

## **SMALL HYDRO FEED IN TARIFF ISSUES**

### **KEK COMMENTS AND RECOMMENDATIONS**

#### **1. SUMMARY**

The Government of Kosovo has a renewable policy<sup>1</sup> to encourage the development of small hydro power projects (SHPP) as well as other alternatives. The policy includes development of a SHPP feed-in tariff. As the likely and required off-taker for SHPP energy, Kosovo Energy Company (KEK) has a stake in the quantity, quality and cost of the energy, in protecting its customers and its ability to provide energy. Clearly, KEK needs new and affordable sources of electrical energy and SHPP provide that and other attractive qualities to serve and strengthen the power grid inside the country.

The ERO has released a Consultation Paper, Review of Small Hydropower Project Feed-in Tariffs, and has had a meeting to discuss the proposed tariff and calculation/cost basis of the tariff. Comments on the report and other considerations for ERO consideration in setting the SHPP feed-in tariff are provided in this document.

KEK's comments and recommendations are provided herein as requested by ERO. They are primarily focused on addressing issues of primary importance to the utility that will be required to purchase the energy and pass that cost along to its customers. Having the output of SHPP available at times it is needed and at a price that will not burden customers is a primary focus. KEK recognizes that other stakeholders have very legitimate issues including environmental, social, compliance with EU Guidelines, and other policy issues. KEK understands that ERO may consider all stakeholder concerns in arriving at a feed-in-tariff.

KEK is very interested in the potential to purchase useful energy from all sources and particularly SHPP. KEK was successful with a bidding process to have the Lombardh Project rehabilitated and is following a similar process for three other small hydro projects<sup>2</sup> that it owns.

Key implications of SHPP feed-in tariff as it effects KEK and its customers are:

- The monthly timing of energy supply is important and if limits are not set on the amount of energy SHPP provides during the excess energy periods of April-June, the tariff for that period should be very low.
- The tariff structure should allow for and encourage SHPP developers to plan and design their projects to provide peaking power as possible and reward successful providers for providing such power. SHPP is often not capable of storing water but many can by small reservoir or collection pond storage and it should not be assumed that such development is not possible.

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<sup>1</sup> Kosovo Government Policy Decision 05/250 dated 16 May 2007; "Incentive measures for generation of electricity from renewable sources and cogeneration."

<sup>2</sup> Burimi SHPP, Radac SHPP, and Derqance SHPP.

There is a concern regarding the amount and timing of SHPP energy. Because of the hydrology in most of Kosovo, SHPPs, if not sized accordingly, will provide a substantial percentage of their energy in the snow melt – run off months of April to June period, when both KEK and the region generally has excess power. Thus, the value of that excess power is relatively low. Some consideration must be made in the tariff to eliminate paying high tariffs to the SHPP for low value power to KEK and the region.

There are a number of developing benchmarks for establishing the SHPP Feed-in Tariff. These include the current costs of power purchases (and sales) as well as payments to existing hydro plants and production costs at the lignite plants. Also relevant are the SHPP feed-in tariffs at neighboring Albania and Macedonia where the tariffs have apparently ranged from €45 to 80/MWh.

## 2. ISSUES REGARDING SMALL HYDRO PROJECTS IN KEK SYSTEM

The Policy Decision of May 2007 does establish the concept of incentive prices and ‘take or pay’ contracts from KEK or other public suppliers for cogeneration and renewable power. The prices will likely be subject to substantial debate and controversy.

As KEK purchases power from SHPP, it needs to ensure two items to protect its customers:

- the power is useful in the system and can be readily absorbed; and,
- power should be at a purchase rate that is within boundaries of alternative costs, plus whatever premium may be justified by renewable and distributed generation;

The setting of the power tariff and purchase requirements under the “take or pay” definition will certainly affect the usefulness of SHPP energy provided to the KEK system.

## 3. TIMING OF SHPP POWER SUPPLY

There is one possible problem with a single feed-in rate for all power from SHPPs. KEK currently has its major resource in large lignite burning units that cannot be cheaply or easily cycled. The load management problem is already significant in meeting cyclical load with non-cycling plants. SHPPs are going to add to this problem to some extent. It is unlikely, without some substantial incentive, that the SHPP ‘run of river’ plants can or will provide peaking power or maximum power in the high demand season. In an electrical supply system with relatively significant rapid dispatch plants, such as hydropower projects with seasonal or annual storage, less dispatchable plants can be absorbed in to the system more readily. The storage plants can hold water until times when the other plants are at low or no output, enhancing the entire system. However, Kosovo does not have any substantial ability to store water or save fuel in dispatch, lessening the value of less dispatchable or less predictable generation sources such as small hydro or wind.

