

**BOARD  
OF  
DIRECTORS**

**ASIAN DEVELOPMENT BANK**

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R97-01  
6 July 2001

**TECHNICAL ASSISTANCE TO THE PEOPLE'S REPUBLIC OF CHINA  
FOR THE PRO-POOR URBAN HEATING TARIFF REFORMS**

The attached Report is circulated for the information of the Board. The President approved the technical assistance on 19 June 2001.

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**ASIAN DEVELOPMENT BANK**

**TAR:PRC 34481**

**TECHNICAL ASSISTANCE**

**TO THE**

**PEOPLE'S REPUBLIC OF CHINA**

**FOR THE**

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**June 2001**

## CURRENCY EQUIVALENTS

(as of 01 June 2001)

Currency Unit	–	Yuan (Y)
Y1.00	=	\$0.1208
\$1.00	=	Y8.2770

The foreign exchange rate of the yuan is determined under a managed floating rate system. In this report, a rate of \$1.00 = Y8.27 was used.

## ABBREVIATIONS

ADB	–	Asian Development Bank
HSC	–	heating supply company
MOC	–	Ministry of Construction
PRC	–	People's Republic of China
SDPC	–	State Development and Planning Commission
TA	–	technical assistance
TASF	–	Technical Assistance Special Fund

## NOTES

- (i) The fiscal year (FY) of the Government ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

## I. INTRODUCTION

1. During the 2000 Country Programming Mission, the Government of the People's Republic of China (PRC) requested the Asian Development Bank (ADB) to provide technical assistance (TA) to undertake urban heating tariff reforms. The Government emphasized the urgency of the TA since heating service, a basic necessity in northern PRC, has deteriorated rapidly in recent years and heating supply companies (HSCs) are unable to sustain their operations under the current heating tariff system. The Fact-Finding Mission visited the PRC in September 2000 and reached understanding with the Government on the objectives, scope, cost estimates, and implementation arrangements for the TA.<sup>1</sup> The TA framework is attached as Appendix 1.

## II. BACKGROUND AND RATIONALE

2. In the past two decades, the economy of the PRC has been in gradual transition to a market-based system. Although the process is broad-based and encompasses all sectors of the economy, adjustments in the management and pricing of public utilities, including urban heating, have taken place slowly. As part of the welfare support system, urban heating is priced below the cost of production. The central and local governments that own the HSCs provide concessional loans and budgetary allocations to support the companies' operations.

3. In northern PRC,<sup>2</sup> heavy industries with relatively inefficient production processes have dominated the economic structure. These state-owned enterprises (SOEs) which are major customers of HSCs have become unviable in the context of the market-oriented reforms. The financial performance of HSCs has deteriorated rapidly because of the increase in fuel prices and the SOEs' inability to pay. The receivables of HSCs increased in the 1990s. HSCs were able to collect 90 percent of heating charges in 1990, but only 60 percent in 1999. Poor cost recovery seriously affected HSCs' daily operations and resulted in poor maintenance, low investment, obsolete technology, and inefficient management.

4. Continued strong economic growth, combined with significant improvement in urban housing, has caused heating demand to outpace supply capacities, with the gap between them now growing. Most cities monitored by Ministry of Construction (MOC) are experiencing heating supply shortages that adversely affect the quality of life and health of urban residents, particularly in the northeast region and Xinjiang Uygur Autonomous Region, where the average monthly temperature in winter could reach as low as minus 15° Celsius. The resources of local governments and those provided by the central Government are not adequate to support the HSCs' operations and to finance the large-scale investments required by the sector.<sup>3</sup>

5. The private sector could have an important role in providing urban heating in the PRC, including narrowing the demand-supply gap, by supporting technology and efficiency improvement. Private investment in urban heating can also help free up public resources for other basic social needs. To encourage private sector participation in urban heating where only the public sector had previously been involved, an enabling environment needs to be created. In particular, the current heating tariff system needs to be reformed in line with market principles. HSCs need to reorient their operation as independent enterprises to cover their costs and provide adequate return on investments.

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<sup>1</sup> The TA first appeared in *ADB Business Opportunities* in July 2000.

<sup>2</sup> Urban heating in the PRC covers mainly the regions in the northern PRC: north, northeast, and northwest.

