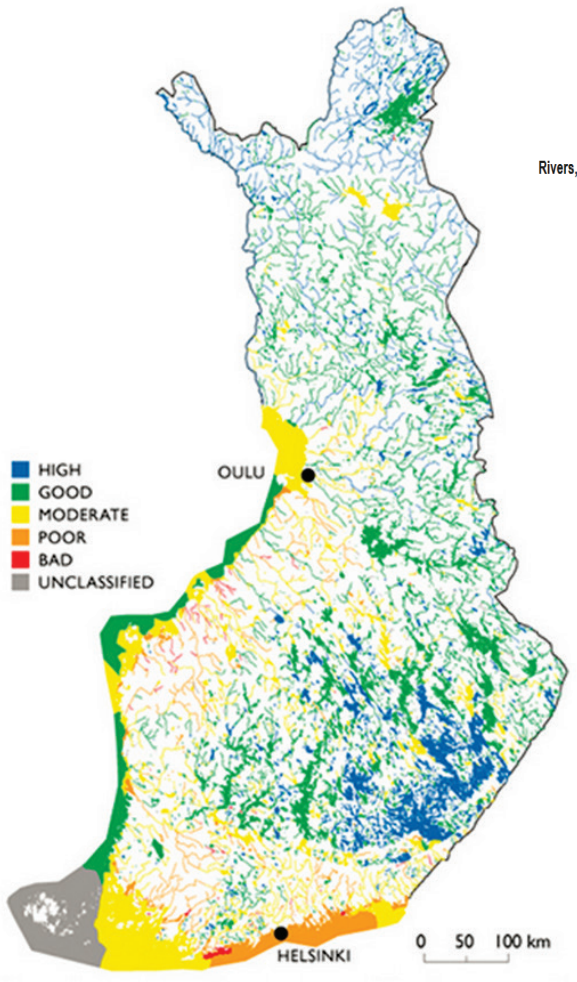
2. Another picture describes the *disconnection of the GDP and the use of natural resources and energy*. Until the early 1990's the use of natural resources and energy in Finland was growing at the same rate with the GDP. Since then, however, the material and energy efficiency thinking started to take place in the Finnish economy setting the path for a green growth: in the recent years the GDP has grown but the level of energy and natural resource consumption has remained on the same level. Today there are even signs that a growing GDP is possible to achieve with a decreasing consumption level of energy and natural resources.



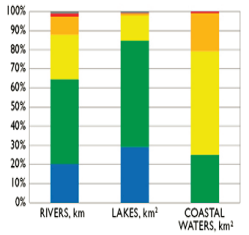
Source: Statistics Finland 2013

3. The third picture describes the condition of the Finnish water resources in 2013. The industrialization, the growing economy and the agricultural activities have not damaged the water resources: 85% of the surface area of our lakes and 65% of that of our rivers is in good or excellent condition.

Surface waters by ecological status in Finland 2013



Rivers, lakes and coastal waters in ecological status categories in 2013



Source: The Assessment of the ecological status of Finland's surface waters 2013. SYKE, ELY Centers and Finnish Game and Fisheries Research Institute. 2013. Map: National Land Survey of Finland, permit number 7/MML/12.

