

The Green-All Project as Tool for Actualizing Green Growth Gyeonggi - A Korean Practice to Support Green SMEs by Science Park-

Main Author : Kyoung Joo NAM, Team Leader, Gyeonggi Technopark(GTP)

Co Authors : Sang Young LEE, You Hyun MOON

Executive Summary

Green growth is everyone's concern at present. Most people have experienced a huge paradigm shift of world economy during the past 3-4 years. Before that, only a few science parks in Korea were interested in renewable energy, environmental technology and green growth. The concepts such as sustainable development and ecological industrial development were new to most people at that time. Now the paradigm has been changed and every detailed part of the society talks about green growth.

The paper discusses how the national strategy of green growth has affected the industrial structure and how GTP has formed the new role of green technology agency of Gyeonggi Province in order to support green tech SMEs. The paper mainly talks about the 'Green-All' which is an SME support program that GTP & Gyeonggi Province initiated in May, 2010. Green-All was created for SMEs to keep pace with the national growth strategy and to be leaders in cut throat competition.

The paper will firstly describe the Green Certification Program which has been operated since April, 2010. Secondly, the paper will talk about the purpose of Green-All and its detailed services, and its differentiated strategies. Lastly the paper will shed new light on the role of Science Park as supporting regional SMEs who are to follow the Green way and Green growth in the fast faced green tech world.

Low Carbon Green Growth in Korea

The new developmental strategy of the 'Low Carbon Green Growth' has greatly affected science parks' strategic planning for regional development. The concept of Low Carbon Green Growth was understood in the past with other similar key words such as sustainable development and ecological industrial development. It was brought to public notice to the fore after the current Korean president, Lee Myung Bak's talk on the Independence Day of 2008. Then, more detailed jobs including defining the meaning of green growth and establishing reasonable goals to follow were done by experts. It caused lots of trial and error for 2 years. During the time, basic policies to act out the concept of green growth were set and the government announced the Framework Act on Low Carbon Green Growth in January and its implementing ordinances in April, 2010. It was announced to enforce the country to spend two percent of its annual gross domestic product in developing eco-friendly businesses and projects that will lead to both economic growth and reduction in greenhouse gas emissions simultaneously. The ordinance elucidated clearer action plans for green growth, which was not clearly mentioned anywhere before. It was a matrix of further practical programs.

The action plans include 2 major sub-plans and 8 practical programs as follows;

<Summary of Enforcement Ordinance, Act of Low Carbon Green Growth>

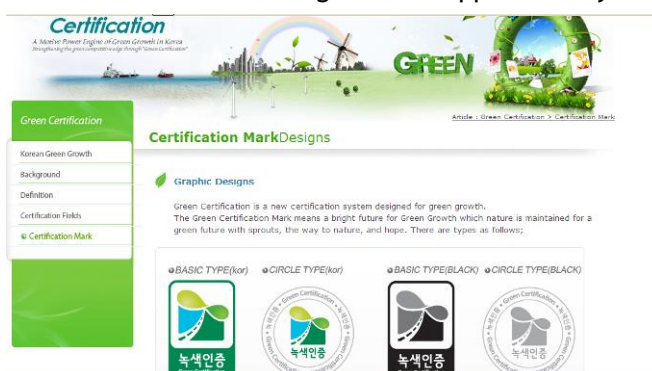
Sub-plans	Detailed action plans
Implementing Low Carbon Green Growth	<ol style="list-style-type: none"> 1) Standardization and certification of green technology and green industry 2) Setting up investment companies for green industries 3) Enforcement on public institution's required buy of green products 4) Creating green jobs and supporting SMEs for developing greener technologies and business environments 5) Making green complexes to gather green technology initiatives in clustered spots
Actualizing Low Carbon Society	<ol style="list-style-type: none"> 1) Enacting eco-friendly taxation which is anti-pollution, anti-greenhouse gas, and pro-high efficient energy usage 2) Setting up System of Measurement, Report and Verification (MRV) to lower Carbon Emission 3) Introducing Emission Trading (Cap & Trade)

Some programs are already implemented and others are not ready to be actualized and expected to start after some pre-requisite programs are settled.

Green Certification Program & SMEs' Needs

Around the time when the enforcement ordinance of Low Carbon Green Growth Act was about to come into effect, the government proclaimed that the Green Certification program will be the first primary action to support the spirit of the Act. And on the same day when the ordinance became effective, the certification service was initiated immediately.