<sup>3</sup> For instance, in Aletai City of Xinjiang Uygur Autonomous Region, the heating expenditure was 10.9 percent of the city's budget in 1999.

6. At present, heating is charged according to carpet area, and heating tariffs do not reflect the actual amount of heat consumption. Excessive consumption of heat in some areas is linked to low heating tariffs, lack of an effective tariff collection mechanism and inadequate demand management. The inefficient use of heating has further worsened the heating supply situation, forcing urban residents to use alternative sources of heating, such as small and inefficient coal-fired boilers and domestic coal-fired stoves. These substitutes are usually less efficient and more polluting. In northern PRC particularly urban areas, where coal is extensively used for heating, air pollution is a serious problem during the winter months. Moreover, individual household accounts are consolidated and recovered from the SOEs which are the employers. Higher heating tariffs and a more rational collection mechanism will encourage energy conservation, reduce the adverse environmental consequences of coal burning, and promote increased investment in energy-efficient technology.

7. In the past decade, heating tariff adjustments, driven mainly by the increase in fuel prices, were implemented in most cities. Nonetheless, for most cities, the increases have not been adequate to ensure full cost recovery. In recent years, concerns over the adverse impacts of higher heating tariff on affordability to consumers, particularly the urban poor, have slowed down tariff increases. Further tariff adjustments call for more rigorous justification and analyses by HSCs and local governments. At present, HSCs and local governments do not undertake systematic tariff calculation and affordability analyses, or other impact analyses. To strengthen tariff adjustment, collection, and monitoring mechanisms, the sector needs to undertake a comprehensive review of its tariff policies, calculation methodologies, and the institutional and legal framework.

8. A serious concern is urban poverty due to the growing urban unemployment brought about by enterprise reforms and government downsizing. An increasing number of the urban poor depend on unemployment benefits to meet their basic needs.<sup>4</sup> In order to sustain urban heating supply the level of heating tariffs will need to be raised and the tariff structure calibrated requiring urban residents to pay according to their consumption. Individual consumer accounts will also need to be delinked from the SOEs and collected directly. The changes from enterprise-based to individual-based payment should be reflected in wage increases. However, the urban poor could find it difficult to afford the rising heating costs and survive the cold winter in northern PRC.<sup>5</sup> A pro-poor heating tariff structure is required to ensure sufficient heat for the urban poor and to support the Government efforts in urban poverty reduction and social stability.

9. Recognizing that heating tariff reforms are required to sustain urban heating supply, the Government has given high priority to heating tariff reforms. MOC is the main national agency responsible for formulating, implementing, and monitoring heating tariffs including at the provincial and municipal levels. MOC provides policy direction on heating tariffs to Bureaus of Construction, which are part of the local governments. The Bureaus, in turn, supervise the operations of HSCs on behalf of local governments. MOC and the State Development and Planning Commission (SDPC) have initiated a series of working-level consultations and studies with other ministries and agencies, including the local price bureaus,<sup>6</sup> to review heating tariff policies. The Government needs assistance in formulating pro-poor heating tariff guidelines and establishing an effective collection mechanism. In this regard, the Government will need to formulate (i) a set of financial, economic, environmental, and social objectives to be achieved in

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<sup>4</sup> ADB provided a TA to assist the Government in developing an analytical framework for addressing increasing relative urban poverty: TA 3377-PRC: *Urban Poverty Study*, for \$410,000, approved on 27 December 1999.

<sup>5</sup> In Shenyang City of Liaoning Province, the annual heating cost was as high as 25 percent of the annual income for the low-income family in 1999.

<sup>6</sup> The price bureau must also evaluate and endorse the requests for tariff increases arising from HSCs, following recent policy directives from SDPC.

setting heating tariffs; (ii) institutional and legal arrangements for tariff setting and review process; and (iii) detailed instructions for tariff calculation and implementation. The proposed TA will contribute to ADB policy dialogue in PRC's energy sector by promoting least-cost solutions to the provision of heating in different regions. The TA will assist the Government in improving the efficiency of urban heating supply and providing a favorable policy environment for attracting the required investment in urban heating from both the public and private sectors.

