

PROPOSAL FOR A CONTRIBUTION TO FUNDING THE FUEL GAP OF UKRAINE

(THIRD TRANCHE)

European Union Assistance Programme for the Partner States in Eastern Europe and Central Asia

In July 2001 the Tacis Committee gave its approval for the implementation of Tranche 2 of the Fuel Gap Programme for Ukraine (the Programme envisages three tranches during the period 2000-2002). This approval brought to €45M the total commitment so far for this Programme. As indicated earlier, notably in the indicative Programme adopted in 2001, the total amount earmarked to cover the Fuel Gap amounts to €65M in the budgetary period 2000 to 2002. As the European Commission has delivered fuel in the context of Tranches 1 and 2 (see Programme chronology of implementation - annex 3) this proposal seeks the approval of the Committee to initiate Tranche 3 and thereby proceed to finalise the Fuel Gap Programme in terms of delivery of fossil fuel.

1. Identification

- | | |
|---------------------|--|
| 1.1 Title: | Fuel Gap Ukraine 2002 |
| 1.2 Country: | Ukraine |
| 1.3 Cost: | €20 million |
| 1.4 Budget line: | B7 – 520 |
| 1.5 Legal Basis: | Council Regulation (EC, Euratom) no. 99/2000 of 29 December 1999, Art 2.5.c) concerning the provision of assistance to the partner states in Eastern Europe and Central Asia. |
| 1.6 Duration: | Contracts financed under this programme shall enter into force no later than 31.12.2004.
The activities provided for under this programme and all contracts must end by 21.12.2005. |
| 1.7 Programming: | AIDCO - Directorate A |
| 1.8 Implementation: | AIDCO - Directorate A |

2. Summary and Objectives

The closure of the last reactor of the Chernobyl nuclear power plant has been a longstanding key objective of EU nuclear safety policy. The reactor was shut down in December 2000, as agreed between the Ukrainian Government and the international community in 1995.

In 1999 it became clear that the replacement capacity for Chernobyl, two reactors at Khmel'nitsky and Rivne ("K2R4"), to be financed *inter alia* by the EBRD and by Euratom, would not be ready to enter into production by the time of the planned Chernobyl closure. This being the case Ukraine pointed to the additional cost of producing the equivalent energy from traditional thermal power plants (TPPs). This so-called "Fuel Gap" was recognised in an Aide - Mémoire signed by Ukraine, the EBRD and the European Commission in May 1999¹. In this document, the European Commission agreed to consider

¹ "Aide-Memoire on K2R4 and other issues related to the closure of Chernobyl" signed on 21 May, 1999.

additional financing for this replacement capacity including the grant financing of the Fuel Gap for which it would make a significant contribution.

The programme is defined as a fixed financial contribution in Euro to purchase fossil fuel supplies. This final tranche is to be made conditional on the successful finalisation of the discussions with the EC and the EBRD on K2R4 (see paragraphs 3.4 and 6 below).

3. Background and Rationale.

3.1 Context of the Fuel gap

As mentioned above, the closure of the last reactor of the Chernobyl nuclear power plant has been a long-standing key objective of EU nuclear safety policy. The Ukrainian leadership demonstrated its commitment by closing the remaining reactor in operation on 15 December 2000.

The Memorandum of Understanding on the closure of Chernobyl, signed in December 1995 between Ukraine, the G7 countries and the EU, covered the essential commitments of the parties concerned. Ukraine was to close Chernobyl by end 2000, while the G7 and the EU would support the closure with a comprehensive programme of co-operation focused on:

- Reform of the energy sector,
- Financing substitutive sources of energy,
- Decommissioning of Chernobyl,
- Addressing the social consequences of the closure.

The significance of the closure of Chernobyl is also reflected in the new "Tacis Regulation", which makes a specific reference to it in Article 2.5.c:

"In the area of nuclear safety, the programme shall focus on [...] contributing to relevant EU supported international initiatives such as the G7/EU initiative on the closure of Chernobyl".

Furthermore, the EU Common Strategy for Ukraine of 1999 specifically refers to the Chernobyl issue, stating that nuclear safety and decommissioning of the Chernobyl nuclear power plant is a priority in EU-Ukraine relations, and mentioning the EU engagement to support Ukraine in financing replacement energy generating capacity.