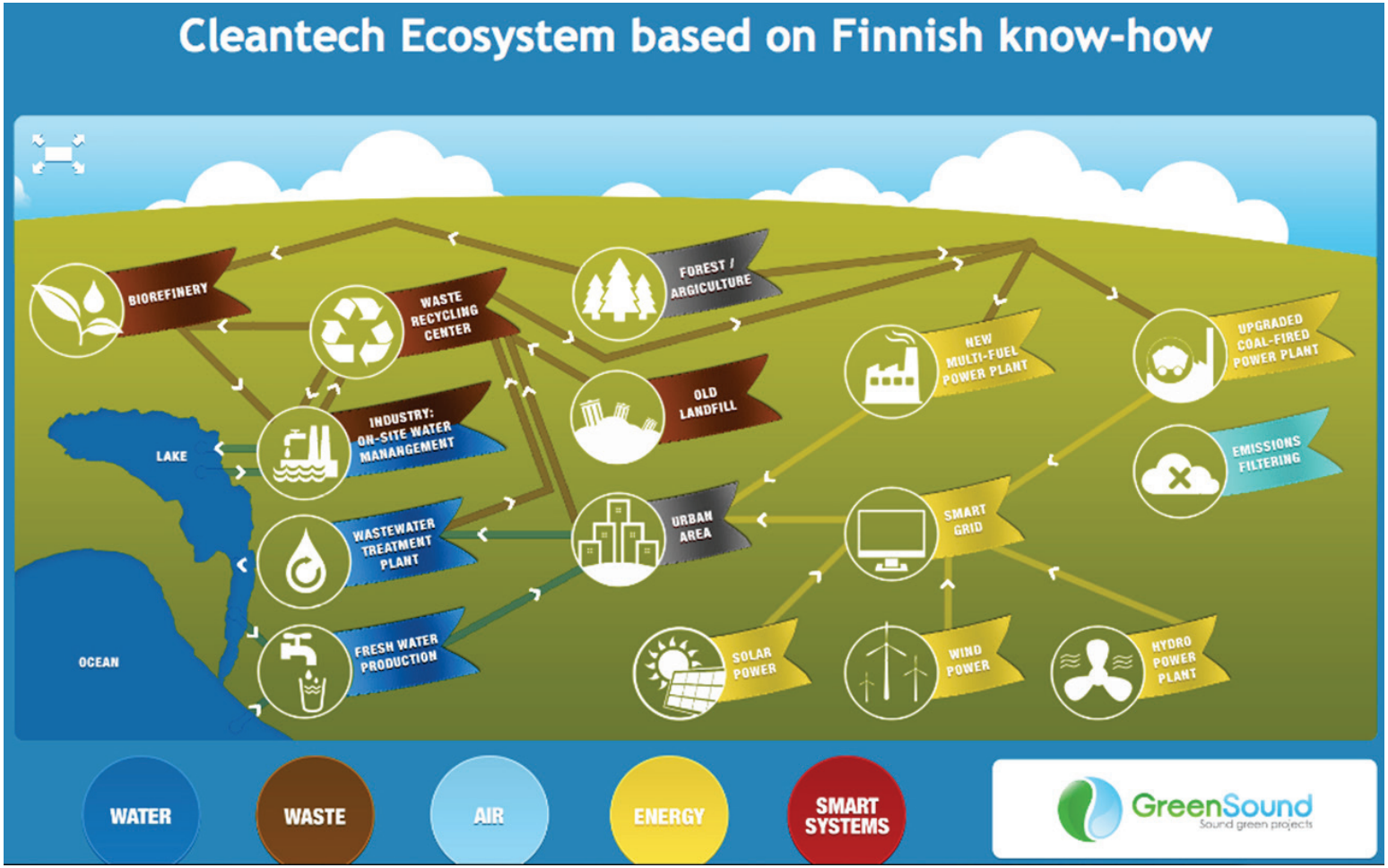
Finland is a country of engineers and engineering capabilities have always been valued. Therefore it was natural that the thinking behind the Finnish green growth concept was created in the engineering intensive manufacturing industry. The forest industry, the pulp and paper industry and the steel industry were a long time the backbone of the Finnish economy and export.

To increase the competitiveness the leading companies needed to improve their production efficiency. As a result, in addition to improving individual machinery and manufacturing processes, the engineers started to integrate different processes to achieve synergy effects: to save raw materials, to re-use by-products and water, to save energy.

The ecosystem approach was created and became real in the industrial sites run by the Finnish companies.

Since then the resource efficient ecosystem, the Finnish green growth model, has been expanding from the manufacturing industry to the other areas of the society as well. As a result the Finnish cleantech industry has been growing and covers today a big variety of know-how and products from individual process solutions to smart ecosystem concepts.

In the cleantech seminar between the CPPCC and the Committee for the Future of the Finnish Parliament held on December 9-13, 2014 in Beijing, the Finnish delegation presented the following ecosystem map approach describing the interaction of material, water, energy and air as well as the importance of intelligent and smart control systems.