### III. THE TECHNICAL ASSISTANCE

#### A. Objectives

10. The main objective of the TA is to support reforms in the urban heating sector and promote sustainable urban heating supply in the PRC. The key elements of the reform include (i) formulating pro-poor national heating tariff guidelines, and (ii) establishing an effective heating tariff collection mechanism.

#### B. Scope

11. The TA will provide assistance in the following areas: (i) analyzing the current urban heating supply and demand, and key issues in heating technology, investment programs, and tariffs, collection mechanism, and legal and regulatory aspects of urban heating; (ii) formulating reform measures to address the key issues, based on international best practices; (iii) preparing tariff guidelines covering calculation methodologies, institutional arrangements, and approval procedures; (iv) establishing an effective collection mechanism; (v) creating an enabling environment for private sector participation; (vi) developing a plan for implementing the reform measures; (vii) assessing the economic, poverty, environmental, and financial impact of heating tariff reforms; (viii) optimizing heating resources and ensure that urban heating development is the least-cost solution; and (ix) involving the urban poor in design, implementation, and monitoring of the tariff guidelines through participatory activities. The terms of reference for the TA consultants are in Appendix 2.

#### C. Cost Estimates and Financing Plan

12. The total cost of the TA is estimated at \$1,200,000 equivalent with a foreign exchange cost of \$535,000 and a local currency cost of \$665,000 equivalent (Appendix 3). ADB will provide \$850,000 equivalent to finance \$535,000 of the foreign exchange cost and \$315,000 equivalent of the local currency cost. The TA will be financed by ADB on a grant basis from the ADB-funded TA Program. MOC will contribute \$350,000 equivalent representing about 30 percent of the TA cost, to finance the remaining local currency cost.

#### D. Implementation Arrangements

13. MOC will be the Executing Agency. ADB will engage the services of international and domestic consultants according to its *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for engaging domestic consultants. The consultants will have expertise in urban heating planning and engineering, heating tariff analysis, financial and economic analyses, institutional analysis, and urban poverty and environmental assessment. An estimated 53 person-months of consulting services will be required: 15 person-months international and 38 person-months domestic.

14. MOC will establish a counterpart team comprising representatives of MOC and the cities selected for pilot studies.<sup>7</sup> The counterpart team will closely interact with the consultants during TA implementation. MOC will also establish a steering committee comprising senior officials of MOC and representatives from other government organizations and agencies involved in formulating and implementing policies on urban heating. The steering committee will be the apex body that will convey and interpret the Government's views on policy issues and generally oversee the implementation of the TA. The counterpart team members will interact with members of the steering committee on issues and matters that fall outside the purview of MOC. MOC will provide interpreters, local transportation, and office space in Beijing equipped with suitable facilities. Office equipment to be financed under the TA will be procured by the international consultants in accordance with ADB's *Guidelines for Procurement*.

15. The TA will include an international seminar on urban heating tariff reforms. The consultants will help organize this seminar. International and domestic experts will be invited to present papers and participate in the discussions. After the seminar, the consultants will prepare a report summarizing the discussions and identifying issues relevant to PRC.

16. Since heating tariffs will directly affect the well-being of the urban poor, their participation in designing, implementing, and monitoring the tariff guidelines is essential. Participatory activities will be developed to collect data from low-income urban heating users in the pilot cities and identify their special needs and priorities. The consultants will analyze options and develop strategies for involving the urban poor in the design of the tariff guidelines, and develop monitoring systems based on participatory methods. In particular, the ability and willingness of urban households to use heating under the proposed heating tariff reforms will be carefully assessed.

17. The TA will be carried out in five phases. During phase 1, the consultants will meet with the counterpart team to select the pilot cities, review and analyze the available background studies and reports, and undertake data gathering in MOC and the pilot cities. The consultants will clarify the focus of heating tariff reforms and recommend concrete reform measures. A team for participatory activities will be established to identify the main stakeholders and consult with the urban poor on their patterns and priorities of heating. Phase 2 will be the international seminar. During phase 3, the consultants will carry out an in-depth analysis of the required heating tariff reforms based on technical, institutional, economic, social, financial, pricing, environmental, and poverty impact considerations, and will propose pro-poor heating tariff guidelines and an efficient collection mechanism based on international best practices. The data generated from participatory activities will be analyzed and incorporated into the design of the tariff guidelines. In phase 4, the recommendations of the consultants will be discussed in a consultation process with the counterpart team, the steering committee, the relevant government departments and agencies, consumers, the urban poor, local governments, HSCs, and ADB. In phase 5, the consultants will submit the final report, taking into account the comments and views offered in the consultation process, and organize a final workshop with participation of the main stakeholders to disseminate the TA findings and recommendations. The TA is expected to commence in September 2001 and be completed by September 2002.