When it became clear in 1999 that the replacement nuclear capacity for Chernobyl would not be commissioned by the time of the planned Chernobyl closure in 2000, Ukraine pointed to the temporary extra cost of producing the same amount of electricity from thermal power plants (TPPs). This gave rise to the so-called notion of "Fuel Gap" and was recognised in the Aide - Mémoire signed by Ukraine, the EBRD and the European Commission in May 1999, Point 4 of which reads:

"4. This understanding creates the necessary prerequisite to make substantive progress on matters related to the closing of Chernobyl in year 2000...These matters relate principally to:

(iv) The grant financing of the fuel gap covering the period from the closure of Chernobyl until the commissioning of the K2 unit in an amount to be mutually agreed for which the

European Commission will make a significant contribution. The Ukrainian Government estimates that the annual cost of the compensation fuel is between USD 80-100 million.”

Through the Tacis Programme, the EU has consistently contributed to easing the Chernobyl nuclear safety risk, by allocating to Chernobyl and Chernobyl-related projects around €340 million for financing, *inter alia*, the following measures:

- Support for the development and construction of the new shelter (€190.4M),
- Health and environmental consequences of the disaster (€60M),
- Decommissioning activities of Units 1-3 (€82M).

In addition, €75M have been allocated for non-nuclear energy projects in Ukraine, towards the market reform of the electricity sector and the development of a financially sound electricity market to encourage energy efficiency.

An EU/Commission proposal for a Euratom loan to finance replacement nuclear capacity was conditional upon a positive EBRD decision in this regard. The decision for financing nuclear replacement capacities (K2R4) was taken by the EBRD in November 2000. This decision was linked to a number of conditions which had to be met before the loan agreement could be signed. The Commission took a similar decision in December 2000 concerning the Euratom loan.

For Ukraine the timing of decisions in support of the Chernobyl closure was critical. There was strong resistance inside Ukraine against the closure of Chernobyl's reactor nbr. 3. This reactor produced about 5% of Ukraine's electricity. Given Ukraine's very serious budget constraints leading up to the closure of Chernobyl, aggravated by shortfalls in privatization revenues in 2000/01, and balance of payments problems, Ukraine was not in a position to raise the hard currency through commercial lending channels and was therefore forced to continue to rely on international donors. Continued support to maintain electricity output is therefore essential to demonstrate the on-going EU commitment in support of Ukraine decision to close Chernobyl.

During the period since Chernobyl's closure, this fuel gap financing has been provided by the EU (Tranches 1 and 2 - €45M grant financing) and the EBRD (\$100M loan facility). In the framework of tranches 1 and 2, the Tacis Programme financed the supply and delivery of fossil fuel through 2001 (tranche 1: Feb-Apr, tranche 2: December) to enable the production of 49 percent of Chernobyl's average yearly production, thus honouring the EU commitment towards a "significant contribution" of the fuel gap through grants.

The EBRD approved in November 2000 its Fuel Purchase Loan Facility worth \$ 100M. This facility enabled the purchase and delivery of 1.9 million tons of coal to several Ukrainian TPPs in the period between March and July 2001. By the end of the duration of this credit line, a total of \$ 59 M had been disbursed.

Without this support, power cuts would have been inevitable and this could have had a major detrimental impact on industrial output and considerable disruption for domestic consumers. The overriding concern of the Ukraine Government is to minimise the impact of the closure of the Chernobyl by:

- 1) avoiding electricity shortages and socially unacceptable price increases reflecting the higher cost of producing electricity from fossil fuel, compared with nuclear power and,

- 2) minimising the impact on the heavily indebted power generating companies trying to secure imports of fossil fuel².

Accordingly, the purpose of this Financing Proposal is to maintain EU support of the decision to close the last Chernobyl reactor. Grant financing a substantial proportion of the estimated Fuel Gap (in a specifically targeted way) has proven, by virtue of the experience gained with Tranches 1 and 2 of this Programme, to be the most effective way to demonstrate the EU commitment to Ukraine. Additionally, it provides, in form of counterpart funds, some means to support the reform in the Ukrainian energy sector.