Some small hydro can be made more dispatchable, at least on a daily or weekly basis, if it includes at least limited storage to release flows during peak demand. Recognition of

the value of dispatchability and definition of the minimum necessary will be valuable if included in the tariff setting. A project developer would need to determine whether such storage and dispatchability can be included in the costs and environmental constraints of the project.

### 3.1 – EXCESS SUPPLY FROM SHPP April to June

The most significant problem may well be in the seasons where KEK's load is already over-met. Figure 1 is a monthly total energy use chart for 2006. The monthly energy demand dips substantially in April, May and June, on the way to the low in July, then builds back towards the peak months of December and January.

The hydrology for most of the rivers where SHPPs are most attractive unfortunately corresponds with the April – June decrease in demand. Table 1 includes several monthly flow patterns for the SHPP Rivers which were selected as attractive in the Survey Study. These examples are generally representative of the hydrology in the region as well as Kosovo.

If the SHPP's are sized (installed capacity) for the very high flow of April-June, a majority of the energy from these plants will be provided during those months. During low demand and high flow months, extra energy only has marginal value and may even need to be sold to other systems. Selling outside Kosovo during these months will not be easy as the surrounding region, which is hydro-dependent is also going to have plenty of energy. The rates received for the power are going to be quite low, in a market rate exchange.

As a result, it is important that the plants are planned in a way that either the power can be provided on a peak basis, daily OR that the size of the plant is limited so that the power supplied during the low demand months is limited.

As an example, the existing Lombardh Project in both 2006 and 2007 provided over 56% of its annual power in the three months of April through June. As one of three quarters, the time represents only 25% of the year. The trend in 2008 is similar. Hydrology at some, but not all, of the rivers that would support SHPP in Kosovo is similar.

It is possible that KEK's cash problems could be made worse with excessive SHPP power in the second quarter of every year. KEK could have to sell power when other systems have excess from their similar April to June spring water run off, and need power when it is expensive. KEK could be actually buying power at an incentive rate of €50-70/MWh or more and concurrently selling at €15 MWh or some near-dump rate. In a large and financially healthy utility, the effect might be negligible. However for KEK it is another possible negative cash flow and ultimately will raise rates for the Kosovo customer. The customer might already be paying a premium for the incentive rate.