Cleantech Ecosystem based on Finnish know-how
BIOREFINERY
WASTE RECYCLING CENTER
FOREST / ARGICULTURE
NEW MULTI-FUEL POWER PLANT
UPGRADED COAL-FIRED POWER PLANT
LAKE
INDUSTRY: ON-SITE WATER MANANGEMENT
OLD LANDFILL
EMISSIONS FILTERING
WASTEWATER TREATMENT PLANT
URBAN AREA
SMART GRID
OCEAN
FRESH WATER PRODUCTION
SOLAR POWER
WIND POWER
HYDRO POWER PLANT
WATER
WASTE
AIR
ENERGY
SMART SYSTEMS
GreenSound
Sound green projects

The ecosystem map covers the following key areas:

The main message is that as a result of taking measures in all of the areas at the same time the emissions to the air and to the soil/water can be decreased dramatically.

Water:

Clean water is an essential element of a functioning society and economy. People, industry and agriculture need water that they can use, otherwise they cannot perform. A fundamental key to a sustainable and economically viable society is to keep the water clean and use it efficiently.

There are a number of smart examples how drinking water is produced in big scale and in consumer scale, how water is recycled and cleaned in the industry, how urban waste waters are treated efficiently and how spoiled water reserves are rehabilitated.

Waste:

Economic growth is based on resource availability. Many of the key resources, like metals and minerals, are getting less and more expensive to take from the nature. At the same time most of the produced materials end up as waste.

Waste is a resource and a sustainable and efficient economy needs efficient reuse of materials.

For example in the South-West area of Finland only about 5% of the municipal waste ends in a landfill – the rest is reused as materials or energy. As a result the economical efficiency is higher, soil is polluted less and the demand for landfill areas is small. Also the use of fossil fuels is reduced.

Air:

Emissions to the air are a by-product of human activity and economic growth. Without taking care of the air and emission control a sustainable economy is not possible to maintain.

Emission to the air can be controlled in many ways:

- Reducing the use of fossil fuels improves the CO2 balance
- Filtering the emissions of power plants and industrial facilities decreases the amount of small particles and harmful substances in the air
- Utilizing organic waste and closing the landfill properly reduces the methane emissions
- Adopting carbon capture technologies to radically reduce CO2 emissions
- Adopt combined heat and power systems to increase energy efficiency and to reduce the need for fuels

Energy:

Economic growth needs energy. Using fossil fuels for energy production decreases the sustainability and will prohibit economical growth on a longer term. Energy efficiency and non-fossil energy sources allow sustainability and economic growth at the same time.

Smart systems:

Individual technologies play an important role in setting up a cleantech ecosystem, but the really big improvements of increasing the sustainability and economical effciency of the whole ecosystem come from smartness – the continuous online optimization of the complex system.

Finland is a global leader in IT – applications. Several smart systems for optimizing a cleantech ecosystem are already reality

As a summary, the Finnish delegation's main message in the cleantech seminar highlighted the following main principles which are guiding Finland on the path of the green growth:

- Investing in resource efficiency technologies pays back in a more sustainable and better economics and environment
- Investing in intelligence: using automation and communication technology for creating optimized ecosystems on micro and macro levels. Interaction is needed between various processes, the living environment and the people.

Public-Private cooperation:

Finland has a long history of cooperation between the government (politics) and the stakeholders such as the business sector, non-profit NGOs and the responsible supervising or implementing authorities. This has been a major contributor in ensuring that the laws and the intention of the laws have been implemented also in practice and the targets are reached.

The political decision making process sets the goals and guidelines for the society and initiates a law preparation process. Typically the stakeholders are invited to join the process in order to gain their input: everybody gets a heard and is thus more committed and also more aware of the final result.

Openly available information to all of the involved parties is a key function supporting the law making process. Therefore the government has several agencies specialized in producing and analysing information for various sectors of the society, including the environmental issues.