3.2 Description of the Fuel Gap

The Fuel Gap is defined as the extra (annual) cost to Ukraine of producing electricity at thermal power plants using imported fossil fuel to replace the electricity previously produced by the Chernobyl reactor 3. This definition uses clear parameters:

- The quantity of electricity which has to be replaced, i.e. the quantity "lost" by the closure of reactor 3,
- The quantity of fossil fuel necessary to produce the same amount of electricity at thermal power plants and,
- The cost of such fossil fuel, as compared with the cost of nuclear fuel, which would otherwise have been consumed by reactor 3.

The Fuel Gap is therefore an additional cost for Ukraine. In practical terms, a contribution to the Fuel Gap means providing extra fossil fuel (coal, natural gas, or mazut-fuel oil) to the selected TPPs to boost output. In the case of natural gas and fuel oil, the additional cost is increased by the imported origin of these fuels.

² The only options available to companies in such situations would be barter deals or overpriced supply contracts to minimise the supplier's risk.

3.3 Estimate of the Fuel Gap

The estimate of the Fuel Gap (as established for the Tacis Committee of 16 November 2000) has been calculated taking into account the following criteria:

- For the electricity production foregone by the closure of reactor 3, the average of production over the 5 years 1995-1999 is taken as a basis and rounded to 5 billion kWh. While the theoretical capacity is 7 billion kWh, the five-year average is more realistic.
- A calculation based on the marginal³ cost of fuel per kWh of selected efficient TPPs, compared with the marginal fuel consumption of reactor 3, showed the following figures:

Marginal cost (\$/kWh)	Lowest	Highest
Thermal power plants	0.01520	0.03947
Chernobyl reactor #3	0.00404	0.00404
Difference:	0.01116	0.03543

This corresponds to a bracket between 167 – 53 million USD for the reference electricity output of 4,707 million kWh depending on the type of fossil fuel. More detailed calculations by type of fuel are included in Annex I. According to this, the minimum estimate for the Fuel Gap would be €8M⁴ while the maximum is estimated to be €184M.

3.4 Completion of K2R4 compensating generating capacities.

At the end of 2001, the Ukrainian leadership declined to sign the Euratom and EBRD loan agreements citing the need to revise the cost estimates, the conditionalities related to the electricity tariff and the financing plan. The Bank and the European Commission swiftly agreed to work jointly with the Ukrainian Government to explore possibilities of re-arranging the project so as to accommodate these concerns. Discussion between EBRD, the European Commission and Ukraine regarding the loan agreement continue.

Progress in these discussions is essential as the National Indicative Programme 2002-2003 for Ukraine (with regard to the implementation of the last Tranche of the Fuel Gap Programme) conditions its implementation to the “*Successful resumption of the activities at the “K2R4” nuclear power plants, according to European safety standards*”. However, as it would in any case take several years to complete the first of the two reactors at an international safety level, the effective implementation of the present Financing Proposal is conditional on the successful finalisation of the discussions with the EC and the EBRD on K2R4 leading to a specific proposal to be submitted to the Commission and to the Bank. In addition, this finalisation should take place by Autumn 2003, failing this the money will be used for other purposes in Ukraine.

³ Understood as the fuel cost component of electricity generation.

⁴ Unfortunately, fuel prices in the international markets are still quoted in US dollars. For reference to Euro, the exchange rate applied throughout this document is €0.91 to the US currency.

3.5 Ukraine Energy - Market Structure

All thermal power plants in Ukraine come under the control of the four electricity-generating companies or Gencos (Dniproenergo, Donbasenergo, Tsentrenergo, and Zakhidenergo (see chart in Annex 2). Ukrainian electricity production is strictly regulated, whereby all electricity producers licensed by the National Energy Regulatory Commission (NERC) sell their production through the wholesale market operator. The Ukrainian State still holds majority stakes in all four Gencos, and these stakes are managed by the Ministry of Fuel and Energy.

The Energomarket State Enterprise (Energomarket) operates the wholesale electricity market and is also state-owned. This organisation controls the dispatch of electricity from the TPPs to the distributors and the settlement of accounts between Gencos and the network of distribution companies. Energomarket is ultimately responsible for establishing how much electricity is produced by each TPP, where the energy is dispatched, and the value of transactions. Energomarket also collects revenue from the sale of electricity on behalf of the Gencos.