To issue green certificates, the government has selected 256 detailed green technologies¹ and whoever either company or person with one of 256 technologies² could apply for the certificates. The benefits for any certificate owners are to earn added points at any government-planned business support projects in the areas of R&D, prototype, product design, factory site, foreign marketing and etc. To promote the services, the government opened the Green Certification Office and its webpage. To maximize the webpage usage, all applications are supposed to be submitted through on-line application system.



<Webpage of Green Certification Program run by Korean Government>

Certification Fields	GROUP	SUB-GROUP	Technologies
01 Renewable Energy	7	46	186
02 Carbon Reduction	3	20	95
03 High-Tech Water Resources	9	32	130
04 Green IT	10	49	273
05 Green Vehicles	6	13	133
06 High-Tech Green House / City	4	17	76
07 Advanced Materials	6	22	68
08 Clean Production	3	9	105
09 Eco-Friendly Agricultural Food	6	20	91
10 Environmental Protection and Preservation	7	28	106
Total	61	256	1,263

¹ Definition of Green Technologies : Technologies minimizing the emission of greenhouse gases and pollutions, such as greenhouse gas reduction technology, energy efficiency technology, a clean product technology, and resource recycling and environmentally friendly technology (related fusion technologies), by saving and effectively using energy and resources throughout the entire span of social and economic activities.

² 256 technologies are specified with the eligible level of each technology in the Code of Green Certification announced by the Ministry of Knowledge Economy, Korea

<Green Technology Scope>

In case of RGB LED Chips, the owner of the technology needs to find out where he or she belongs to in terms of technology classification. It belongs 04 Green-IT (1 out of 10 fields) > LED (1 out of 10 Green-IT groups) > RGB LED Chips (1 out of 9 LED sub-groups). And then, he or she can get the code number and comes to understand whether or not his/her technology is eligible for green certification after figuring out what specification of his/her technology level or contents could satisfy the criteria of the evaluation.

GROUP	SUB-GROUP	CODES
LED	1. RGB LED Chips	T040101
	2. LED Packaging	T040102
	3. Next-generation LED Manufacturing Equipment	T040103
	4. LED Light Source Module for Transportation	T040104
	5. Medical/Bio LED Light Source Module	T040105
	6. Display LED Light Source Module	T040106
	7. White LED Lighting Equipment	T040107
	8. Full-color LED Emotion Lighting Equipment	T040108
	9. Intelligent LED Outdoor Lighting Equipment	T040109
Waste and Waste Resources	1. Waste/Resource Recovery	T100301
	2. Waste/Resource Recycling	T100302
	3. Waste Reduction	T100303

<Green IT> 2 LED Sub-Groups (Waste & Waste Resources) & Codes>

Finding New Roles for Gyeonggi Technopark (GTP)

While the government spent 2 years to make the enforcement ordinance after the president's proclamation on green growth, GTP prepared to set concrete plans for practicing the initial concepts. Implementing a new program for regional SMEs right after the issue of an ordinance needed a lot of preparation time for planning. It was difficult and time consuming to GTP, but it was the best way to gain an advantage in competition.

