

ITEM FOR FINANCE COMMITTEE

CAPITAL INVESTMENT FUND

HEAD 962 - INDUSTRY

New Subhead “Equity in the Hong Kong Science and Technology Parks Corporation”

New Subhead “Loan to the Hong Kong Science and Technology Parks Corporation”

Members are invited to approve –

- (a) a commitment to inject \$1,463 million as equity and to provide \$1,220 million as a loan from the Capital Investment Fund; and
- (b) a guarantee by the Government for a commercial loan amounting to \$1,707 million and the interest arising therefrom

to the Hong Kong Science and Technology Parks Corporation to enable the Corporation to proceed with the development of Science Park Phase 3.

PROBLEM

The Hong Kong Science and Technology Parks Corporation (HKSTPC) requires the support from the Government in the form of equity injection, provision of a loan and guarantee of a commercial loan and the interest arising therefrom to implement the development of Phase 3 of the Science Park to meet the strong demand for space for research and development (R&D) activities.

/PROPOSAL

PROPOSAL

2. We propose that Members approve a commitment to inject \$1,463 million as equity and to provide \$1,220 million as a loan from the Capital Investment Fund together with a contingent liability to be assumed by the Government for guaranteeing a commercial loan of \$1,707 million to HKSTPC to enable it to proceed with the construction of Science Park Phase 3.

JUSTIFICATION

Policy Commitments

3. In the 1997 Policy Address, the then Chief Executive set out a vision to make Hong Kong a regional centre for innovation and technology. One of the plans was to develop Science Park in three phases over 15 years on a 22-hectare site at Pak Shek Kok. Phase 1 with a size of 8 hectares was completed in 2004. Phase 2 with a size of 7.7 hectares was largely completed in 2008 with the exception of one building.

4. In June 2009, Government accepted the recommendations of the Task Force on Economic Challenges (TFEC) on the development of six new economic areas in which Hong Kong enjoys clear advantages. Innovation and technology is one of them, and the development of Science Park Phase 3 has been identified as one of the key initiatives to enhance the technological infrastructure of Hong Kong.

5. In his 2010-11 Budget Speech, the Financial Secretary announced that the Government would implement the development of Science Park Phase 3 to further promote the development of innovation and technology, boost the development of green technology and attract more high-tech companies to establish a presence in Hong Kong.

Current Situation of Science Park

6. The Science Park is committed to promoting five focused technology clusters including –

- Electronics;
- Information Technology and Telecommunications;
- Precision Engineering;
- Biotechnology; and
- Green Technology.

Phase 1 and Phase 2 have already made a significant contribution to the innovation and technology industry in Hong Kong –

- according to the Census and Statistics Department, business expenditure on R&D in Hong Kong rose from \$2.5 billion in 2002 to \$5.3 billion in 2008 (an increase of 110%). This increase was partly attributed to the opening of the Science Park and other policy initiatives launched to promote innovation and technology;
- a clustering effect has been realised for the five R&D clusters, providing tenants with the opportunity to collaborate and develop synergy along business and production lines;
- the incubation programme has stimulated the growth of start-up firms in Hong Kong, attracting corporate and angel investors. Some of these companies have successfully been listed on the local stock exchange; and
- with the comprehensive package of incentives, such as financial assistance fund, business matching service, sharing of facilities etc., the Park has proven to be a vital platform for R&D and technology commercialisation in Hong Kong.

7. There are currently 310 companies operating in Science Park employing over 7 300 persons, of which about 4 800 persons (around 65%) are engaged directly in R&D work. Around 57% of the tenants and almost all the companies participating in the incubation programme run by HKSTPC are local companies. The remaining 43% of tenants come from a variety of different economies (including USA, the Mainland, Japan and Taiwan). From 2002 to 2009, the HKSTPC graduated 139 start-up companies from the incubation programme. Based on the economic benefit study conducted by HKSTPC's consultants, Phase 1 and Phase 2 of Science Park are bringing about \$2.9 billion per year of value added to the Hong Kong economy.

8. As at the end of January 2010, the occupancy rates for Science Park Phase 1 and Phase 2 were 92% and 78% respectively. With an overall occupancy rate of around 85%, the first two phases of Science Park are expected to be fully occupied by 2014. With the success of the first two phases of Science Park and full occupancy expected by 2014, there is an urgent need to develop Phase 3 in a timely manner. HKSTPC engaged consultants to consider the economic case for Phase 3 and commissioned the Hong Kong Centre for Economic Research of the University of Hong Kong to evaluate the role of the Science Park in the overall innovation and technology policy in Hong Kong.