FIGURE 1  
KEK Energy

Monthly Load, 2006

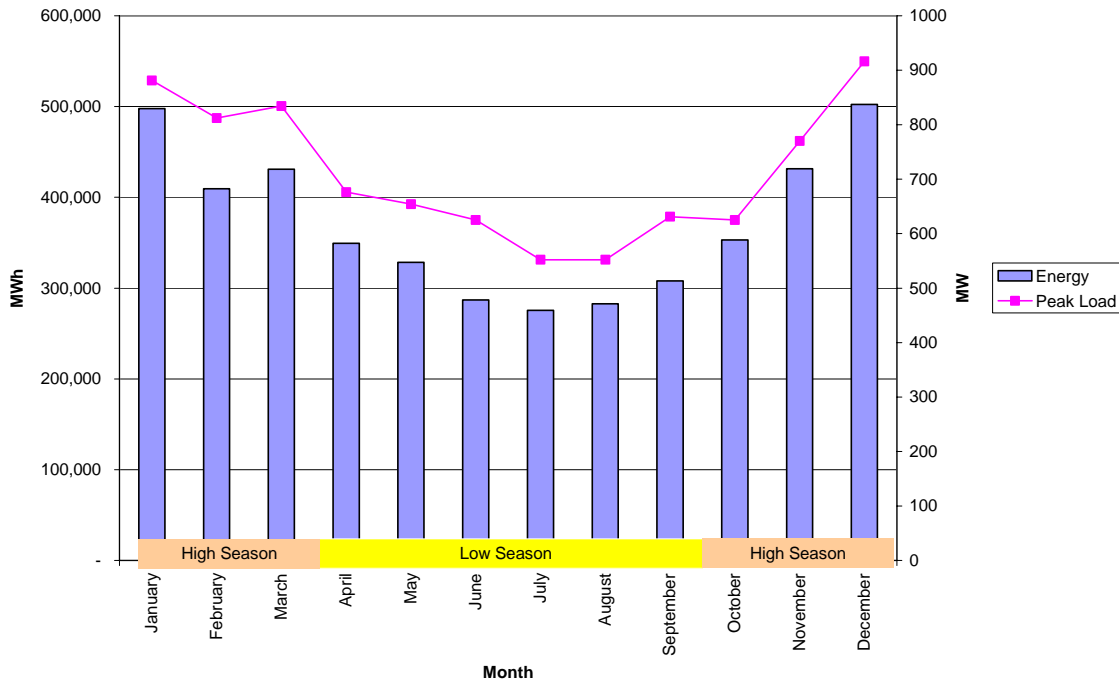


Table 1 - Example Hydrology for Potential SHPP

Kuquishta SHPP

Month	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Q	2.54	2.31	3.65	9.1	12.3	4.93	1.72	1.07	1.31	2.17	3.74	3.13	4.00
m <sup>3</sup> /sec													

Bellaje SHPP

Month	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Q	1.85	1.93	2.48	5.53	9.76	6.41	2.65	1.47	1.62	2.32	2.85	2.22	3.42
m <sup>3</sup> /sec													

Source: Prefeasibility Study for SHPP in Kosovo

The Bellaje SHPP potential site is located northwest of Decan. It would develop about 5.2 MW of power below the exiting Lombardh (Kozhner) SHPP. The Kuquishta SHPP site is located about 17 km northwest of Peja. It would develop about 3.9 MW using flows of the Lombardh of Peja River and is the uppermost of three SHPP sites identified on the river.

### 3.2 SEASONAL OVERSUPPLY REMEDIES

There are some relatively simple solutions to this problem. Probably the simplest is to limit the power to be purchased from a SHPP during the high flow period. Second would be to limit the plant factor for SHPP and third would be to pay less during the second quarter.

As an example, for limiting power, the total energy to be purchased from any SHPP during the period of April-June could be limited to no more than 40% of the total produced during the entire year. The April to June quarter is 25% of time. While 40% might seem a high target, making the target lower will cause the SHPP substantial difficulty during dry years and also may make the project so small that it would not benefit during high flow years when valuable energy would be produced.

A second possible remedy would be to limit the plant factor of projects to some target percentage – such as 50-60% - to limit capacity. Another possible remedy is to have two part tariffs based on expected output and hydrology. However these are difficult to administer.

The simplest seasonal over-supply remedy is to offer a lower second quarter rate, as a percentage of the full value rate. KEK recommends that the rate be set as 50% of the rate for the remaining three quarters of the year. Paying less for unneeded power is done in many places with wet/dry seasons and is not unusual.

Finally, there could be a peak/off peak tariff option given to the producer. The addition of a dam to impound water for peaking adds to the cost of the project and adds other societal dimensions to be resolved (environment, dam safety, relocation of residents, etc.). The simple method would be to pay a higher multiple of the basic tariff during the peak hours.

In summary, KEK recommends that the tariff rate for SHPP be structured so that the period of April-June reflects the lower value of power during this period. A 50% rate on the base SHPP tariff is recommended.

#### 4. SHPP FEED IN TARIFF RATE CONSIDERATIONS

Kosovo Government Decision 05/250 established a need for the purchase price of power to be set by ERO. Clearly KEK has interest in the price and proceed and favors a rapid and proper resolution of the issue to get the SHPP industry activated. Until tariff issues are resolve, there will be no activity in the sector. KEK supports a tariff that would include considerations for the costs avoided by the small hydro, some incentive for renewable and domestic power and some recognition of the value of distributive power in the grid.