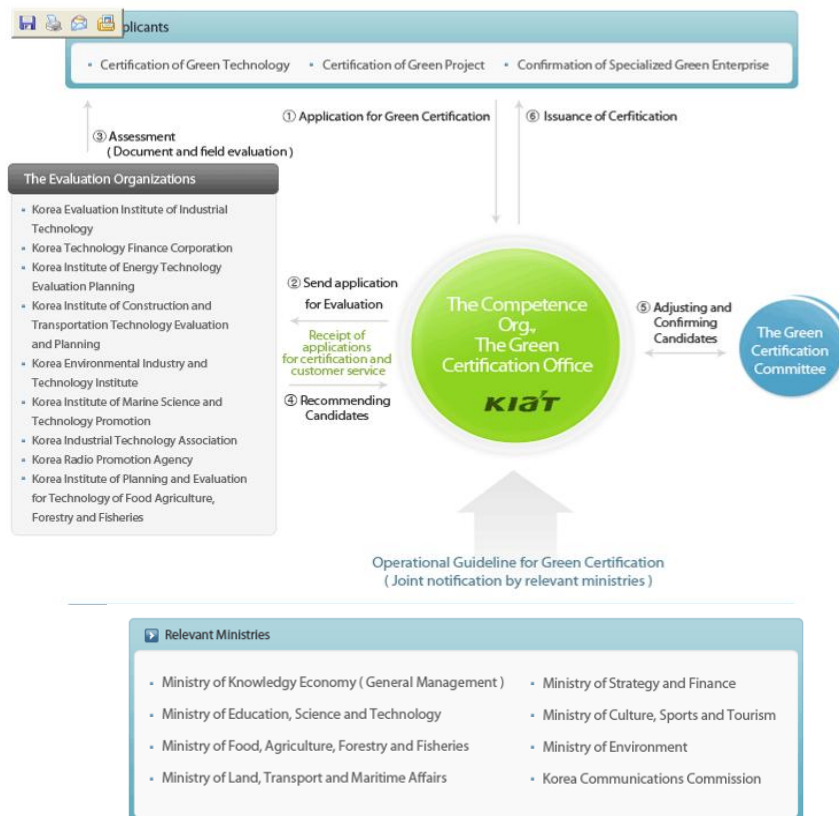
In case of GTP, the institution had never got any experience related to green-tech-only services before 2010. Other SME supporting institutions had the same situation. GTP tried to take an initiative to lead green tech services in the region (Gyeonggi Province). The strategy that GTP chose was to maximize the pre-existing service resources, utilizing expert pools for consulting services and the pre-existing 'Techno-doctor' program for helping green SMEs out with providing technical solutions. Since holding intellectual property rights was one of the pre-requisite to earn green certification, GTP let more green companies get useful consulting and services from GTP's IPR team for earning patents.

Combining pre-existing services and new ones together, GTP created a brand-new service program, Green-All which became the first green SME support activity in the region. Planning took several months but the service started in May, 2010, only one month after the announcement of the enforcement ordinance.

Green Certification Program, Too Hard to Understand

The Green Certificate program run by the Government is easy to understand when it comes only to the concept and the purpose, but it is pretty difficult for applicant SMEs to prepare the required documents. The applicants need to know how to describe their technologies with the most relevant logic. Also applicants need to understand whether their technologies are applicable or not since only 256 green technologies are eligible for green certification. It requires time and efforts to understand the whole process of the certification service. Also a good deal amount of knowledge on technologies are needed in-order-to recognize which detailed technologies within the same root technology could be eligible. The

applicants also have to prove high levels of their technologies through the most official methods such as holding international standards.



<Webpage of Green Certification Program, www.greencertif.or.kr>

To apply for the certification, applicants need to submit their application and required documents through the Green Certification website www.greencertif.or.kr of the KIAT.



<The Process of Evaluation at KIAT>

The hardest part to access the certification program is that applicants are not easy to directly contact with the people in charge of the evaluating authorities. There are 9 different evaluating institutions based on their expertise. Applicants are not easy to know where to go. Evaluating institutions also have many cases where they cannot give answers for questions.

Green-All Project

Green-All is Gyeonggi Province’s program mainly to support green tech SMEs’ getting green certificates. Gyeonggi Province and GTP co-planned it and GTP implemented all the detailed sub-services including consulting, arranging meeting with experts for documentation, providing the costs for application, marketing, PR, and etc.

Before starting the service, Gyeonggi Province and GTP branded it as Green-All. Green-All implies that most green related matters from which green companies suffer will be solved within the span of Green-All service. Also the brand name hinted that the simplest access such as giving one phone call is the key to approach all other supportive services. In

short, Green-All is a multi-layered green support program where green SMEs could be supported with 1) providing general information on green certification 2) consulting on documentation for certification 3) supporting cost for testing and technology certification 4) supporting application fees for certification (50% of the total cost) and 5) offering \$1,000 for green product marketing. Along with these services, Green-All offers funds for business expansion and factory site to the certified SMEs .

Result of 2010 and Evaluation from Outsiders

The year 2010 was the first year to implement the Green Certification Program and the certificate owners were not many yet. Moreover, more than 40% of the certificate owners were big companies. In case of SMEs, more than 36% of SMEs were from Gyeonggi Province. And 63% of the certificate owners in Gyeonggi Province utilized Green-All service. 23% out of the certificate owners and/or SMEs nation-wide were beneficiaries of Green-All.