/Need

Need to Promote Innovation and Technology

9. Innovation and the application of technology are among the most effective ways to add value to products and services. Over the past decade, the Government has been supporting the development of innovation and technology in Hong Kong by providing the necessary hardware and software. Key initiatives include –

- development of Science Park Phases 1 and 2;
- establishment of the \$5 billion Innovation and Technology Fund (ITF);
- setting up of five R&D Centres under ITF;
- introduction of the “R&D Cash Rebate Scheme” from 1 April 2010 – with an allocation of \$200 million ; and
- organisation of various publicity and promotional activities, such as the “Innovation Festival”, to raise the interest of the public (especially youth) in technology. (Note: “Innovation Festival 09” saw a record-breaking 115 000 people participating in the various activities.)

10. The results of the research have clearly demonstrated that to further promote the development of innovation and technology in Hong Kong, there are strong policy and economic reasons for proceeding with Science Park Phase 3.

(A) From Hong Kong’s own perspective

11. There is no doubt that Hong Kong stands to benefit from the development of Science Park Phase 3. The key considerations are –

(a) *Need to provide a wider base in our economy*

Hong Kong’s economy is supported in the main by the four pillar industries (i.e. financial services, trade and logistics, tourism and professional services). After the financial crisis in 2008, it was recognised that a more diversified economy would be beneficial to Hong Kong’s long term development. One of the key new areas identified by the TFEC is the innovation and technology sector. This can be enhanced by an investment in R&D to maintain and enhance its competitiveness. Science Park is one of the most important pieces of technological infrastructure to bring this to realisation;

/(b)

(b) *Need to make good use of Hong Kong's unique advantages in developing/promoting innovation and technology*

Our open economy, sound legal system (including in particular excellent intellectual property (IP) protection), and proximity to and growing links with the manufacturing base in the Mainland are conducive to foreign direct investment including those in R&D.

Hong Kong is also able to provide a lifestyle attractive to world-class scientists and researchers to live and work. There are clear advantages from the angles of language, culture, global exposure/orientation and others; and

(c) *A quality labour force*

With our high quality education institutions, good supply of science and engineering graduates (in 2007-08, around 36% of our local graduates had degrees in science, mathematics, engineering or technology) and a flexible labour force, Hong Kong is not only receptive to the adoption of new technologies, but also in a good position to nourish new ideas.

There is also an abundance of educated manpower in the Mainland and a large number of highly educated Chinese overseas. Hong Kong is in a unique position to attract and retain such talented people, and to facilitate a smooth process of "brain circulation" to make Hong Kong a centre of excellence for promoting innovation and technology in the Chinese Diaspora.

(B) From the perspective of Hong Kong being at the door-step of the Mainland

12. Hong Kong's unique situation as a Special Administrative Region within China provides an opportunity for the development of a science and technology hub that can support growth in the Mainland. There is no doubt that this will allow us to benefit from the Mainland's development if we take the necessary steps to put in place the essential infrastructure in time. In this regard, there are a number of issues that we need to take into account –

(a) *Need to adapt to the rapid development in the Mainland economy*

In the past two decades, the Mainland has emerged as one of the world's leading economic powers. The Mainland's R&D intensity increased from 0.57% of Gross Domestic Product (GDP) in 1995 to 1.52% in 2008. The Central Government will take actions to further enhance R&D in the coming years;

/(b)

(b) *Hong Kong's strategic location in China, in particular with respect to the Pearl River Delta area*

Hong Kong is in a unique position to collaborate with the Mainland in innovation and technology due to –

- the proximity and intense links with the manufacturing base on the Mainland;
- the efficient market system including financing for start-ups;
- the rule of law and strong IP protection regime which businessmen consider a strong advantage;
- the open market and the free flow of information, which is essential to any research endeavour; and

(c) *Established collaboration with the Mainland*

Over the past years, we have developed very close working relationship on technology collaboration with our Mainland partners at both the Government and non-Government levels. At the national level, we have jointly established with the Ministry of Science and Technology a “Mainland-Hong Kong Science and Technology Co-operation Committee”, and involved the Chinese Academy of Sciences with a view to further strengthen our technical collaboration with the Mainland.