The ERO Consultative Report on Feed-in Tariffs for Small Hydro Power Plants takes an approach of calculating tariff based on costs of indicative SHPP from a prior survey study. The survey study, Reference 2, was a survey study to identify the SHPP potential and suggest the best sites for development. The Consultative Report uses costs from the study to develop an indicative tariff for SHPP's as follows:

<i>Installed Capacity</i>	<i>Tariff (Eurocent/kWh)</i>
<i>Hydro power plants up to 2MW</i>	<i>6.44</i>
<i>Hydro power plats from 2MW to 5 MW</i>	<i>5.02</i>
<i>Hydro power plants from 5MW to 10 MW</i>	<i>4.02</i>

The approach of using an indicative feed-in tariff for SHPP's as compared to attempting a cost based tariff for each plant has proven in other countries to be an effective method of attracting SHPP investment in economic projects. KEK agrees that an offered tariff or set tariff structure is appropriate for KEK and its customers.

It is also accurate that a cost based tariff is one method of establishing a base tariff. However the potential cost of such developments is only one consideration of several that should be included in tariff setting. Other considerations should include the value of the power to the system and the encouragement of the most useful power from SHPP's.

##### 4.1 Produced Power

The actual avoided costs of power from KEK are difficult to determine with accuracy and subject to many issues and also misconceptions. Often it is thought that avoided costs are simply the costs paid by customers, but that is wrong because the retail rate includes many costs including transmission, distribution and other overhead costs. Avoided costs are usually the avoided production costs from alternative sources.

Most energy produced for the KEK system is from the Kosovo Lignite Units. It is arguable whether and how much of those costs could be avoided by buying from small hydro, it could be as small as the actual fuel costs but as high as total production costs.

Total production costs at the plant are estimated in the range of €23-30/MWh, depending on items included in the cost.

KEK buys power from two hydropower plants. Ujmani Plant is 32 MW and can provide base power and some peak power. The baseload power that is generated by water need is purchased at about €22/MWh and €40/MWh for power requested (dispatchable) by KEK. These prices do not seem high compared to other units, but the project was constructed and financed many years ago.

The Kozhnjer/Lombardh Project was extensively rehabilitated and returned to service under competitive bid, having been completed in 2006. The best bid price for the power supply was €40/MWh. This price should be considered for comparison, but the project was an extensive rehabilitation, not a completely new project. The price is useful as it was the result of a bid process and thus, competitively set.

#### 4.2 Purchased Power

KEK also buys and sells power from international sources. In this market, KEK must pay for both the costs of the power at its source and also transmission to the point of off-take, at the border. The costs reflect both the high costs of production and competition for power. This power is purchased by bid process for variable periods of time and under certain supply conditions, but often for 16 hours/day of supply. In the low demand seasons, KEK sells off-peak power internationally, obviously at much lower prices because neighbouring systems do not generally need power at off-peak times.

The power costs have risen markedly in the recent years. KEK now routinely pays up to €90-100/MWh for power generation in large blocks. Excess power sold is usually in the range of €30.

These costs of the current sources of electrical power are benchmarks for a SHPP feed-in tariff. None of the costs are directly applicable. For example, the purchase price for imported energy is too high because it does not apply year round, nor off-peak times when SHPPs would still be providing energy. It also is a very high price that could result in extreme profits to SHPPs at the expense of KEK customers.

#### 4.3 Neighboring Country Feed-in Tariffs

Both Albania and Macedonia are power short and purchasing power on the international market. Both countries have already established feed-in tariffs and are aggressively encouraging hydroelectric development.

##### Albania Feed-in

Albania has established a feed-in tariff price for new SHPP project energy delivery which is equal to the prior year's average import purchase price times a factor of 1.1. In 2007 the feed in price was €47/MWh. For 2008 the feed in tariff is reportedly about €90/MWh. It is believed the tariff changes annually. Thus, it could be subject to significant decrease when power supply in the Balkans improves.

##### Macedonia Feed in

Macedonia is in the process of tender offers for SHPP development. Approximately sixty small projects have been bid with international and domestic participants. Details are not available at this time, but the feed-in tariff is calculated separately depending on circumstances and reportedly varies from €45/MWh to about €80/MWh. The feed in tariff is set for 20 years with a tender offer.

#### 4.4 Consultation Paper Tariff Calculation

The Consultation Paper by the ERO on feed-in tariffs uses a cost calculation to determine potential tariffs. The setting of direct, clear and universally applicable tariffs has proven to be an effective method of encouraging development of SHPP's in many places. It is also a transparent way for regulatory authorities and purchasing utilities to approach small renewable energy development from the private sector.