Green-All Project was made under the competition structure of how fast and how systematically the local initiatives could catch up and localize the government policies and programs. This kind of competition was not about the amount of budget but it was the matter of the local initiatives' basic attitudes toward the local SMEs. For example, Gyeonggi Province could not secure the budget for Green-All in 2010 because budget planning is usually done in the previous year, and the Green Certification program was announced in April of the same year. To overcome the gap and to support the service immediately, GTP provided other program budgets for Green-All as long as the programs had the same purposes. With the strategy of utilizing pre-existing programs for Green-All, GTP could perform the program in a timely manner.

Strategies to Form a Public Image of GTP as a Representative Green Tech Initiative of Gyeonggi Province

GTP has competed with many other institutions for taking a leading role in SME support business within Gyeonggi Province. Green growth was obviously one of the biggest issues with which any public SME support institutions as well as science park such as GTP could set up its public image. In April, 2009 when the ordinance was about to be effective, no regional institutions took the initiative to actualize the concept of green growth. It was a brooding time when almost all institutions were trying to find out their roles for the new paradigm of green growth but no one yet found the specifics. Gyeonggi Province did not have practical plans to practice yet.

Staff of GTP found that time as big chance to re-set its position as the strategic foothold of Green Growth, Gyeonggi. Then some strategies were used for completing the goal.

1. Planning of Mid-long Term Strategy for Green Growth Gyeonggi

The first action that GTP had done was submitting a mid-long term strategy report for Green Growth Gyeonggi to Gyeonggi provincial government, and waited the response from the authority. Mean while Gyeonggi Province had been looking for practical ideas to follow the national green growth policies. GTP's action earned an immediate response from the authority and came to work together with Gyeonggi province to produce more practical programs for SMEs' green growth.

The report included strategies of fostering renewable energy industry in Gyeonggi. Also it contained the general strategic points of what Gyeonggi Province need to consider for fostering green technology-based businesses. It was written with the prior action of survey towards SMEs on their needs for public supports.

2. Setting Up a Green Growth Task Force within GTP as Means of Operation

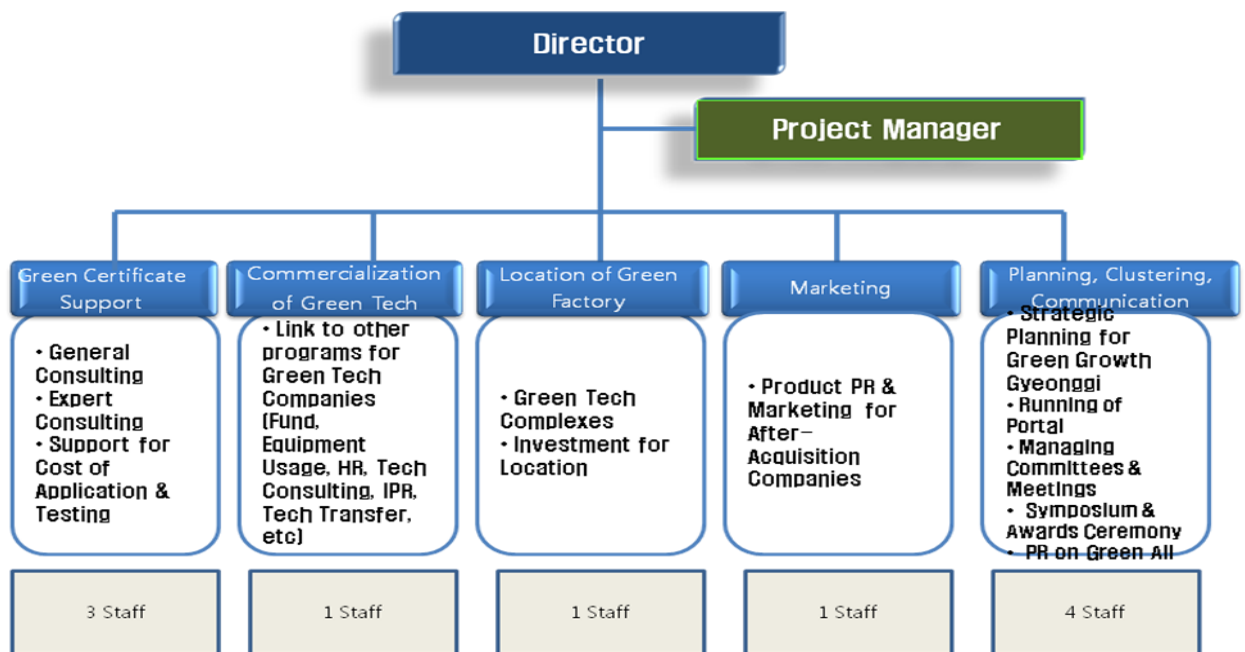
The second action that GTP did for its primary goal to be a foothold of Green Growth Gyeonggi was to set up a green growth task force which was supposed to be organized to work only for green projects. GTP believed that the TF would function as a spark which can start a prairie fire³ to make GTP the first partner for any green growth matter in Gyeonggi Province.

