

INFORMATION NOTE

Incentives for Innovation in the United Kingdom

1. Background

1.1 When the research report on Public Private Partnerships was published in March 2005, Members of the Panel on Planning, Lands and Works requested the Research and Library Services Division of the Legislative Council Secretariat to prepare an information note on government incentives for innovation for the construction industry in the United Kingdom (UK). A preliminary research reveals that starting from 1997 onwards, innovation has been a theme of policy formulation in the UK. It does not confine to only the construction industry, but also across all industries with a view to raising the productivity level as well as to competing effectively against the low-wage, newly-emerging economies. This information note provides information on government incentives for innovation applicable to the construction industry in the UK, given the fact that the public sector accounts for more than 30% of the total expenditure on construction¹. It also provides information on how the UK government, through capturing innovation, maintains its competitiveness in the global economy and delivers high quality products and services to meet the needs of its people.

2. Definition of innovation

2.1 In the report entitled *Innovation Report - Competing in the global economy: the innovation challenge (Innovation Report)* published by the Department of Trade and Industry (DTI) in 2003, innovation is defined as the successful exploitation of new ideas. These ideas may be entirely new to the market or involve the application of existing ideas that are new to the innovating organization or often a combination of both. It involves the creation of new designs, concepts and ways of doing things, their commercial exploitation, and subsequent diffusion through the rest of the economy and society.

¹ The figure excludes projects financed by the Private Finance Initiative.

3. Role of the UK government in innovation

3.1 According to the UK government, innovation ultimately depends on the knowledge, skills and creativity of people at work. However, the government does play an important role in creating the best possible environment for innovation as well as developing a range of public goods that are essential for a dynamic and innovative knowledge-based economy, including a strong science, engineering and technology base, incentives for knowledge transfer and high educational standards.

Reasons for driving innovation

3.2 According to the *Innovation Report*, there are three reasons leading the UK government to put innovation on top of its policy agenda:

- (a) trade liberalization and a rapid fall in communications and transport costs imply that the UK is competing against places with much lower labour costs and well-educated labour forces;
- (b) developments in information and communications technologies, new materials, biotechnology, new fuels and nanotechnology are unleashing new waves of innovation; creating many opportunities for entrepreneurial businesses to gain competitive advantages; and
- (c) global communications and media coverage lead to fast changing consumer tastes as new fashions, ideas and products spread across the world almost instantaneously.

3.3 In the past, many UK-based businesses have prospered even when selling in low-value markets. However, the situation has shifted from competing on relatively low costs of doing business to competing on unique value and innovation. This transition requires investments in different elements of the business environment, including upgrading of company strategies and the creation and strengthening of new types of institutions.

Innovation policies

3.4 From 1997 onwards, the innovation challenge has been a theme of policy formulation of the UK government. Three White Papers² have been published, and a series of micro-economic measures to stimulate innovation, such as increased investment in the science base, incentives to encourage research institutions and universities to commercialize their research and measures to encourage more small businesses to start up and innovate, have been put in place.

3.5 Building on the policy themes of the White Papers, DTI published the *Innovation Report* in 2003. This report sets out policies for achieving innovation performance. In summary, the government takes direct measures in the following key areas where it can most effectively act to raise the rate of innovation:

- (a) sources of new knowledge;
- (b) capacity of companies to absorb new knowledge;
- (c) access to finance;
- (d) competition and entrepreneurship;
- (e) customers and suppliers;
- (f) the regulatory environment; and
- (g) networks and collaboration.

3.6 Recognizing the global competition in innovation facing the UK, the Prime Minister asked the Secretary of State for Trade and Industry to chair a Ministerial team to lead the innovation agenda across government agencies and steer the implementation of the *Innovation Report*.

3.7 DTI has also set up Innovation and Growth Teams³ to develop a long-term vision for various industries and to advise the government on policies that need to be adopted by the industries to innovate and grow. Seven Innovation and Growth Teams have been established, and one of them focuses on the construction industry.

² The three White Papers were (a) *Our Competitive Future – Building a Knowledge Driven Economy* (1998); (b) *Excellence and Opportunity – A Science and Innovation Policy for the 21st Century* (2000); and (c) *Opportunity for All in a World of Change – Enterprise, Skills and Innovation* (2001).

³ The Innovation and Growth Teams are composed of business people, trade union officials, industry experts and officials from various government departments.

Government as a driver of innovation

3.8 The government, with its tremendous purchasing power, provides a powerful incentive for the private sector to develop innovative products, processes and services. In this connection, the Office of Government Commerce produced a best practice guidance entitled *Capturing Innovation* in 2004, providing advice to government agencies on dealing with innovative proposals and propositions. It also offers advice on encouraging suppliers to proffer innovative solutions.

4. Capturing Innovation through the procurement cycle

4.1 *Capturing Innovation* is structured around three themes that are expected to stimulate and encourage innovation. They are Challenge, Channel and Reward.

Challenge

4.2 In general, innovation is driven by pressure and challenge from strong rivals, dynamic suppliers and demanding customers. As such, government departments and non-departmental public bodies should act as demanding customers to challenge suppliers in new ways and drive new ideas. The government has suggested the following practices for the procurement process.

Earlier supplier involvement

4.3 It is recognized that earlier supplier involvement helps capture expertise and develop potential solutions. Experience shows that suppliers should involve in the very early stage to realize the full potential of any innovative ideas of suppliers, in particular, during policy formulation or at the time of programme or project inception.

4.4 To ensure the capturing of the potential for innovative solutions to enhance outcomes, public bodies should consult with suppliers by means of suppliers' conferences so that suppliers can help shape requirements, provide feedback on feasibility and affordability, and gear up to respond to future procurements. For more complex procurements, public bodies should look for supplier alliances. Earlier supplier involvement provides an opportunity for suppliers to form alliances so as to improve the competitive prospects.