Cost of development considerations are certainly an appropriate consideration in arriving at a tariff, as well as the application of incentives to promote development and meet policy objectives. However caution should be taken in using cost calculations directly from survey study costs. The survey study cost estimates were developed for many sites and are only indicative costs that are not necessarily an accurate estimate for any of the sites. No specific detailed plans were developed for the individual sites. No cost data, except as single line cost estimates are available.

Further, recent commodity cost increases and cost instability have significant implications on the costs of SHPP construction, particularly in the cost of steel and fuel used for construction vehicles. The recent interest in developing SHPP and other renewables has also put upward price pressure on equipment for the projects. Potential inaccuracy in cost estimating, even when detailed estimates are constructed can result in inaccurate tariff calculations. As a result, a calculated tariff should only be considered as input to a feed-in decision and not a final item.

If the ERO does want to use the cost approach to SHPP tariff setting, it should consider what the cost/kW of similar projects has been in Europe, particularly Albania and Macedonia in the past year. Costs of individual projects vary widely and are rather difficult to determine during high instability of commodity markets and economic cycles.

The tariffs calculated also indicate a tariff for projects under 2 MW as receiving a tariff about 60% higher than the tariff for SHPP from 5 to 10 MW. While policy considerations may suggest some differential for different sized projects, such a differential is not warranted. The smaller projects do not provide any significant marginal benefit to the system. While some may argue that there are smaller environmental effects, there is no evidence of such an assertion outside of individual project consideration. The environmental acceptability of a project and the requirements of projects to mitigate any effects are separate considerations of the environmental regulation and permitting agencies.

Such a substantial price difference will likely result in artificially small projects, in effect possibly 4 separate developments of 2 MW projects instead of one 8 MW project or projects that should be 3 MW, being developed as 2 MW projects. Such development certainly does not promote economic efficiency.

Careful consideration and justification should be given to differential rates offered to different sized projects. If any differential is offered, it should be based on other policy considerations or costs for delivery at higher or lower voltage. In any case, the differential should be far less than 60% between different classes of SHPP. Such a differential is certainly not justified based on size of project. The head pressure available for a project has a much higher correlation to cost than size.

#### 4.5 Implications for Kosovo Feed In Tariff

This information provides a basis for the further consideration of a feed-in tariff and provides certain parameters for establishing the tariff. There are some points that should be considered specific to KEK, its customers and Kosovo energy supply:

- The monthly timing of energy supply is important and if limits are not set on the amount of energy SHPP provides during the excess energy periods of April-June, the tariff for that period should be very low;
- Avoided production costs are difficult to determine, because of the nature of the few domestic plants. The avoided costs for the lignite plants can be quite low;
- Cost based tariff calculations as provided in the ERO Consultative Report are relevant but only one aspect of feed in tariff consideration.
- Large differentials between different sizes or classes of projects likely will encourage inefficient development of the resource in the form of many small projects in lieu of more efficient larger projects. Tariff differentials between size classes should reflect value to the grid, rather than survey study cost differential.
- A peaking option should be provided to developers to encourage the most useful design for SHPP sites.
- Purchase power costs are relevant to the feed-in tariff but peak daily and seasonal purchases should not be the only determiner as the SHPP power will not necessarily avoid these purchases. These power costs should only be part of the consideration;
- Prices set by neighboring countries are relevant, as they set benchmarks. However the policies, development objectives and resources in Kosovo may warrant a slightly different approach to the feed-in tariff.

The proposed tariff is a realistic framework that we believe can best address issues of KEK and KEK customers as the off-taker. The framework price level is consistent with other prices in Europe and the Balkan region but addresses a problem in Kosovo with run-of-river energy supply when it is least needed.

## 5 Proposed Alternative Framework

A proposed framework is provided for ERO consideration.

### 5.1 Summary Elements of the Framework

- Framework feed in tariff remains as a ceiling price of average of last 3 years purchase power prices or some alternative tariff;
- The ceiling tariff is paid from July through March;
- 50% of the ceiling tariff is paid from April through June;
- If there is competition for sites, a bid competition will solicit discounts from the ceiling;
- The initial feed in tariff ceiling would be about €83/41.5/MWh for the two periods. The result is a melded ceiling of about €72.63/MWh – if energy provided is the same year around. If 50% of annual energy is provided in the April-June quarter, the melded tariff drops to €62.1/MWh.
- The price would be set with no changes for 10 years after the bid concession is granted, presuming 1 year planning/permitting and 1-2 years construction leaving 7-8 years of operation;
- Connection charges to be the responsibility of the concessionaire as per proposed regulations at ERO;
- At the time of PPA signing, the concessionaire would have a peaking option that would provide a 50% premium above the rate for power delivered during the periods of 7-9 AM and 5-10 PM and 60% of the rate for other hours. The concessionaire would have to provide project plans that show peaking is possible.