³ *A Single Spark Can Start a Prairie Fire* was a well-known letter written by Chairman Mao in

Also to show a tangible will power, GTP invited experts and officers of Gyeonggi Province and opened its office of Green Growth Supporting Task Force. While working for opening its office, GTP also organized the entire operation system with allocating jobs for each TF members.



<Opening of TF Office (July, 2010)>



<HR Allocation for Green Growth Support TF>

3. Organizing Green Energy Committee as Expert Working Group

Discovering experts and utilizing them are one of the most important businesses that science parks should do. Therefore, GTP recruited experts with various specialties such as smart grid, solar cell, geothermal energy, fuel cell, wind power, green IT, etc. To find right support programs, GTP also hosted expert meetings in the areas of hydro fuel cell, smart grid and LED.

4. Green-All Project as Main Support Program

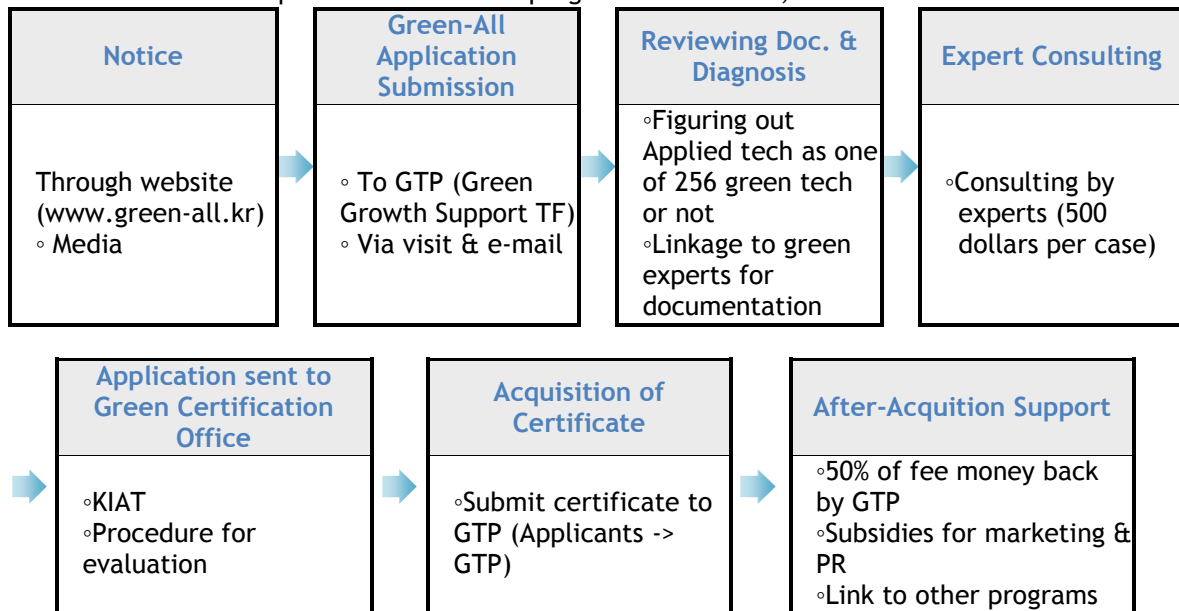
One of the focal activities out of all green growth programs that GTP has done is running Green-All project. It is a direct SME support program where SMEs with green technologies could get consulting on green certification. General consulting was done on 93 cases as of the end of 2010. When the cases need more special touches with expert consulting, each case was sent to experts so that it could find better ways to earn the certificate. 34

cases registered their technologies as the most official green technologies with the certificate after Green-All procedures were done in the same year. The certificate holders were rewarded with 50% money back of the registration fee and 1,000 dollar marketing subsidies.