At the regional level, in view of our close proximity with the Pearl River Delta, we have also established technological co-operation frameworks with the Guangdong and Shenzhen governments. In particular, the “Shenzhen-Hong Kong Innovation Circle” was established in 2007 with a view to enhancing and implementing technology collaboration. Hong Kong and Shenzhen are working closely to pursue technology collaboration projects. One major achievement from these initiatives is the successful invitation to DuPont, a US enterprise, to locate its global thin film photovoltaic business headquarters and research centre in the Hong Kong Science Park and its manufacturing facilities in Shenzhen.

In the coming years, we intend to further make use of the good foundation we have developed so far to consolidate closer co-operation between the innovation and technology communities of both sides.

(C) From the global perspective

13. From the global perspective, Hong Kong must continue to enhance its development of innovation and technology. Failure to do so will not only be a missed opportunity but will mean that Hong Kong's internationally renowned research institutions will fall behind developments elsewhere. It is important to bear in mind the following points –

(a) *Global trend for innovation and technology to be the key driver for economic growth*

According to the study conducted by Hong Kong Centre for Economic Research of the University of Hong Kong, one of the most important breakthroughs in over 200 years of the study of the drivers of economic growth was made in the past 25 years. This was the development of ideas leading to innovation and technology as the central driver of economic growth. This approach is very different to the traditional one which concern allocating resources efficiently to maximise utility.

While resources are limited in use, ideas are not. The Government has an important role to play in the development of ideas such as improving education, training and supporting R&D, and providing the appropriate institutional framework to foster and encourage a culture of innovation and technology. How economies respond to this new perception will determine whether or not they have the strong basis for further economic growth in an information- and technology-led world;

(b) *Global trend of developed economies increasingly investing in R&D*

In 2008, R&D expenditure in Hong Kong is equivalent to 0.73% of its GDP. This was low when compared to other economies (Mainland 1.52%; Singapore 2.77%; Taiwan 2.77%; and Japan 3.78%).

Higher investment in R&D will raise Hong Kong's innovation and technology capability, thereby further enhancing the long-term growth prospects of our economy; and

(c) *Internationalisation of R&D activities*

Effective collaboration across countries, cultures and languages is a critical factor for success. The internationalisation of global R&D is absolutely in line with Hong Kong's traditional global networking strength and Hong Kong must leverage on this development.

14. With the international trend towards more R&D and the powerful momentum of modernisation in the Mainland, there are clearly good grounds for Hong Kong to continue to invest in innovation and technology. However, it is also important to recognise that we will be facing stiff competition from other economies. If we do not make an effort now, we will certainly lag behind. The Government is convinced of the need to continue to promote actively a favourable eco-system for innovation and technology. We must adopt a robust innovation and technology policy to ensure that we retain our place among the most advanced knowledge-based cities in the world.

IMPLEMENTATION PLAN

Scope and Programme

Encl. 1

15. Phase 3 covers about 6.24 hectares of land with a total gross floor area (GFA)¹ of about 105,000 square metres (or a total construction floor area (CFA)² of about 194,700 square metres). The proposed development includes nine buildings, one energy tower as well as ancillary facilities. The master development plan of Science Park is at Enclosure 1. The estimated development cost is \$4,878 million at Money-of-the-Day prices (or \$4,585 million at February 2010 price level). This is equivalent to \$23,550 per square metre of CFA at February 2010 price level (or \$19,463 per square metre if contingency, consultancy fees and resident staff cost are excluded). The estimate has been checked by Architectural Services Department (ArchSD) and is within the acceptable range. Central support facilities such as laboratories are intended to be provided. Green features such as building-integrated photovoltaic and wind turbines, etc. will be adopted in the design as appropriate. Having regard to its existing five technology clusters, HKSTPC plans to promote the further growth of the renewable energy and environmental technologies in the new phase.

16. Taking into account the rise in construction costs over the past few years, the estimated development cost of Phase 3 is comparable with that of Phase 2 which has a roughly similar total gross floor area. ArchSD's Tender Price Index recorded an increase of over 50% between mid 2004 (when the construction of Phase 2 started) and early 2010 (when the cost of Phase 3 was estimated³).

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¹ GFA means the area contained within the external perimeters of the buildings erected on the lot measured at each floor level.

² CFA is the total area of GFA plus other areas for car parks, machinery and equipment (e.g. lifts, air-conditioning and heating), refuse disposal, covered walkways, elevated footbridges, atrium links, canopies, environmental-friendly or innovative features, etc.

³ ArchSD Tender Price Index: Q2 2004: 712 and Q1 2010: 1100 (provisional).

17. Science Park Phase 3 is expected to bring about \$5.35 billion of value added for the period from 2014 to 2019 and \$1.9 billion per year from 2020 onwards to the Hong Kong economy. Around 4 000 R&D-related jobs will be provided upon full occupancy of Phase 3 and around 5 000 construction-related job opportunities will be generated during the construction period.