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<sup>7</sup> The pilot cities will be selected in phase I of the TA. After reviewing the basic information, the consultants, in close consultation with MOC and ADB, will determine the selection criteria and the number of pilot cities, and recommend the list of pilot cities for approval by MOC and ADB.

#### **IV. THE PRESIDENT'S DECISION**

18. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance, on a grant basis, to the Government of the People's Republic of China in an amount not exceeding the equivalent of \$850,000 for the purpose of the Pro-Poor Urban Heating Tariff Reforms, and hereby reports such action to the Board.

## TECHNICAL ASSISTANCE FRAMEWORK

Design Summary	Project Targets	Monitoring Mechanism	Risks/Assumptions
<p><b>Sector Goal</b></p> <ul style="list-style-type: none"> <li>• Promotion of sustainable urban heating supply affordable to all users</li> <li>• Private sector participation in urban heating</li> <li>• Financial independence of heating supply companies (HSCs)</li> <li>• Implementation of the user-pays principle to achieve full cost recovery by HSCs</li> </ul>	<ul style="list-style-type: none"> <li>• Improve heating supply reliability and quality</li> <li>• Maximum recovery of costs through tariff revenues and connection fees subject to affordability and social constraints</li> <li>• Undertake participatory activities to involve the urban poor in heating tariff reforms</li> <li>• Improve the environment for private sector participation in urban heating supply</li> </ul>	<ul style="list-style-type: none"> <li>• Country economic and energy sector statistics</li> <li>• Policy dialogue with the Government</li> <li>• Cost comparisons and performance benchmarking</li> <li>• Customer surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Acceptance and willingness to undertake reforms</li> <li>• Funding constraints</li> <li>• Difficulties in measuring/establishing economic prices</li> <li>• Difficulties in long-term monitoring of cost and revenue data</li> </ul>
<p><b>Purpose</b></p> <ul style="list-style-type: none"> <li>• To help the Government reform the urban heating sector and promote sustainable urban heating supply in the People's Republic of China by (i) formulating pro-poor national heating tariff guidelines; (ii) establishing an effective heating tariff collection mechanism; (iii) involving the urban poor in the design, implementation, and monitoring of tariff reforms through participatory activities; and (iv) creating an enabling environment for private sector participation in urban heating.</li> </ul>	<ul style="list-style-type: none"> <li>• Design pro-poor urban heating tariff guidelines, and develop an effective collection mechanism and an implementation plan</li> <li>• Involve the urban poor in the design, implementation, and monitoring of the tariff guidelines through participatory activities</li> <li>• Encourage private sector participation in urban heating</li> </ul>	<ul style="list-style-type: none"> <li>• Technical Assistance (TA) final report and TA completion report</li> <li>• Review missions</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate counterpart support</li> <li>• Lack of adequate data</li> <li>• Poor consultant performance</li> </ul>
<p><b>Components</b></p> <ol style="list-style-type: none"> <li>1. Phase I: Preliminary Analysis</li> <li>2. Phase II: International Seminar</li> <li>3. Phase III: Development and Analysis of the Tariff Guidelines</li> <li>4. Phase IV: Draft Final Report and Consultation Workshop</li> <li>5. Phase V: Implementation Plan and Final Report</li> </ol>	<ul style="list-style-type: none"> <li>• Develop background knowledge on urban heating and heating tariffs</li> <li>• Identify problem areas and key issues to be studied</li> <li>• Develop knowledge of experience of other countries</li> <li>• Package of reform and development measures under the tariff guidelines</li> <li>• Implementation plan</li> </ul>	<ul style="list-style-type: none"> <li>• Inception report</li> <li>• Phase I report</li> <li>• International seminar report</li> <li>• Draft report</li> <li>• Final report</li> <li>• Review mission reports</li> <li>• Consultation workshop report</li> </ul>	<ul style="list-style-type: none"> <li>• Consultants develop reform and development measures that are relevant and sensitive to local issues to achieve acceptance.</li> </ul>