Cultivating effective business relationship

4.5 When a procurement strategy is being developed, consideration should be given to the optimum form of future relationship, taking account of whether an innovative environment will be required after the contract has been awarded.

4.6 In some cases, a partnering relationship is more appropriate in view of creating a climate of openness and mutual trust, in which a public body can be more confident about revealing confidential information. A partnering arrangement allows the public body to be challenged in regard to innovation and is more conducive to supplier innovation.

4.7 In other cases, the provision of contractual incentives, where the supplier and the public body share the benefits, can also encourage innovative solutions. This is particularly important in long-term contracts where the supplier needs to be encouraged to explore greater benefits from technical developments.

Involvement of small and medium enterprises

4.8 The involvement of small and medium enterprises helps secure innovation. In general, small innovative firms are usually excluded from contracts owing to a lack of capacity, implying that innovation may be lost. In this connection, breaking the requirement into smaller chunks may create opportunities for smaller firms to participate. Alternatively, public bodies can encourage larger suppliers to form alliances with smaller, creative partners.

Constructing output/outcome specifications

4.9 A well constructed output specification identifies the outputs from, rather than the inputs to, a requirement, whereas an outcome specification specifies the end result to be achieved, which is equivalent to specifying the problem and inviting solutions. The use of output and particularly outcome specifications challenges suppliers to generate new ideas. Allowing suppliers freedom to submit innovative bids, the public body should require compliance with standards to ensure compatibility.

Acceptance of variants

4.10 Public bodies may encourage bidders to submit variants to the core or standard specification. Nonetheless, any such approach should be in line with the scope of the project and with the European Commission directives where applicable.

Contract management

4.11 Public bodies, in particular, contract managers can challenge suppliers to be innovative. Techniques include the use of continuous improvement drivers and supplier suggestion schemes. Many public bodies conduct staff suggestion schemes but rarely extend them to their suppliers. Provision for innovation over the life of the contract needs to be built into the contract from the day when the contract commences.

Channel

4.12 Public bodies must ensure that channels are available for interacting with industries before and during the procurement phase as well as over the life of the contract. Information on dealing with public bodies and on the current and future requirements of the public bodies must be communicated to suppliers. Internally, a best commercial practice needs to be deployed to ensure public bodies are ready to interact with suppliers in the right way and at the right time. The government has suggested the following practices:

Communicating long-term plans to the market

4.13 To give the private sector confidence to invest in projects meeting the public sector's long-term needs, a 2003 report entitled *Increasing Competition and Improving Long-Term Capacity Planning* published by the Office of Government Commerce recommends public bodies to improve two-way communications with the private sector. To capture the potential for innovative solutions to enhance outcomes, individual public bodies should consult with private sector entities and provide relevant information to them so that they can:

- (a) help shape output requirements;
- (b) provide feedback on feasibility and affordability; and
- (c) gear up to respond to future procurements.

More open to unsolicited proposals

4.14 A private enterprise may identify or try to create a potential need for some facilities or services. Some proposals may be "half-baked" or fully developed, while other proposals may be just wild ideas. If a proposal provides channels of improving services, reducing costs and creating employment, the public body should:

- (a) treat the proposal as an integral part of early supplier involvement and inform the proponent of the developing requirements;
- (b) invite the proponent to participate in an early design contest;
- (c) advertise the requirements of the potential project, but make sure that the intellectual property of the proponent is not jeopardized, and encourage the unsolicited proponent to bid; or
- (d) use single tender actions if the proposal is unique and relevant conditions permit use of the negotiated procedure without an open competition.

4.15 If the business of the proponent is small or the proponent is under resource constraint to bid for a substantial contract, the public body concerned may either:

- (a) allow the proponent to secure licensing rights or a share in intellectual property right so that other providers can be engaged; or
- (b) with the consent of the proponent, advertise two separate requirements as follows: (i) procure a creative partner to work alongside; and (ii) support a larger contractor for the main contract.

4.16 If the unsolicited proposal is of greater value-for-money than the existing contract, the public body concerned can encourage its prime contractor to consider subcontracting to the proponent.

Conducting early design contests and sharing of intellectual property rights

4.17 If a public body is looking for a new design for a facility, it can run an early design contest. The public body concerned should try to secure or share intellectual property rights and the right to license construction. As such, in some cases, the public body concerned would pay for several or all contest outputs so that it can use all the good ideas. In other cases, the public body concerned awards a service contract to encourage further development of the winning design.

Reward

4.18 Suppliers need to be incentivized into working innovatively with public bodies. Listed below are examples of suppliers' rewards.

Incentives

4.19 Research shows that the contract structure and incentives can have a major impact on suppliers' motivation to innovate. In this connection, joint funding of investments between the public body concerned and the private enterprise as well as the award of longer-term contracts are powerful incentives.

Risk and reward sharing

4.20 While risks need to be apportioned, joint benefits should be pursued. In this connection, sharing of cost savings identified by suppliers is an incentive that could be pursued. Similarly, the reward from any suggestion schemes in operation is a factor. In any event, care should be taken not to over-compensate suppliers through reward sharing initiatives, as doing so could be construed as a State Aid.

Providing ownership of intellectual property

4.21 *Capturing Innovation* published by the Office of Government Commerce recommends that intellectual property rights should ultimately rest with the party who is best able to exploit it. However, such an assignment may serve as a dampener to competition. In any event, the public body concerned should develop measures to safeguard intellectual property of the unsolicited proposal so that future innovation initiatives will not be discouraged.

Other forms of reward

4.22 In some cases, payment is not the only reward. Acknowledgement, kudos and good press can be important motivators for suppliers, particularly in markets where fierce rivalry exists.

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