

How to Do a Better IP Commercialization in China?

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1. Status of IP commercialization in China

A sound social ecosystem for IP (intellectual property) commercialization will not be established in China overnight because the training of IP professionals and the introducing of IP into management are both a process that takes time.

In recent years, the CAS has conducted a series of training programs concerning IP management and service as well as IP team building. Over the past three years, more than 70 senior staffs from CAS institutes have received certificates of IP Specialists from the CAS headquarters after successfully completing a training program.

We have seen remarkable progress in IP awareness and protection across the country. Many Chinese scientists come to be aware of the roles of IP in an R&D value chain and understand that it will help them to invigorate their R&D activities and thus lever collaboration with industrial partners. However, some of them do not think engaging in IP commercialization requires expertise -- they tend to do everything by themselves, particularly when there is a shortage of IP professionals.

The biggest challenge for IP commercialization in China would be how to best synergize various business components, such as technology, capital, resources, relationship and government policy, with IP function so as to make a good deal. In other words, the business

components are currently not well linked with each other via IP management.

IP commercialization is still emerging and growing very fast in China in these years, thus both the market mechanism and governmental policy guidance are necessary.

Apart from IP trade (licensing and transfer), the CAS institutes have done something new such as patent auction, patent pledge and patent broker.

Generally speaking, people do a better job in IP protection than IP business in China. In many CAS institutes, for instance, IP protection (such as patent filing) often received more attention than the transfer of patent technologies in performance reviews, which has caused many shelving patented-technologies.

2. Why high failure rate in IP commercialization?

Although technology innovations are quite active in recent years in China, many of the innovation activities have failed to enter into commercial phase, thus the failure rate of technology transfer is relatively high. In addition to bias against IP commercialization in performance assessment, some other major problems in Chinese IP commercialization are the following:

- **Capital Allocation:** imbalanced capital allocation in the R&D value chain. More funds are deployed in the

phases of basic R&D, applied R&D, industrialization and commercialization, and less allocated in pilot test and scale-up phase.

● **Value Identification:** misplaced technology value identifications. It is often difficult for a businessman to identify the value of an innovation as they are usually unable to find a reference to compare different technologies to see if the technology in question is a truly novel and breakthrough one. Such scenario becomes worse when the identification is done by those who lack of adequate training from science/technology to industry/market aspects.

● **Risk Awareness:** During the capital accumulation period, because of a culture of pragmatism and empiricism, investments tend to seek more quick success and instant benefits – such as rent-seeking, and they are unwilling to assume more economic risk. The deep-rooted idea of satisfaction with the status quo makes many private investors reluctant to take high risks in innovation venture and IP transactions.

● **Technology Viability:** Putting more emphasis on academic research than technology, development, process, engineering, integration and deployment. Taking into consideration the fact that some fatal problems may often occur in technology & economic feasibility studies, and project evaluation and argumentation for a novel technology, such as the impact from person of authority, the journey for innovation and IP transfer usually will not be a plain sailing in China.

● **Trust and relationship:** Social network is of importance for doing biz in China. Much has to be done in system coordination between scientists, technology developers, investors and government officials, their roles and responsibilities, to integrate complex processes. It often takes substantial amounts of time for foreigners to learn about their partners and to foster a deep relationship with their partners before talking about a deal.

Those phenomena mentioned above will exist for a long time, which means we should have a long-term vision in improvement of IP commercialization, although the Chinese government has already put forward a series of policies and measures to ensure this advance.

3. Suggestions and practice

It is advisable that IP professionals should do a lot more in the following aspects: (1) technology value

extraction and evaluation; (2) technology scale-up and integration and verification; (3) partnership building and IP boundaries identification; (4) licensing negotiation and agreement; (5) technology transfer and IP transactions, instead of only helping file patent or draft agreement.

PRACTICE.1

To this purpose, CAS has established the CAS IP Information Center, the CAS IP Training Center and the CAS IP Business Center (CASIP). Among them, CASIP is engaged in doing CAS IP business in order to facilitate technology transfer into market. However, there still exist some structural issues hindering its advancement. For example, the majority of the CAS institutes are legally independent entities and their directors and principle investigators are in the key position in making decisions on how to cope with their patents, say, whether to maintain them or not. No delegation of authority has been made available to CASIP to take over these patents and manage the IP transaction. As an interim approach, the following takeover process of abandoning patents from the CAS institutes would be one approach, which allows CASIP to be able to do something for managing the patents for CAS.

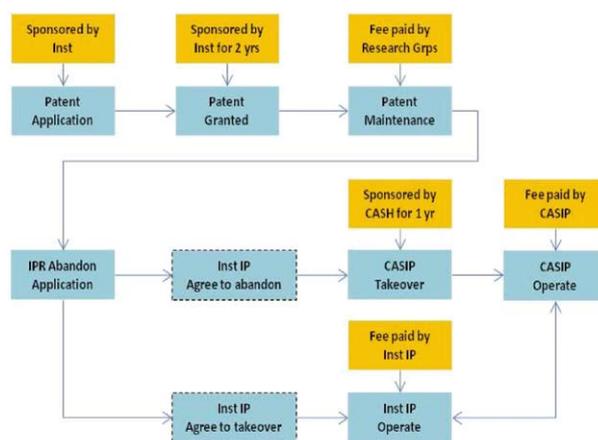


Figure.1 Suggested Process of Abandoning Patents from CAS Institutes.