2.2. Common path towards green growth – suggestion for the cooperation between the CPPCC and the Committee for the Future of the Finnish Parliament

Review of some of the on-going cooperation forums in cleantech between Finland and China

In addition to the cooperation of the CPPCC and the Committee for the Future of the Finnish parliament, Finland and China are working together in cleantech related issues at least on the following forums:

Beautiful Beijing

Beautiful Beijing is a cleantech cooperation project focusing on improving the environment and especially air quality in the Beijing area. The project was started when Finland's president visited China in 2013. Beautiful Beijing is run by Finpro and Cleantech Finland which are Finnish government financed non-profit organizations.

Cooperation between various ministries

There is an active dialogue between several Chinese and Finnish ministries regarding environmental and cleantech issues. In this context China has also proposed piloting cities in the northern part of China for cleantech projects.

The common Chinese-Finnish path towards green growth

The current situation and needs in China together with the history, development and level of cleantech know-how in Finland form a solid basis for a long term partnership and cooperation: working jointly towards green growth.

From the Finnish perspective the natural and most interesting **areas of cooperation** are resource efficiency, water management, clean energy solutions, air cleaning and smart control systems. On a more practical level the following topics for the cooperation are suggested:

- recycling technology, material resource efficiency
- replacing coal with waste-based fuels (SRF, gas)
- replacing coal with biomass based fuels
- soil and ground water on-situ cleaning
- water purification systems on consumer and industrial scale
- air filtering systems on consumer and industrial scale
- smart systems, smart grid, ecosystem optimization
- ecosystem concept design, urban development design

2.3. Next Steps

From the perspective of a joint fruitful cooperation the target of the next steps is to achieve practical results. Therefore as the way of cooperation we suggest the following:

1. Demonstration – projects in China

Ecosystem demonstration: smart and resource efficient urban area

The best way to measure and prove the effectiveness of the ecosystem approach is to build a real-life demonstration where all the newest technologies and know-how can be applied. The optimum is to find a greenfield area where the concept can be designed and implemented with minimum distraction of existing infrastructure.

The new demonstration area could be named as THE CLEAN AIR CITY or THE CITY OF BALANCED ELEMENTS referring to Chinese theory of five elements.

An urban area project covering 500.000+ people would a suitable size allowing a full demonstration of available solutions.

Taking into account the size and novelty of the project, to achieve maximum efficiency, impact and focus we suggest forming a new Chinese – Finnish project development and steering group for the project independent from any other cooperation forum between China and Finland. Ideally the group is small and business and know-how driven (key developers and companies present), backed up by the representatives of both governments.

Single solution demonstrations in existing environment/infrastructure:

Finland and China have an excellent established structures of cooperation; Beautiful Beijing. Enhancing the project and finding more demonstration location for individual technologies and solutions should be encouraged.

Currently Beautiful Beijing project is looking for demonstrations in the following areas:

- Energy production and distribution
- Energy efficient buildings
- Traffic and transportation
- Energy efficiency in industrial operations
- Air quality control and monitoring

2. Joint R&D in China and Finland

On a longer perspective the joint target of Finland and China ought to be creating new concepts, technologies and business models which benefit both countries and the companies in both countries not only in their home but also globally.