3.6 Recent developments in the electricity market.

In August 2001, parallel operation of the Russian and Ukrainian high-voltage networks was restarted after a lapse of several years. This measure provides for increased stability of the frequency of the electricity network, thus increasing quality and reliability of supplies. Meanwhile, no major imports of electricity from the Russian Federation have been reported since.

One batch of six electricity distribution companies was privatised by May 2001. For 2002, the State Property Fund has scheduled to sell majority stakes in another eleven distribution companies. However, the tenders for these sales will not be launched until a deal on restructuring the companies' significant debts is finalised.

Revenues for sales of electricity continue their steady rise, both in absolute and "cash-collection" terms.

As a percentage of total purchases	2000	2001	1st Q02	Apr-02
Revenues	76.3	80.6	86.3	90.7
Cash	32.9	64.8	68.4	81.7

Source: EnergoMarket, Ministry of Fuel and Energy

4. Description of Proposed Tacis Action

The Tacis programme is the only grant instrument of EU assistance that is available and which has and can continue to make a relevant contribution to the Fuel Gap. The present proposal is for funding a Tacis fuel supply programme for Ukraine.

The fossil fuel is to be procured in agreement with EuropeAid procedures and supplied to two designated TPPs within the Gencos structure (see Annex 6 for map of Ukraine power plant structure). This fuel will be utilized only to produce electricity terms equivalent to a significant proportion of that previously produced by the reactor #3 at Chernobyl nuclear plant.

The choice of fuel is to be made in consultation with the beneficiary and will necessarily take into account the experience gained in the Programme Tranches to date. In the case of Tranches 1 and 2, natural gas was the preferred option. In considering this choice regard will also be given to the recommendations detailed in the independent interim review of this Programme (see para. 8 below).

The plants to be supplied will be selected based on the following criteria:

- Selected type of fuel,
- Spare capacity,
- Technical efficiency,
- Capacity to handle the programme.

Although the ultimate beneficiary of the Programme will be the Ukrainian Government, the recipient of the supplies will be the Ukrainian TPPs. The power thus generated by these plants will be channelled through Energomarket and then sold to the network of electricity distribution companies (Oblenergos).

Part of the corresponding revenues collected by Energomarket will be paid to a Special Account (SA) at the National Bank of Ukraine (NBU). These payments will be the equivalent in local currency to the contract value of the fuel delivered to the TPPs. In accordance with agreed Programme Implementation Modalities (IM), these payments will be subject to specific payment deadlines i.e. 45 days following completion of fuel deliveries. The IM make it clear that responsibility lies with the Government of Ukraine to ensure that deposits are made in full. In the case of Tranches 1 and 2, Ukraine has fully complied with the payment conditionality.

The Government will be authorized to use the SA funds for agreed expenditure in the energy sector within three areas outlined in the IM. Disbursements from the SA must be authorised by the European Commission as represented by the Head of the Delegation in Ukraine. Disbursements from the SA have been authorised for up to 100 UAH (see annexes 4 and 5 for current Statements of Account and the disbursement detail).

The cost of for this Tranche of the programme, i.e. € 20M, includes provision for independent survey of fuel deliveries at destination as well as on-going technical assistance support.

5. Cost Estimate

The programme is defined as a fixed financial contribution in Euro to purchase fossil fuel supplies. Given the commitment undertaken in the Aide-Mémoire referred to above, Tacis should make a "*significant contribution*". Taking into account total budgetary allocation, i.e. €65M (2000 – 2002 budget years), this final Programme Tranche effectively liquidates the full budget allocation. A Tranche value of €20M would correspond to 20-25 percent of the Fuel Gap in terms of electricity output.

	<u>Million €</u>
Financial contribution to purchase fuel supplies	20 ⁵

6. Implementation and Management

As established mechanisms/management systems have successfully dealt with implementation of Tranches 1 and 2, there is no apparent reason to initiate any significant change to the procedures already in place. The Programme will continue to be managed directly by the European Commission in close collaboration with the Ukrainian authorities, contracting firms and relevant energy sector institutions. For the Government of Ukraine, general co-coordinating responsibility will be with the Ministry of Fuel and Energy in collaboration with the Tacis National Co-coordinator and the Tacis National Co-ordinating Unit.