Activities	Inputs		
<p>1. Phase I: Preliminary Analysis</p> <ul style="list-style-type: none"> <li>• Review of available studies and reports on existing policies, rules, and regulations;</li> <li>• Data gathering;</li> <li>• Visits to pilot cities;</li> <li>• Identifying key issues to be addressed in the TA; and</li> <li>• Participatory activities.</li> </ul> <p>2. Phase II: International Seminar</p> <ul style="list-style-type: none"> <li>• Specify agenda,</li> <li>• Arrange for speakers,</li> <li>• Invite participants, and</li> <li>• Conduct seminar.</li> </ul> <p>3. Phase III: Analysis and Development of Tariff Guidelines</p> <ul style="list-style-type: none"> <li>• Technical requirements,</li> <li>• Institutional analysis,</li> <li>• Investment planning,</li> <li>• Cost recovery mechanisms and tariff reforms,</li> <li>• Private sector participation,</li> <li>• Impact on economic growth and poverty,</li> <li>• Implementation plan,</li> <li>• Costs and benefits or recommended reform and development measures, and</li> <li>• Required changes in legal and regulatory environment.</li> </ul> <p>4. Phase IV: Draft Final Report and Consultation Workshop</p> <ul style="list-style-type: none"> <li>• Draft report,</li> <li>• Arrange workshop, and</li> <li>• Discuss findings and recommendations.</li> </ul> <p>5. Phase V: Implementation Plan and Final Report</p> <ul style="list-style-type: none"> <li>• Prepare implementation plan, and</li> <li>• Finalize TA reports and dissemination.</li> </ul>	<ul style="list-style-type: none"> <li>• 15 person-months of international and 38 person-months of domestic consulting services</li> <li>• ADB financing of \$850,000</li> <li>• The Government contribution of \$350,000 equivalent</li> <li>• Counterpart facilities</li> <li>• Computer and office equipment</li> </ul>	<ul style="list-style-type: none"> <li>• TA progress reports</li> <li>• Meetings with consultants</li> <li>• Review mission reports</li> <li>• Draft final report</li> <li>• Consultation Workshop report</li> <li>• Final report</li> <li>• TA implementation plan</li> </ul>	<ul style="list-style-type: none"> <li>• Required background studies and reports are provided by the Ministry of Construction on time.</li> <li>• Local support is arranged on time.</li> <li>• Consultants are selected on schedule.</li> <li>• International conference can be arranged efficiently.</li> <li>• Data are made available on time.</li> <li>• Consultants selected are qualified and perform well.</li> </ul>

## TERMS OF REFERENCE FOR CONSULTING SERVICES

### A. Phase 1. Preliminary Analysis

1. On the commencement of the technical assistance (TA), the consultants will study the background for a thorough understanding of the policy and regulations, and the institutional, economic, technical, financial, social and pricing aspects of urban heating in the People's Republic of China (PRC). The consultants will review and analyze the available reports and studies prepared by the Ministry of Construction (MOC), other government agencies, and international agencies including the Asian Development Bank (ADB), World Bank, and other aid agencies. After reviewing the basic information, the consultants, in consultation with MOC and ADB, will determine the selection criteria and number of pilot cities, and recommend the pilot cities for approval by MOC and ADB.<sup>1</sup> A team comprising domestic consultants and one international consultant will be established to carry out participatory activities.<sup>2</sup> The consultants will have discussions with the members of the steering committee. Through the reviews and discussions, the consultants will obtain an understanding of the government's reform directions for urban heating and establish a sound basis for the work. The consultants will undertake these tasks.