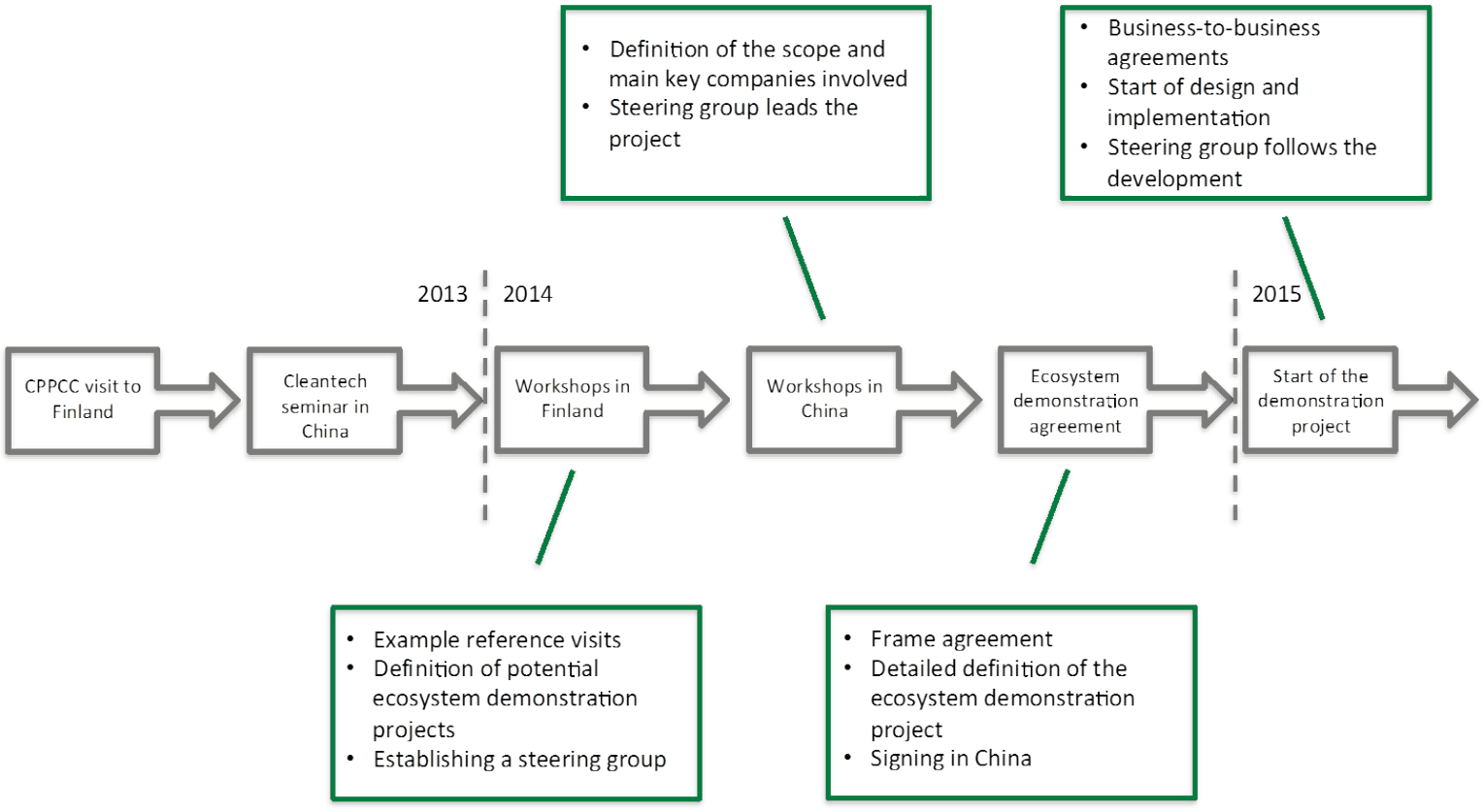
An ecosystem demonstration as described and suggested above forms an excellent R&D base for joint development projects for companies, research institutes and universities from both countries.

3. Joint financing mechanism

In order to achieve a maximum impact on practical achievement a joint funding vehicle should be established. We suggest that the funding vehicle would be targeted for the financing of cleantech demonstration projects in China, Finland and third countries. This way the best technologies and practices from both China and Finland can be applied efficiently there where the impact is the biggest. At the same time the companies of both countries benefit.

The Finnish government can participate in project financing typically with a loan/credit guarantee component in projects outside of Finland (Finnvera, Finnfund) and sometimes with an investment subsidy in projects inside of Finland (Ministry of Employment and the Economics).