The Programme will remain under the direct control of EuropeAid Cooperation Office (AIDCO), Directorate A, in close co-operation with the Head of Delegation, Kiev, the External Relations DG and DG TREN. The procedures laid down in Article 13 of the Council Regulation (EC, Euratom) N. 99/2000 are applicable to this Programme.

A Working Group composed of representatives of, amongst others, the European Commission, the Ukrainian Ministry of Fuel and Energy, the Ukrainian Ministry of Finance, selected TPPs and Energomarket, will continue to oversee the implementation of the Programme through regular meetings.

As mentioned above (paragraphs 2 and 3.4), the effective implementation of this final tranche is conditional on the successful finalisation of the discussions with the EC and the EBRD on K2R4 leading to a specific proposal to be submitted to the Commission and to the Bank.

7. Monitoring/Survey.

In addition to follow-up and controls carried out on the spot by the Commission services, qualified specialists shall comprehensively monitor the fuel delivery phase of tranche 3 of this Programme. An independent survey company, to be contracted by tender, will undertake quantity and if necessary quality controls during the delivery phase at the fuel final destination. Survey inspection reports will be the basis for determining contractual

⁵ Including up to 0.6 M€ for technical assistance and survey

compliance of the fuel supplier and thereafter the amount of revenue that should accrue to the SA.

8. Evaluation

In agreeing to the Financing Proposal for Tranche 2 of this Programme (Tacis Committee of 16 July 2001) the Member States sought to have an evaluation of the Programme undertaken. In this respect an independent consultant has been engaged to carry out a "Mid-Term Review". This review was undertaken during the period February to April 2002 and the consultants report has been circulated to Member States. The output of this report covers, amongst others, the following aspects of the Programme:

- a review of the fuel supply and delivery operations financed under this Programme and their monitoring, in quantitative and qualitative terms, including an analysis on the relevance and cost-benefit of the type of fuel purchased,
- an assessment on the counterpart funds operations, including an audit of accruals and disbursements as well as the effectiveness of the disbursement schemes,
- a review of the efficiency of implementation and management by all parties involved in the Programme,
- provision of recommendations on the design of the third tranche as well as on the use of funds accruing from the natural gas supplied under tranche 2 of the Fuel Gap Programme.

9. Audit

Operations financed under this programme will be subject to supervision by the relevant Commission services and the European Court of Auditors, to be carried out on spot, as necessary. The accounts and records of expenditure under the present Programme may be checked at regular intervals by an external auditor contracted by the Commission, without prejudice to the responsibilities of the European Commission, including the European Antifraud Office (OLAF), and the European Court of Auditors.

Annex 1

Ukraine Fuel Gap Calculation

Calculation on the basis of specific consumption of coal, gas or heavy fuel oil at selected efficient power plants, and taking into account the cost per unit (CIP) of the given fossil fuel:

Fuel Type	Specific Fuel Consumption	Quantity Required	Fuel Unit Price (\$)	Total (\$)
Coal	447,0 g/kWh	2.104.029 tons	34	71.536.986
Natural gas	0,2914 cb.m./kWh	1.371.620 cb.m.	60	82.297.188
Mazut fuel-oil	246,7 g/kWh	1.161.217 tons	160	185.794.704
Nuclear fuel				19.003.405