PRACTICE.2

To this purpose, the Clean Energy Commercialisation Company (CECC), a joint venture (JV) between the CAS and BP, was established in 2009 to look at China's innovation in clean energy technology and process and seek for collaborative IP innovation and commercialization for the CAS institutes. CECC IP is designed to meet the requirement

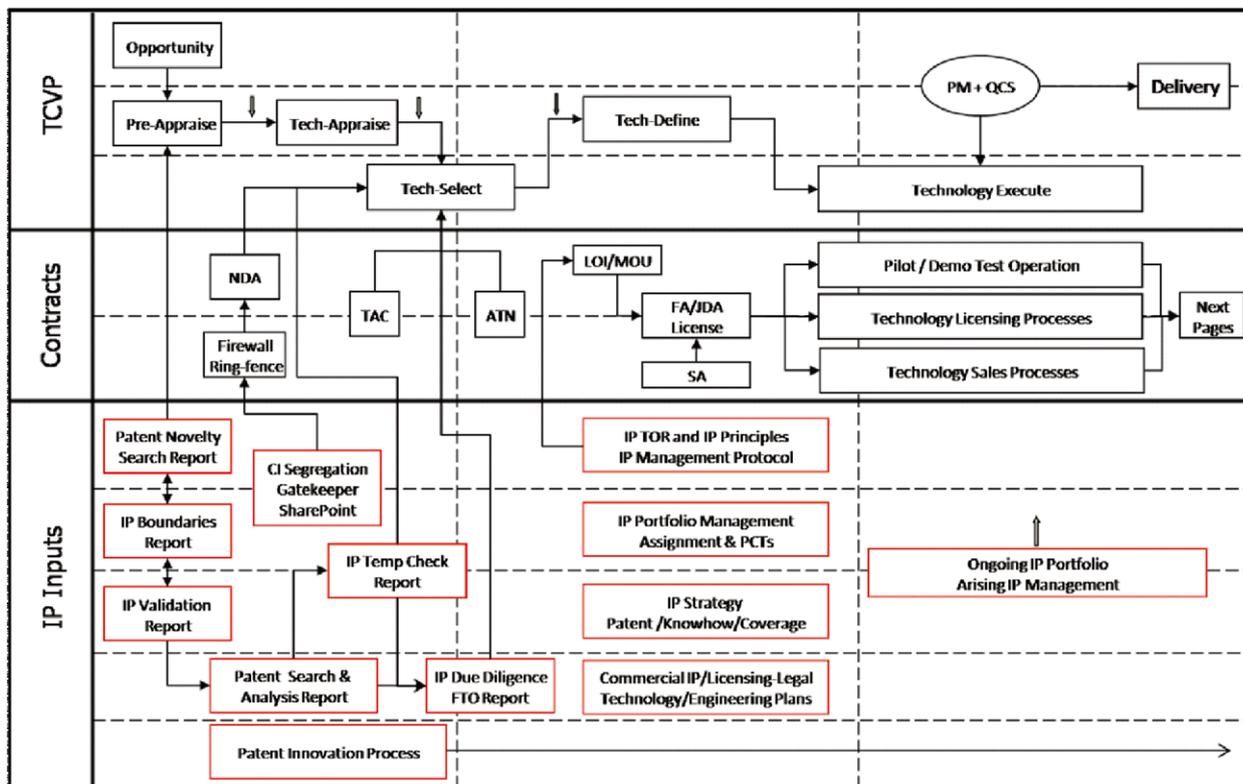


Figure.2 CECC Project IP Evaluation Management. (CECC TCVP-IP Process)

of the JV business models, in which the IP activities go along with the company’s technology capital value process, from technology appraisal to implementation, as can be seen in the figure below. CECC IP aims to assist technology providers in developing superior IP protection mechanisms to help maximise the future value from inventions, which includes license to operate reviews, services for

patent filing and patent maintenance as well as effective protection mechanism for trade secrets to maximize future commercialization opportunities. CECC IP has four functions in the JV’s management, (1) Project IP Evaluation Management; (2) Patent Innovation Management; (3) Confidential Information Management; and (4) IP Transfer & License Management.

About CECC

The Shanghai Bi Ke Clean Energy Commercialization Company (CECC) is a limited liability company established by the Chinese Academy of Sciences (“CAS”) and BP on Jan 21, 2009. Its registered capital amounts to 162 million yuan. CAS contributes 82 million yuan as 51% equity, while BP contributes 80 million as 49% equity. CECC’s visions are: A long term strategic cooperation between BP and the CAS to commercialize clean energy technologies required to support China’s energy supply security and environmental and technology demands. CECC is a platform to integrate and accelerate the commercialization of China’s clean energy conversion technologies and to meet the country’s growing energy needs; CECC will be a world class platform to develop Chinese technologies into international markets. The company’s business scopes are: conducting research & development of clean energy technologies and participating in the construction of pilot and demonstration facilities; technologies licensing and transference; IP management; technology consultancies and services; providing technology solution and developing process design package.