18. Subject to the approval of this Committee, construction will commence in mid 2011. The first batch of buildings in Phase 3 will be ready in late 2013 while the whole phase will be completed by 2016.

Financing Arrangements for Phase 3

19. The proposed financing structure for the project is as follows –

	%	\$ million
Commercial loan guaranteed by Government	35	1,707
Government loan	25	1,220
Government equity	30	1,463
HKSTPC's internal resources	<u>10</u>	<u>488</u>
Total	<u>100</u>	<u>4,878</u>

20. We propose that the project should be financed by 60% of debt, made up of 35% of commercial loan and 25% of Government loan. In order to involve the private sector as far as practicable, we propose that 35% of the development cost (or \$1,707 million) should be financed by a commercial loan. It will be necessary for the Government to guarantee repayment of the commercial loan to enable HKSTPC to secure the loan and obtain reasonably advantageous terms.

21. The Government will also provide a loan to HKSTPC to finance 25% of the development cost (or \$1,220 million). The loan will be charged with interest on a “no-gain-no-loss” basis⁴. The principal and interest will be repaid by six equal annual instalments starting from 31 March 2028, or one year after the full repayment of the commercial loan, whichever is the earlier. In case HKSTPC encounters unexpected cashflow problem in repaying the loan, it may amend the repayment schedule or extend the loan repayment period, both requiring the prior approval of the Financial Secretary.

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⁴ The current no-gain-no-loss interest rate is 2.099% per annum.

22. The remaining 40% of the development cost (or \$1,951 million) will be financed by Government equity (30% or \$1,463 million) and HKSTPC's internal resources (10% or \$488 million). In determining the portion to be financed by HKSTPC, we have taken into account the Corporation's financial position, projected income and expenditure in the coming years, and committed capital projects. HKSTPC's cashflow projection is at Enclosure 2.

Encl. 2

23. Under this proposal, Government's financial support in various forms will be up to 90% of the project cost, made up of direct funding of 55% (i.e. 30% Government equity and 25% Government loan) and guarantee of 35% for commercial loan. This arrangement demonstrates Government's strong commitment to the Phase 3 project as well as to the innovation and technology sector in general.

24. The Government's equity injection will be based on the terms as set out in the Shareholding Agreement signed between the Government and HKSTPC on 3 November 2004, while the terms of the Government loan will be provided for in a loan agreement to be entered into between the parties.

FINANCIAL IMPLICATIONS

25. Subject to Members' approval, the Government proposes to inject \$1,463 million as equity into and to provide a loan up to \$1,220 million to HKSTPC. The proposed loan will be drawn down by HKSTPC after the amount of equity has been fully injected. The forecast cash flow for equity injection and loan drawdown is as follows –

Year	Government Equity \$ million	Government Loan \$ million
2010-11	1,463	–
2011-12	–	440
2012-13	–	780
Total	<u>1,463</u>	<u>1,220</u>

In addition, Government will assume a contingent liability for guaranteeing a commercial loan of \$1,707 million to be taken out by HKSTPC and the interest arising therefrom.

/CONTROL

CONTROL MECHANISM

26. The HKSTPC Ordinance (Cap. 565) stipulates that the Corporation is required to operate in accordance with prudent commercial principles, and will put in place a proper control mechanism to monitor Phase 3 development. Government will monitor the implementation plan of the Phase 3 development through the Board of Directors of HKSTPC. The Board, assisted by its Projects and Facilities Committee and a special task force if necessary, will assume overall responsibility in steering and monitoring the development. HKSTPC will engage a project management consultant to handle the design and construction work. The budget control and tendering procedures for consultancy and works contracts will be modelled on Government's procedures and practices.

ENVIRONMENTAL IMPLICATIONS

27. This is not a designated project under the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). The EIA report for the entire Pak Shek Kok Development including the Science Park was endorsed by the Advisory Council on the Environment in July 1998 and approved under the EIA Ordinance in August 1998. HKSTPC will implement the mitigation measures, environmental monitoring and auditing requirements in the relevant works and operation contracts in accordance with the recommendations of the EIA reports to meet established standards and guidelines.

28. The environmental impact arising from the construction of Science Park Phase 3 will be closely monitored. HKSTPC will implement mitigation measures to control noise, dust and site run-off nuisances in the relevant works contracts. These include the use of silencers, mufflers, acoustic lining or shields and the building of barrier wall for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities. Contractors will be required to maximise the use of recyclable inert construction waste and the use of non-timber formwork to further minimise the generation of construction waste.