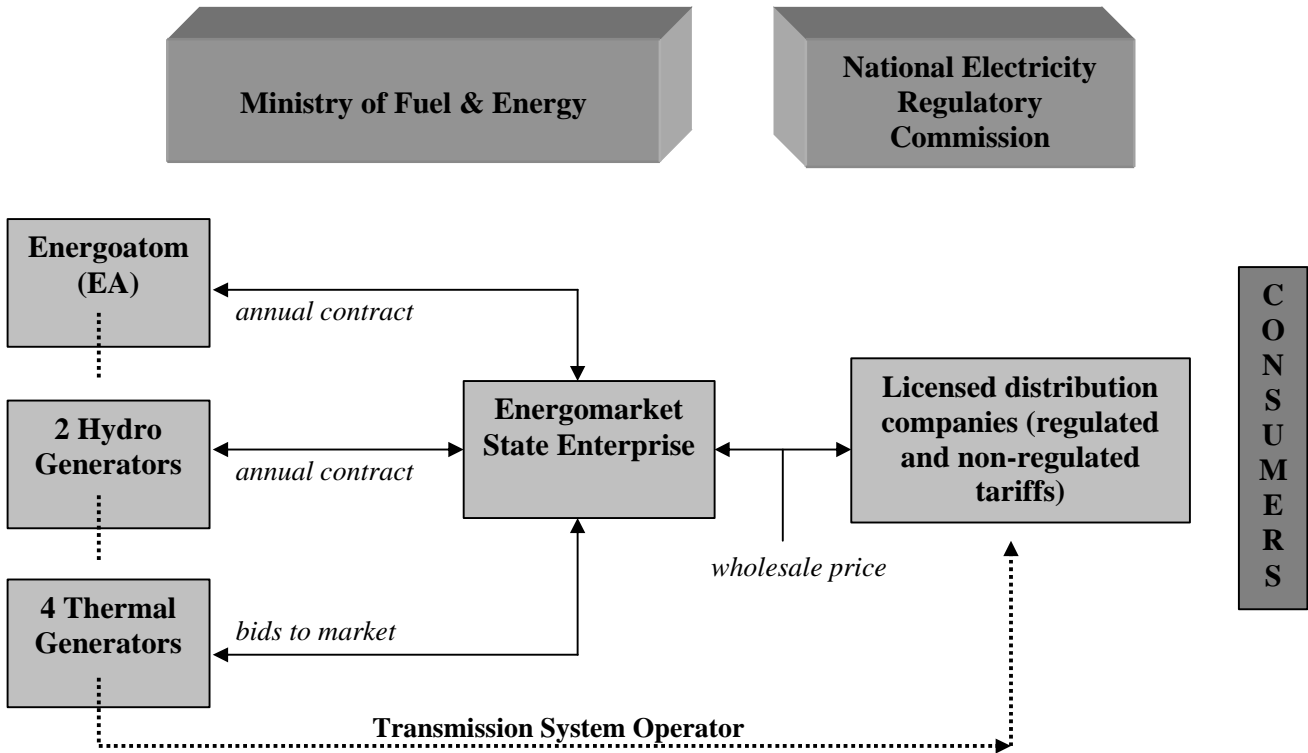
Source: Report for Grant Financing of the Fuel Gap, Transenergoconsulting, November 2000

The following assumptions have been applied:

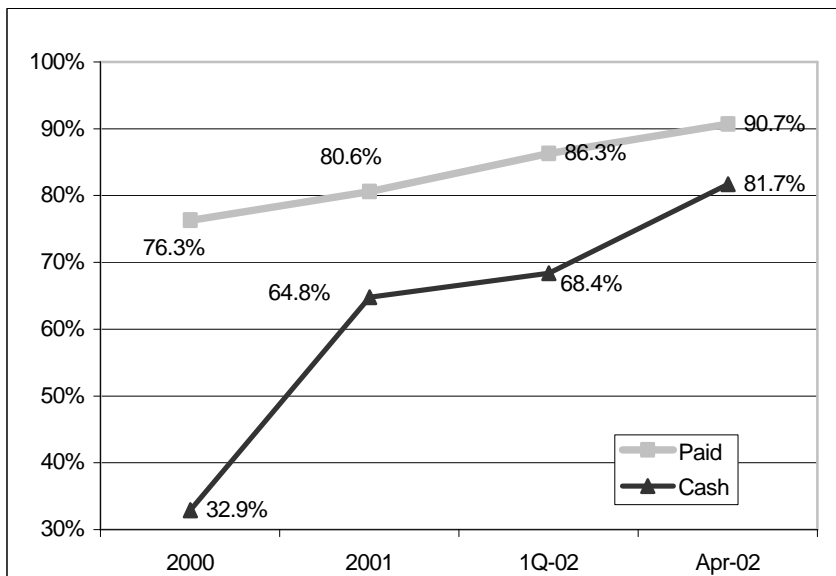
1. The average yearly output of electricity from unit #3 of Chernobyl nuclear plant equals 4,707 million kWh.
2. Specific consumption is based on the mean efficiency of the three best performing power-generating units in operation in Ukraine for each type of fuel.
3. There is no shortage of available generation capacity in these best-performing units. Otherwise, the grant fuel would have to be delivered to less efficient units, thus increasing the cost of the fuel gap.