Div	Target	Support	Remark
Documentation Support for Certificate Application	Green Tech SMEs preparing Certificate	Information and Counseling	Internal Personnel-
		Consulting on Documentation	Experts outsourced
		Testing for proving technology level	Year 2011 starts
After-Acquisition Support	Certificate-holding SMEs	Registration Fee	50%
		Subsidies for PR/Marketing	1,000 USD-
		International IR, Fund & Investment	Additional Points Allowed When Applied
		Factory Sites	Priority for Green Industrial Complex

<Details of Green-All Support for Green Certification>

The detailed process of Green-All program is as follows;



<Details of Green-All & Certificate Application Procedure>

[1st Stage : Notice]

- ① Dissemination of information on Green-All via publication
- ② PR on Green-All at seminars & business meetings
- ③ PR through mass communication channel (Newspaper, broadcasting, websites of own and other organizations, e-DM & etc)

[2nd Stage : Green-All Application Submission]

- ① 3 well-trained internal personnels for consulting including project manager provided
- ② Giving detailed information on Green Certification Program and letting pre-applicants find right technology out of 256 official green technologies that the Government chose for the certification program
- ③ Having strong relationship with 9 evaluating institutions to seek hi-standard information when applicant technology is unclear for certification eligibility
- ④ Leading pre-applicants to apply for Green-All program after good deal amount of information is offered

[3rd Stage : Reviewing Doc. & Diagnosis]

- ① Reviewing applications and technology descriptions, figuring out technology eligibility by PM (Project Manager)
- ② Decision making by PM either on direct submission of application or sending it to experts
- ③ Linkage to experts when application (especially technology description) needs supplementation

[4th Stage : Expert Consulting]

- ① Experts and applicants co-working for supplementation of application

[5th Stage : Application Sent to Green Certification]

- ① When expert consulting completed, submitting application to the Green Certification Office

[6th Stage : Acquisition of Certificate & After Acquisition Support]

- ① After acquisition of Certificate confirmed, offering 50% of fees and subsidies for PR & marketing

5. Public Relations

Public relations were used with various channels such as guide books, radio stations, newspapers and magazines so that more companies could get interested in the program.



<Magazine Ad.>

2010 『Green-All』 지원계획 공고

『Green-All』은 '녹색산업기반을 조기에 정착 시키기 위하여'
 ● 녹색기술·녹색사업·녹색전문기업을 대상으로
 ● '녹색인증' 획득을 위한 인증비용 및 컨설팅 지원에서 인증 취득 후 인증기술에 의한 제품홍보와 판로개척, 자금 및 투자 지원, 경쟁입지 지원 및 기타 예외지원까지 '전 과정'을 Total-Care' 방식으로 경기도의 녹색산업을 21세기 신성장 동력산업,으로 육성하고자 시행하는 기업지원 프로그램입니다.
 도내 많은 녹색기업들이 인증 획득은 물론, 녹색기술을 조기에 상용화하여 체면소녹색성장을 이룩하도록 공고 하오니 많은 관심과 참여를 바랍니다.

2010. 6. 21 (제)경기테크노파크 원장

1. 지원개요	2. 지원내용	3. 신청 및 접수																																												
○ 지원기간 : 2010. 6. ~ 2010. 10. ○ 지원대상 : 중소기업(제조업, 서비스업) ○ 지원대상 : 소재 중소·벤처 기업 및 대기업(하위기업) 경영팀에 지원 및 협력사(내·외부) ○ 지원대상 : 녹색기술·녹색사업·녹색전문기업 ○ 지원대상 : 경기도내 소재한 중소기업(제조업/서비스업) 인증사업 또는 대기업 ※ 기업은 2년 후 재신청(지원) 또는 별도 연구소 등 1차로 1회성 신청(지원) 가능 ○ 지원금 지원 형태 : '녹색기술' 인증에 따라 기술·녹색사업 단계에 따라	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>구분</th> <th>지원 대상</th> <th>지원 내용</th> <th>비고</th> </tr> </thead> <tbody> <tr> <td>인증</td> <td>녹색인증</td> <td>녹색인증 취득 비용 지원</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> <tr> <td>인증비용</td> <td>인증비용</td> <td>인증비용 지원 (인증 취득 시)</td> <td>인증 비용 지원</td> </tr> </tbody> </table>	구분	지원 대상	지원 내용	비고	인증	녹색인증	녹색인증 취득 비용 지원	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원	○ 접수처 ○ 접수기간 : 2010. 6. 21 ~ 2010. 10. 31 ○ 접수시간 : 09:00~18:00 (평일) ○ 접수방법 : 450-0000 경기도 중소기업 센터(서울시 강남구 테헤란로 127-1) ○ 문의처 : 경기테크노파크 녹색인증지원팀 * 세부사항은 경기테크노파크 홈페이지(www.gtc.or.kr) 참조 ○ 문의 : TEL. 031-500-3030
구분	지원 대상	지원 내용	비고																																											
인증	녹색인증	녹색인증 취득 비용 지원	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											
인증비용	인증비용	인증비용 지원 (인증 취득 시)	인증 비용 지원																																											