PUBLIC CONSULTATION

29. We briefed the Legislative Council Panel on Commerce and Industry on 16 March 2010 on the proposal. Members were supportive of the development and proposed funding arrangements. Some Members commented that R&D expenditure in Hong Kong is low and more effort should be made to increase the R&D activities to keep pace with other economies and to enhance our technological collaboration with the Mainland.

30. We have also consulted the Sha Tin and Tai Po District Councils on the Phase 3 development. Both District Councils are supportive of the proposed development.

BACKGROUND

31. HKSTPC is a statutory body established in 2001 with a public mission to facilitate the establishment and the nurturing of a world-class technology community dedicated to applied R&D in Hong Kong. The Government is the sole shareholder of HKSTPC, which is governed by a Board of Directors appointed by the Government. HKSTPC operates and manages the Science Park, three Industrial Estates at Tai Po, Yuen Long and Tseung Kwan O, and the InnoCentre at Kowloon Tong.

32. Phases 1 and 2 of the Science Park occupy 15.7 hectares of reclaimed land at Pak Shek Kok. Phase 1, with gross floor area of 120 000 square metres, was constructed under the Public Works Programme at a total cost of \$2,907 million. Phase 2, with gross floor area of 105 000 square metres was constructed by HKSTPC and, except one building, was substantially completed in 2008 at a cost of about \$3,846 million, financed by a mix of –

- Government equity (64%);
- Government loan (25%); and
- HKSTPC's internal resources (11%).

HKSTPC is now developing Building 20 within Phase 2, through its own resources. The budget is \$418 million and the building is due for completion by April 2011. The total final cost of Phase 2, including Building 20, is around \$4,264 million.

33. Apart from providing office buildings for carrying out R&D work, the Science Park also offers conference and meeting facilities (including the Charles K. Kao Auditorium) to enable companies within and outside the Science Park to organise local and international events. Since its opening in September 2007, the Auditorium has been the venue for over 200 international and local events, with the total number of attendees exceeding 44 000.

Master Development Plan of Science Park



* To recognise the outstanding achievement of Nobel Prize laureate in Physics Professor Charles K. Kao, the Science Park Auditorium was named as “Charles K. Kao Auditorium” in March 2010.

Enclosure 2 to FCR(2010-11)3

Cash Flow Projection of the Hong Kong Science and Technology Parks Corporation (in \$ million)

	<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>2016/17</u>	<u>2017/18</u>	<u>2018/19</u>	<u>2019/20</u>	<u>2020/21</u>	<u>2021/22</u>	<u>2022/23</u>	<u>2023/24</u>	<u>2024/25</u>	<u>2025/26</u>	<u>2026/27</u>	<u>2027/28</u>	<u>2028/29</u>	<u>2029/30</u>	<u>2030/31</u>	<u>2031/32</u>	<u>2032/33</u>	
Opening cash balance	477	2,000	266	169	93	73	59	145	285	484	402	326	250	296	364	455	573	718	653	611	594	605	646	
Net cash flow of HKSTPC before Phase 3 financing	100	(82)	(46)	(14)	31	81	86	140	199	247	253	253	375	397	420	447	474	503	526	551	579	609	685	
Net cash available for funding Phase 3 construction	577	1,918	220	155	124	154	145	285	484	731	655	579	625	693	784	902	1,047	1,221	1,179	1,162	1,173	1,214	1,331	
Development cost of Phase 3	(40)	(2,092)	(1,280)	(654)	(472)	(340) [* Total development cost will be \$4,878 million. See Note]																		
Government equity injection	1,463																							
Government loan		440	780																					
Commercial loan guaranteed by the Government			449	592	421	245																		
Repayment of commercial loan										(329)	(329)	(329)	(329)	(329)	(329)	(329)	(329)							
Repayment of Government loan																			(568)	(568)	(568)	(568)	(568)	(568)
Ending cash balance	2,000	266	169	93	73	59	145	285	484	402	326	250	296	364	455	573	718	653	611	594	605	646	763	

Note: Total development cost will be \$4,878 million. This will comprise Government's financial support of \$4,390 million as well as HKSTPC's internal resources of \$488 million:

(a) details of Government's financial support in various forms:

<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>Total</u>
1,463	440	1,229	592	421	245	4,390

(b) details of HKSTPC's contribution from internal resources:

<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>Total</u>
-	229	51	62	51	95	488