Annex 2

UKRAINE ENERGY MARKET STRUCTURE



REVENUE AND CASH COLLECTION



Annex 3

PROGRAMME EXECUTION CYCLE – TRANCHES 1 AND 2

Key Dates	Nov'00	Dec	Jan'01	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan'02	Feb	March	April	May
Tacis Committee	16								16										
Financing Memorandum & Commission decision	28	13							28	12									
Tender launch		14								16									
Implementation Modalities agreed		13									27								
Supply contract signature				7									30						
- Gas deliveries (57 days for tr. I and 32 days for tr. II)				15		12								1	1				
Supplier Invoices						9-18								12	8				
Payments to Supplier								1-29	3						3	25			
TAU established				19															
Independent Survey				26		12							29		2				
Payments to SA				28				1							10	15			
Agreement on SA use																			
- Debt write-off & legislation										2									
- Metering project											26								
BCEOM Review contract sign															1				
BCEOM Interim / Final Reports																28	2		1

Annex 4

Tranche 1 Special Account

Summary of bank statements provided by MoFE

		<i>Debit (UAH)</i>	<i>Credit (UAH)</i>
Supply contract 2000			
31.05.01	Replenishment a/c # 35602300104	116 758 282,29	
13.08.01	transfer to expenditure a/c # 00371211000001	116 758 282,32	

Due to the budgetary nature of these funds, accruals have been moved from a debit account to a credit one (Treasury letter of 26 September)

Debt write-off			
13.08.01	tranche A (authorised on 10/8)		21 155 931,53
17.08.01	tranche A (Donetskoblenergo)*		1 877 022,42
23.08.01	tranche A (Kyiv and Crimea). Authorised by EC on 22/8.		3 892 053,58
07.09.01	tranche B (authorised on 5/9)		23 295 105,52
01.10.01	tranche C (authorised on 24/9)		37 614 764,36
30.10.01	return unused funds MinHealth	199 945,96	
31.10.01	return unused funds MinEdu	30 345,47	
02.11.01	return unused funds MinHealth	428,08	
05.11.01	return unused funds MinEdu	399,58	
07.11.01	return unused funds MinEdu	4 577,52	
07.11.01	return unused funds MinEdu	66 349,57	
09.11.01	return unused funds MinHealth	1 816,00	
		(1) 303 862,18	
14.12.01	adjustment unused funds		0,30
27.11.01	additional tranche C (authorised on 23/11)		303 861,88
18.12.01	tranche D (authorised on 13/12)		11 165 122,59
		Total disbursed for write-off of state elec. Debt	99 000 000,00
<i>(1) Funds to be returned UAH 303,861.88</i>			

** Payment not authorised at date of execution. Funds held at Treasury a/c of Ministry of Finance until EC approval (22-Aug). Date of disbursement to final recipient (27-Aug) confirmed by relevant bank statement.*

Legislation (1,868,131.72)			
05.02.02	50% adv payment (authorised on 22/1/02)		934 065,86
Metering			
	<u>6-Feb-02</u>	<u>16 824 216,46</u>	

NB. Balance for tranche 1 SA funds at the time of drafting this FP (May 2002)

Annex 5

**Statement of 16 May '02
Ministry of Fuel and Energy of Ukraine**

First Tranche

**Special Registration Account (National Bank of Ukraine – NBU)
account no. 00371211000001/9**

Transaction No.	Date	MFO	Correspondent Account.	Document No.	Transaction Code	Turnover	
						Debit	Credit
	05.02.02				Balance		17758282,32
1	05.02.02	820019	3921014001	1	1	934065,86	
					Turnover	934065,86	0,00
Total					Balance		16824216,46

Second Tranche

State Treasury (ST)

Special Registration Account No. 37129200013741

Lot No.	Volume	Price	Total due	Rate/Euro	Total due	Certificate	Accrued - ST data
	th.cub.m.		(Euro)	NBU	(UAH)	date	(UAH)
1	147 250	66,00	9 718 500	4,788784	46 539 797,30	03.01.02	46 539 797,31
2	147 250	66,00	9 718 500	4,669568	45 381 196,61	02.01.02	45 381 196,62
Total	294 500		19 437 000		91 920 993,91		91 920 993,93

NB. At the time of drafting this proposal, no SA projects had been launched from the proceeds of tranche 2.

Annex 6