<Newspaper Ad. Sample>

When Green-All came to be widely informed, the Green Certificate Office also

informed Green-All to SMEs and newspapers. And it made Green-All more familiar to green tech companies.

6. Arousing Public Opinion

Attracting opinion leaders and policy makers into Green Growth Gyeonggi was another focal activity that GTP did. It had a special meaning for GTP to be coined as the green tech support center of the region. The following action to accomplish the goal was hosting the Green Growth Symposium, inviting the chair person of the Knowledge Economy Committee of National Assembly. 200 people including more than 50 policy makers and administrators gathered together at GTP and discussed the hottest issues on coming green economy. It let opinion leaders know GTP's role as foothold of Green Growth Gyeonggi. 36 media announced the symposium and the detailed contents of discussion.



<An Internet Report Releasing the Symposium>



<Gyeonggi Green Growth Symposium Aug. 2010>

Another method to draw attentions from the public was to host Green Industry Awards. In December, 2010, GTP and Gyeonggi Province announced the plan of the Green Industry Awards and received applications. Out of all Green-All beneficiaries 5 companies earned the Awards and it was a good opportunity for the awardees to promote their products

and themselves. The awards ceremony was also a good chance for GTP to symbolize its role as green growth center of Gyeonggi Province.

Success & Lesson

Back in 2009 and before, GTP was in a difficult situation, challenged by other similar institutions. Many SME support programs were run by competing organizations and GTP was busy to elaborate its business scope within the service for technology commercialization while letting others take the service areas of R&D support, marketing, training and start-ups. And technology commercialization in terms of service coverage was not the whole mission that GTP was supposed to do for regional SMEs. The Green-All project made a breakthrough for GTP to expand its service coverage. Due to the program, GTP could reinforce its role as the foothold of regional innovation, and secure more budgets to help SMEs with more supportive programs.

There were some important factors of success though the initial situation to operate the program was not positive. The first challenge was budget issue. With limited budget to perform green support, GTP needed to choose practicality and speediness rather than pursuing R&D based project and construction based projects such as setting up smart grid demonstration. Green-All was a software-focused service which does not need big money immediately. Also Green-All could accentuate the strong points of GTP as SME supporting and network brokering institution. The second challenge was GTP's lack of specialty in-terms-of technology expertise. GTP does not have researchers and experts on specific technologies, which is different from R&D-based institutions, though GTP obviously has helped technology-based SMEs. The major strong point that science parks in Korea have is their linkage system to connect business - university - research - public sectors all together. Thus the weak point of science parks in Korea is also that there are not many technology experts within science parks who can consult SMEs with their high knowledge on specific technologies. And its dependence on experts in-order-to operate any programs has made science park as agent and/or administrative organization. It jeopardized its status as center of regional innovation. When GTP found a new chance to re-build its high status from Green-All, it adopted a different HR strategy. Not to be an agency who asks other experts to do main services, but to be a main consultant who can directly help and diagnose SMEs, GTP appointed internal staff as consultant after investing a good deal amount of time for them. Inquirers were satisfied with the initial information offering and hi-functional consulting on green certification by GTP's own staff and many of them commented that they could finally earn the right information only from GTP. Also they gave thanks to GTP since they could save the money for private consultants. The commission fee for private consulting on green certification at the present is between 3,500 USD up to 10,000 USD in Korea.

In short, the success points that GTP owned for performing Green-All were as follows; 1) reliable expert networks were actively utilized. 2) The initiative of consulting and its arrangement was always in GTP. Project manager did brokering services, connecting the applicants to the experts who were strongly involved with current GTP programs. 3) GTP opened "one" window for various needs of green SMEs so that more customized supports could be performed to the companies in need. After seeing the outcome of GTP's activities in 2010, Gyeonggi Province promised that more supportive programs for green SMEs be implemented by GTP this year, coining Green-All as the representative green service brand of the region.