In order to achieve the practical results, we suggest the following **joint steps towards practical achievements** in the Finnish-Chinese green growth cooperation:


2013
2014
2015
CPPCC visit to Finland
Cleantech seminar in China
Workshops in Finland
Workshops in China
Ecosystem demonstration agreement
Start of the demonstration project
• Definition of the scope and main key companies involved
• Steering group leads the project
• Business-to-business agreements
• Start of design and implementation
• Steering group follows the development
• Example reference visits
• Definition of potential ecosystem demonstration projects
• Establishing a steering group
• Frame agreement
• Detailed definition of the ecosystem demonstration project
• Signing in China

3. How can a molehill help a mountain?

3.1. With the Eduskunta Committee for the Future in Beijing in December 2013

Anna Maija Wessman

Anna Maija Wessman has a licentiate in technology and is Ahlstrom's sustainable development manager.

It is usual for a delegation comprising company representatives to accompany the President of the Republic on his or her official trips abroad. That is not the case with trips by parliamentary bodies. Together with our strategy director, I was a representative of Ahlstrom Plc in a delegation that accompanied the Eduskunta's Committee for the Future on its visit to Beijing on 9-13.12.2013. It was a reciprocal visit at the invitation of Mr. Yu of the National People's Congress. The official delegation comprising parliamentarians was accompanied by one made up of representatives of several companies. The intention of the group led by Päivi Lipponen was, besides the official programme, to gain an understanding through visits to workshops and companies of local Chinese needs in the sectors of clean air and water, effective waste handling and environment-friendly energy generation as well as to promote and launch concrete projects and joint ventures associated with these sectors. The best thing was that this broad composition meritoriously promoted the interests of Finland and the Finns. We Ahlstrom representatives concentrated especially on marketing clean air and drinking water.

The visit by the Committee for the Future took place after the trips to China by President Niinistö and Speaker Heinäluoma. Ahlstrom's CEO Jan Lång participated in the meetings arranged by the business delegation accompanying the President, after which Ahlstrom joined Cleantech Finland's Beautiful Beijing project, in which one of the main areas of emphasis is to produce cleaner air and water for the Chinese by utilising Finnish innovativeness and advanced know-how.

Especially in Beijing, the air quality is, as is well known, often very poor. In addition to its harmful effects on health, poor air quality is already making business in China more difficult; people do not want to go there for a visit or to work, least of all with their family.

The programme in December started off with a seminar at which Finnish companies presented their know-how in the sector of clean technology to Chinese experts. Ahlstrom presented its materials- and technology-related solutions for improving the quality of indoor air, purifying drinking water as well as reducing traffic emissions. At the China-Finland Cleantech seminar, the Chinese openly described the alarmingly poor state of their environment and measures to redress it. Smog affects an area of 2.7 million square kilometers and over 600 million people, and in November-December it was already afflicting the lives of over 900 million people. Of 61 lakes, no fewer than 21 had poor

water quality. More than 400 cities suffer water shortages, and in a hundred of them the situation is serious. The Yellow River is polluted with heavy metals.

It became clear to all of us on the trip that the Chinese have recognised realities well and want to do things to improve the state of their environment. They intend to spend €560 billion on environmental improvement by 2015. They want Finnish companies to participate actively in this enormous project, because they rate Finnish technology and know-how highly. This presents Finnish companies like ours with an excellent opportunity to participate in promoting and bringing about things that are important from the perspective of the whole world, a clean natural environment and a better living environment. In the view of the Chinese, Finland should market its know-how better in China in addition to choosing the right Chinese partners. They need all the help they can get, and they want it as quickly as possible.

There is a crying need in the vast Chinese market for solutions associated with clean technology. This is a sector in which Finland specifically stands out in the world as an actor in the absolute vanguard. A nation that is almost 250 times more populous than our country expects to learn from little Finland. That is why the reception we got in Beijing was so fine. In China, as still in so many other countries, the approval of the public authorities for new things is decisive for progress in business activities and decision making.

Combining meetings between politicians with concrete company-led corporate projects is a good way of getting ahead in a Chinese operational environment and creating genuine solutions, which enable sustainable use of natural resources to go hand in hand with efficient technological applications and solutions.

We Finns have a good opportunity to help great China in getting the world into a cleaner and more sustainable state. The Cleantech Finland project is a fine example of actions in which representatives of the state authorities and companies participate together in bringing about this great desired situation.

During the spring matters have advanced further with practical steps to present working solutions to the Chinese.

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