- (i) Present a clear picture of the existing situation of urban heating in the PRC, covering (a) institutional arrangements; (b) ownership structure of these institutions; (c) roles and responsibilities of central, provincial, and city/county-level governments; (d) technical aspects; (e) marketing arrangements including sale/purchase and distribution; (f) customer profiles; (g) urban heating tariff schedules including base tariff and various surcharges; (h) basis for determining tariff and tariff approval procedure; (i) financial position and financial governance of heating supply companies (HSCs); and (j) funding sources.
- (ii) Undertake a broad sector review of urban heating, examining the barriers to urban heating tariff reforms, objectives and target parameters in setting heating tariffs, organization, management, funding, and division of responsibilities. Evaluate the basis of the existing tariff policies, law, and regulations. Specify the financial, social, economic and environmental objectives of the tariff policies.
- (iii) Assess the current welfare system of urban heating-payment system, efficiency, and sustainability. Assess the impact of the reforms of State-owned enterprises on the heating payment system and HSCs' accounts receivable.
- (iv) Carry out field visits to assess the parameters, calculation methods, and approval procedures actually used in urban heating tariff setting in the pilot cities. Evaluate the extent to which the objectives and methodologies used in these cities are consistent with the policies and guidelines of the Government.
- (v) Carry out participatory activities to collect data on the low-income urban heating users in the pilot cities to determine the patterns of urban heating, cost, and problems. Identify the stakeholders from the user groups, including representatives of the urban poor and vulnerable groups. Identify the stakeholders, taking into account their varying perspectives on urban heating.

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<sup>1</sup> The pilot cities will be selected from the regions in the northern PRC.

<sup>2</sup> There will be one domestic consultant for each pilot city.

- (vi) Assess the environmental aspects of urban heating - heating technologies, fuel sources, and heating efficiency. In particular, evaluate the environmental impact of small and inefficient coal-fired boilers and domestic coal-fired stoves.
- (vii) Assess the relationship between urban housing and the current stresses on urban heating resources, including quality of construction and maintenance of urban housing. Discuss the impact of housing reforms and land ownership on urban heating tariff reforms and urban heating efficiency.
- (viii) Based on existing databases and field visits, analyze the actual level and structure of urban heating tariffs - surcharges, HSCs' cost recovery, and percentage of consumer expense on urban heating.
- (ix) Assess the division of responsibilities between the central, provincial, and municipal agencies for preparing and reviewing the tariff adjustment proposal, and monitoring compliance. Evaluate collection arrangements and database management needed to support urban heating tariff adjustments, monitoring, and policy formulation in the sector.
- (x) Survey the existing institutional arrangements for setting urban heating tariff and assess if they are suitable for accomplishing the government's new objectives in the sector.
- (xi) In close consultation with local price bureaus, analyze the incentives of HSCs to reduce the costs of urban heating production and distribution.
- (xii) Assess the quality of building materials, construction standards, and householder motivation to conserve urban heating resources.
- (xiii) Assess the social, environmental, financial, and economic benefits of urban heating tariff reforms. Assess the extent to which low-income users are likely to benefit from the reform. Evaluate the necessity of a lifeline heating tariff.
- (xiv) Prepare preliminary recommendations on the approach, institutional arrangements, and legal framework of the pro-poor tariff reforms, including effective tariff calculation, approval process, and tariff collection. This will include preliminary recommendations on cost recovery by HSCs and private sector participation in urban heating.

## **B. Phase 2. International Seminar**

2. In phase II, the consultants will help organize an international seminar on pro-poor urban heating tariff reforms. International and domestic experts will be invited to present papers and participate in discussions. In a report after the seminar, the consultants will summarize the discussions and identify reform measures of relevance to the PRC context. They will give the Government examples of urban heating tariff guidelines and relevant technical instructions that have been successfully implemented in other countries, particularly those with a similar economic system, with brief descriptions of the institutions that implement the guidelines and instructions. Based on the international seminar, the consultants will compile and present a limited number of best-practice cases from other countries that have effectively established cost recovery and market-based pricing of urban heating that is affordable to low-income consumers. The consultants will examine whether different approaches are needed in urban heating supply.