### 5.2 Advantages of the Framework

- Is likely sufficient to attract bidders
- Encourages bidders to formulate the project to be valuable to KEK customers;
- In line with new power sources and other feed-in tariffs in the region;
- Simple and transparent;
- Addresses the hydrology/spring supply problem in a simple way
- Encourages provision of more valuable peak/seasonal power

Assumptions of the proposed Framework include:

1. KEK shall purchase all electricity produced by renewable sources or cogeneration;
2. Developers of renewable generation shall be responsible for construction of delivery lines and connection costs as per ERO procedures and tariffs;
3. Purchase prices are to be unified and set by ERO;
4. The cost of purchases from SHPP will be included in the Allowed Costs of KEK to be paid for by customers

Critical concerns of KEK include:

1. Avoid, if possible, buying the majority of SHPP power during unneeded times, off peak AND avoid if possible buying in the high flow months in the Balkans, April through June;
2. Avoid paying an incentive or premium rate for power that cannot be used (e.g. during off-peak periods);

3. Encourage development of useful power;
4. Reward peak and useful power.

The following paragraphs provide elaboration of the elements on the framework.

- ***Framework feed in tariff remains as a ceiling price of average of last 3 years purchase power;***

Purchase power is not necessarily the only or best parameter for setting a feed in tariff. Traditional run-of-river SHPP do not necessarily replace purchased power; particularly in months where little water is available. The prices are market driven and subject to many pressures outside of Kosovo and unrelated to SHPP development costs. However, they do provide some indication of what market prices for power are at play. Prices have increased dramatically in the past three years. Power and energy prices are unstable and can change rapidly. The Balkan energy situation is likely to be constrained for some time, likely resulting in continued high energy purchase prices.

Using a three year average for the price will tend to minimize peaks and troughs while observing long term trends. It also results in a tariff that is in line with current European tariffs and Balkan country tariffs, particularly in neighboring Albania and Macedonia. Further, the tariff is proposed as a ceiling tariff, with the market setting the actual rate for a particular project through the MEM concession tendering process. More competitive sites will attract discounts from the ceiling price while less competitive sites may attract full price bids or no bids at all. The market can sort out the best projects and feed them in to the generation mix at an appropriate price for KEK customers.

- ***The ceiling tariff is paid from July through March;***
- ***50% of the ceiling tariff is paid from April through June;***

As noted earlier in this submittal, KEK is highly concerned about the convergence of high water and production from run-of-river SHPP AND, the period of least power needs in Kosovo and the Balkan market. Already, KEK has problems with dispensing of off-peak power in the spring months. If there is no pricing differential, KEK could be forced to buy power at a high price and end up selling or dumping it on the international market in off-peak periods for much less than the purchase price. In addition, the market penalizes providers monetarily when too much power is dumped upon the system, thus making the dumping price even lower.

Ignoring the possible hydrology/over-production problem in SHPP tariff setting will cause KEK to have another source of negative cash flow, in a period where commercialization and privatization is high priority.

Splitting the tariff into wet and dry seasons has not been done in the Balkan region but has been done elsewhere, where hydrology and power demand do not coincide. Each country situation is different. In Albania, there are large storage reservoirs that could frequently be cycled around the production of SHPP. There are some large hydro projects in Macedonia that can operate in a similar manner. However in Kosovo the generation is not readily cycled. The lack of cycling ability by the thermal power points of Kosovo makes system operation already difficult. Dumping SHPP generation on top of the existing units that must run to make peaks in this period make the situation worse.

KEK's recommends paying 50% of the SHPP tariff for the wet season and excess power portion of the year. Such a tariff structure will either force developers to formulate their project to maximize value of the power to the off-taker (KEK) or develop their project to maximize revenues. The 50% of ceiling price tariff during the April-June period reflects operating system realities and market realities. To not address this possible problem in the tariff is to punish the KEK customers with long term highly uneconomic obligations. This problem has nothing to do with having an incentive rate to attract developers.