### **C. Phase 3. Analysis and Development of Urban Heating Tariff Guidelines**

3. This phase involves in-depth analysis based on reviews and analysis of existing studies and reports, the preliminary findings in phase 1, and the international seminar. From the in-depth analysis, the consultants will prepare the urban heating tariff guidelines and develop an effective collection mechanism. The tariff guidelines and collection mechanism will be pro-poor and consistent with the policy objectives of efficient and sustainable urban heating supply. The key elements of the tariff guidelines will include (i) a set of financial, economic, environmental, and social objectives to be achieved in the setting of heating tariffs; (ii) institutional and legal arrangements for tariff setting and review process; and (iii) detailed instructions for tariff calculation and implementation. The consultant will focus on the following tasks:

- (i) Recommend measures to remove barriers to urban heating tariff reforms. Such barriers include physical facilities, investment constraints, institutional, human resources, ownership structures, level and structure of urban heating tariff, and tariff collection mechanism.
- (ii) Recommend measures to address the change from enterprise-based to individual-based payment for urban heating. In particular, suggest how the change will be reflected in wage increases. Describe the impact of the reform of State-owned enterprises on the heating payment system.
- (iii) Assess the interests of the Government, HSCs, and consumers in the tariff reforms. Quantify the impact/benefits of urban heating tariff reforms.
- (iv) Analyze possibilities and develop strategies for involving the urban poor in designing the tariff guidelines, and recommend monitoring systems based on participatory methods.
- (v) Recommend reform-related issues that will need to be addressed: funding sources, payment arrangements, subsidy reductions, and social obligations. Discuss them in detail, in particular, how the recommended reforms will address them.
- (vi) Prescribe an improved set of financial, economic, and social objectives and parameters to be met in calculating urban heating tariffs, connection, and other charges.
- (vii) Recommend appropriate institutional structures, staff composition, and allocation of HSCs. Describe the roles, responsibilities, delegation of authority, and reporting levels and relationships and the type of organization needed. Discuss the merits of alternative structures.
- (viii) Recommend the technical requirements to meet the future urban heating demand, including an assessment of heating systems, heating meters, distribution systems, and ways to reduce losses (technical and nontechnical). Discuss the latest technological trends in these areas and their relevance in the PRC context and ensure that the urban heating supplies in the different regions are the least-cost solutions.
- (ix) Recommend ways to improve the environmental aspect of urban heating: heat conservation, environmentally sound heating technologies, fuel sources (switch from coal to other sources), and heating efficiency.

- (x) Recommend measures to improve urban heating efficiency, taking into account current urban housing situation and housing reforms.
- (xi) Assess the investment requirements for urban heating. Identify the sources of funds and authorities that should be responsible for the investment. Propose reform measures, regulations, and policies to encourage private sector participation. Prescribe the objectives and parameters that will promote private sector participation in the sector.
- (xii) Propose a cost recovery mechanism for urban heating supply taking into account economic costs as well as willingness to pay and affordability to the urban poor. Where subsidies are suggested, they should be transparent and in accordance with ADB's criteria on subsidies. Propose a lifeline heating tariff, if necessary.
- (xiii) Recommend ways of improving urban heating services, e.g., strengthening HSCs ability for billing, collection, and maintenance, and providing reliable and quality heating.
- (xiv) Recommend the authorities for proposing and approving urban heating tariffs and tariff adjustments. Suggest the preferred delegation of authority and financial governance procedures at various levels.
- (xv) For the pilot cities, calculate urban heating tariffs that could meet the revised set of objectives and parameters. Based on this exercise, formulate a set of instructions for tariff calculations. Include a recommendation for a mechanism for regular adjustment of tariffs.
- (xvi) Recommend pro-poor tariff setting methods and an effective tariff collection mechanism including financial reporting, monitoring, data collection, and the management information system of HSCs. Prepare pro-poor national tariff guidelines that can meet policy objectives, promote sustainable urban heating supply, and are implementable. Recommend a plan to implement the tariff guidelines. Identify the implementing agencies at different levels, and the legal and regulatory changes required for implementation.
- (xvii) Determine training and other needs to enable HSCs to implement the proposed methodologies. Draft terms of reference to implement the required training.