- ***The initial feed in tariff ceiling would be about €83/41.5/MWh for the two periods. The result is a melded ceiling of about €72.63/MWh – if energy provided is the same year around. If 50% of annual energy is provided in the April-June quarter, the melded tariff drops to €62.1/MWh.***

Most river flow in Kosovo peaks in the April-June period. As such run-of-river SHPPs would provide more power in that quarter than the others. If plants are sized to have substantial output at these flows, instead of considering the other nine months when power is short, much of the output will not be useful. The ceiling rate of €83/MWh may seem somewhat high and is higher than that in the ERO Consultative Report. However, the rate starts to drop substantially when the possible effects of hydrology are considered. It is unlikely that any SHPP will receive a melded rate reflecting equal delivery of energy during each quarter, or €73.63/MWh. It is more likely that SHPP's will have 50% or more power in that quarter, resulting in a rate of about €62.25/MWh. If the delivery is weighted to the spring even worse, the rate will be lower.

Structuring the tariff between wet and dry periods to attract more valuable projects is very important to KEK customers.

- ***The price would be good for 10 years after the bid concession is granted, presuming 1 year planning/permitting and 1-2 years construction leaving 7-8 years of operation;***

For developers to have some certainty for investment there must be some tariff certainty. Thus, we propose that the initial tariff be established for a 10 year period from the time of issuance of the license or concession. By the time any licenses or concessions are issued in early 2009, the full price for purchased power for 2008 will be determined and can be used for the three year average. The concessions should be signed before the end of 2009 and good for 10 years. With the rate expiring after 10 years, the developer has the incentive to complete the plant for operations as soon as possible. It should be clear that the Law on Electricity limits contracts to a five year period. However the contracts can be made renewable after each five year period.

A follow on rate will need to be decided by the ERO for the period following expiration of the fixed rate. Presumably the rate would be less than the incentive rate proposed here. One suggestion would be to have a separate benchmark for ongoing SHPPs set for all plants post-fixed period, based on a set percentage of the then cost of purchased power or another relevant commodity.

- **Connection charges to be to the account of the concessionaire as per proposed regulations at ERO;**

Consistent with ERO proposed interconnection regulations and established norms in most places, the concessionaire will pay for costs of connection lines and interconnection, including metering, relaying and control necessary for the project.

- **At the time of PPA signing, the concessionaire would have a peaking option that would provide a 50% premium on the rate for power delivered during the periods of 7-9 AM and 5-10 PM and 60% of the rate for other hours. The concessionaire would have to provide project plans that show peaking is possible.**

KEK customers will benefit from having power that helps the system operate, rather than power that must be sold or used during over-supply periods. If developers can provide peak power by having some storage for generating flows, they should receive a substantial incentive. We propose an optional peaking rate for PPAs, based on the ceiling rate. Under our proposal, a developer who can supply about 30% more power on peak than under a run-of-river plan would benefit from the incentives. The higher rates will be attractive to KEK customers.

- **Informational Attachment**

The attached chart is from a presentation titled “Small Hydropower Policy Framework in the New EU Member States and Associated Countries.” The paper is by Petras Punys of the Lithuanian Hydropower Association. It was presented in 2007 and has 2007 feed-in tariff levels for comparison. Many of these tariffs were increased for 2008, some significantly. The table is shown for information. It does indicate that the Proposed Framework for Feed-in Tariff for SHPPs for this paper is not out of line, particularly when tariff seasonality is considered. It also shows the variability of tariff from country to country.

#### References:

1. Kosovo Government Policy Decision 05/250 dated 16 May 2007; “Incentive measures for generation of electricity from renewable sources and cogeneration.”
2. Prefeasibility Study for Small Hydro Development by Albanian Association of Energy and Environment for Sustainable Development – 22 May 2006
3. PowerPoint Presentation on Policy Options for Renewable Energy Development – March 2007 ; EPTISA for MEM Support
4. Load information for 2005-07– Developed by KEK, with PA’s assistance.
5. Macedonia Ministry of Economy Web Site – Small Hydro Tender Q&A

## Attachment

The following chart is from a presentation titled "Small Hydropower Policy Framework in the New EU Member States and Associated Countries." The paper is by Petras Punys of the Lithuanian Hydropower Association.