#### **D. Phase 4. Draft Final Report and Consultation Workshops**

4. Phase 4 involves a series of consultative processes to refine the findings and recommendations. The consultants will submit a draft final report presenting the findings and recommendations. MOC and ADB will have two weeks to review the draft. The draft will be discussed in consultation workshops with the participation of stakeholders of urban heating tariff reforms, including the counterpart team, the steering committee members, and key officials from ministries, government departments and agencies, consumer groups, and HSCs. ADB staff will participate in some key workshops. The main objectives of the workshops are to (i) present to the policy makers and stakeholders the TA findings and recommendations, (ii) facilitate exchange of ideas and gather comments, (iii) increase the sense of ownership and commitment to the TA recommendations, and (iv) allow the policy makers to discuss the feedback from stakeholders. The consultants will accomplish the following tasks:

- (i) Visit the pilot cities to discuss the TA-supported participatory activities with those who will be affected by urban heating tariff reforms to ascertain their perspectives on the usefulness of the activities and to ensure the urban poor's involvement and recommendations in future efforts. The discussion results will be used as inputs for finalizing the tariff guidelines and the TA final report.
- (ii) Conduct consultation workshops with representatives from all main stakeholders. Consult, in particular, with poor urban residents to understand the expected changes with the tariff reforms.
- (iii) Solicit and record feedback on the applicability of the recommendations and, if necessary, undertake more field visits to the pilot cities to intensify the solicitation of feedback on the draft final report.
- (iv) At the end of the consultation workshops, the consultants will prepare a report that describes the issues, activities, the processes employed, and the results of the consultation workshops, for comments from ADB and MOC.

#### **E. Phase 5. Final Report**

5. The activities after the consultation workshops will concentrate on refining the TA's recommendations in the draft final report, and identifying further work and actions needed to implement the recommendations. Within one month after the consultation workshops, the consultants will submit the final report, taking into account the comments of MOC and ADB and the discussions held in phase 4. The consultants will organize a final workshop with participation of the main stakeholders, particularly MOC and State Development and Planning Commission, to disseminate the TA findings and recommendations.

#### **F. Reports**

6. The consultants will submit the following reports:
- (i) an inception report, within two weeks after the TA starts, summarizing the initial findings and suggesting changes needed in the approach, methodology, and time schedule of the work;
  - (ii) a report at the end of phase 1, summarizing the work done in this phase and identifying issues to be addressed;
  - (iii) a report on the international seminar in phase 2, summarizing the discussions and issues relevant to the PRC context;
  - (v) a draft final report after completion of phase 3. The draft will form the basis for discussions in the consultation workshops to be held in phase 4;
  - (vi) a consultation workshop report summarizing the main issues discussed in the workshops; and
  - (v) a final report within one month after the consultation workshops in phase 4.

**COST ESTIMATES AND FINANCING PLAN**  
**(\$)**

Item	Foreign Exchange	Local Currency	Total Costs
<b>A. Asian Development Bank Financing<sup>a</sup></b>			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	358,500	-	358,500
ii. Domestic Consultants	-	211,000	211,000
b. International and Local Travel	55,700	40,000	95,700
c. Reports and Communications	9,550	-	9,550
2. Computer and Office Equipment	15,000	-	15,000
3. Seminars, Workshops, and Conferences	15,000	10,000	25,000
4. Background Studies and Reports	-	8,000	8,000
5. Miscellaneous Administration and Support Costs	6,000	5,000	11,000
6. Contract Negotiations <sup>b</sup>	5,000	-	5,000
7. Contingencies	70,250	41,000	111,250
<b>Subtotal (A)</b>	<b>535,000</b>	<b>315,000</b>	<b>850,000</b>
<b>B. Government Financing</b>			
1. Office Accommodation and Transport	-	80,000	80,000
2. Counterpart Staff	-	80,000	80,000
3. Training and Field Study	-	50,000	50,000
4. Seminars and Conferences	-	50,000	50,000
5. Administration and Support Costs <sup>c</sup>	-	50,000	50,000
6. Contingencies	-	40,000	40,000
<b>Subtotal (B)</b>	<b>-</b>	<b>350,000</b>	<b>350,000</b>
<b>Total</b>	<b>535,000</b>	<b>665,000</b>	<b>1,200,000</b>

<sup>a</sup> ADB-funded Technical Assistance Special Fund.

<sup>b</sup> Costs related to participation of two People's Republic of China Government officials as observers during the contract negotiations.

<sup>c</sup> Costs related to staff and services to be provided by the Executing Agency, like secretaries, interpreters, messengers, office supplies, and preparation of reports, references and documents.

(Reference in text: page 3, para. 12)