

Institutional support to the Bulgarian Ministry of Economy and Energy for building up its capacity for managing and developing public-private partnership for energy efficiency

Blueprint for Adoption of Bulgarian - specific Long-Term Agreements for Energy Efficiency in Industry

Activity 4.2

Financed by:

EVD, the Netherlands

ESD Bulgaria Ltd.

Sofia, June 2006

Contents

	<i>Page</i>
Summary	3
List of acronyms and units	4
1. Basic design characteristics of Long-Term Agreements, suitable for Bulgarian conditions (overall conclusions, based on previous project results)	5
1.1 Suggested type and basic characteristics of Long–Term Agreements	6
1.2 Procedure for entering into Long-Term Agreements	7
1.3 Activities of the public authorities, branch organizations and industrial companies	9
2. Main issues and discussion points that need to be looked for the development of Long–Term Agreements	11
3. Plan for future activities	14
3.1 Development of Guidelines for evaluation of the potential for energy efficiency improvements. Industrial branches to be covered by the LTA model	15
3.2 Identification of support instruments for LTA activities	16
3.3 Specifying of an Administrative Body, dedicated to LTA activities	16
4. Conclusion	17
5. References	17

Summary

The purpose of this report is to suggest a Bulgarian – specific model for Long-Term Agreements for energy efficiency in industry, as a way for application of voluntary approach for the achievement of improvements in this area. The need of such Bulgarian – specific model becomes more clear in the light of the preparation of Letters of Intent on behalf of the Ministry of Economy and Energy and of industrial associations and branch organizations.

The Letters of Intent are actually preliminary non-binding agreements, which indicate that it is worthwhile to initiate all further activities leading to the actual Long-Term Agreements – activities, which will be performed both by the national authorities and industrial companies.

In order to clarify the meaning of the Long-Term Agreements and the future steps to be taken, here are described the following issues:

- Suggested type and basic design characteristics of Long-Term Agreements, suitable for Bulgarian conditions;
- Procedure for entering into Long-Term Agreements;
- Activities of all parties, involved in the Agreements.

The basic feature of the proposed type of agreements is that they will be concluded individually with each interested industrial company. A bottom-up decentralized approach is suggested for the identification of targets, based on Evaluations made by the respective companies, in conformity with branch-specific Guidelines.

Three types of targets over a 10-year period are considered, as follows:

- Minimum targets - for effects, resulting from energy management improvements and good housekeeping measures.
- Realistic targets – corresponding to energy efficiency investments, which can be performed by the companies themselves.
- Ambitious targets, implying a certain public support.

The targets in each individual Long-Term Agreement will be subject to negotiations and at least some of them will be conditioned by the provision of various types of public support for the energy efficiency activities.

In the second section of this note are presented are presented a number of points of discussion, concerning the introduction of Long-Term Agreements in Bulgaria.

Finally, a plan for future steps to be taken is outlined.

Our conclusion is that Long-Term Agreements for energy efficiency could become a good example for successful public – private partnership in our country.

List of Acronyms and Units

ktoe	Thousand tonnes of oil equivalent
LTA	Long Term Agreement
LTP	Long Term Plan for energy-efficiency improvement
VA	Voluntary Agreement

1. Basic design characteristics of Long–Term Agreements (LTA), suitable for Bulgarian conditions (overall conclusions, based on previous project results)

Previous project activities concerned:

- An overview of Voluntary Approaches in the EU with focus on Long–Term Agreements on energy efficiency improvement in the Netherlands [ref. 3] and
- Study on contextual issues, concerning energy efficiency in industry in Bulgaria [ref. 4].

Based on the results from these activities, here is suggested a model for the introduction of Bulgarian – specific Long–Term Agreements. For the development of the basic design characteristics of this model were also taken into account the opinions of experts and representatives of industrial branches and industrial companies, expressed in interviews, correspondence and during the Workshop held on 17 May 2006.

The principal objective of this model will be to improve the interaction between public authorities and private industrial companies in the area of energy efficiency.

Energy efficiency improvement is an important objective of Bulgarian energy policy. In the Energy Strategy of Bulgaria, adopted in 2002 [ref. 1], is envisaged a “proactive approach in order to ensure higher efficiency in all processes of energy supply (generation, transmission, distribution and consumption)”. Among the “result oriented proactive measures” are specified the following ones: **promotion of investments in energy efficiency** and **support for demand-side projects** (including through governmental guarantees). In Section 4.1.5 of the Energy Strategy is envisaged the development of **public – private partnership for energy efficiency through Voluntary Agreements**.

The Law on Energy (article 4.1) specifies that the energy policy of our country is implemented by the Minister of Economy and Energy. Consequently, the public authorities in such public – private partnership should be represented by the Ministry of Economy and Energy.

Based on this overall framework and in accordance with the specific Bulgarian conditions, here is made a suggestion concerning the formulation and functioning of Long-Term Agreements in Bulgaria.

1.1 Suggested type and basic characteristics of Long-Term Agreements

The various types of Long-Term Agreements are described in Section 2 of [ref. 3]. Having in mind the specific Bulgarian conditions, the agreements suggested here are of the following type:

- **Agreements negotiated between industry and public authorities**, rather than unilateral commitments made by industry.

The reason for this is because negotiated agreements would improve the interaction between private companies and public authorities in the area of energy efficiency, which is highly needed from the point of view of the Bulgarian context.

- **Single agreements**, rather than an Agreement Scheme.

Such choice is made because of the differing conditions in individual industrial plants, both from the point of view of energy efficiency level and investment capabilities of the respective companies. In these conditions, an individual and site-specific approach to the various industrial companies seems to be more suitable.

Concerning the additional characteristics, as described in Section 2.2.3 of [ref. 3], it is suggested that the Agreements should be as follows:

- **Both product and process oriented**;
- **Implementation based**, rather than target based;
- **Binding**, rather than non-binding;
- **With individual**, rather than collective liability;
- **With open access to third parties**;

The indicator for evaluation of the energy efficiency improvements is suggested to be defined in a similar way to the Dutch energy efficiency index, as follows:

The non-renewable final energy consumption in the year in question to produce the total physical output in that year, divided by the energy consumption that would have resulted had the same physical output been made with the energy efficiency in the year of reference (2005).

Although this index is similar to the one applied in the Netherlands, there are also some differences. The reasons for introducing them are as follows:

- This suggested index is related only to non-renewable energy consumption, because in such way will be encouraged the use of renewable energy sources (e.g., biomass) in industry. It should be noted that renewable energy resources have the advantages to involve a better environmental impact and to be local resources.
- The index concerns final energy consumption, because in Bulgarian conditions electricity is comparable to most primary energy carriers in respect both to emission

factors and costs. It should also be noted, that an important percentage of the power generation in our country is based on local resources.

The above defined index is suggested to be used for evaluation of achieved energy efficiency improvements in the framework of Long-Term Agreements. However, in order to facilitate international comparisons, it is suggested that the procedure should include also data collection and calculation of an energy efficiency index, defined exactly as the one in the Netherlands:

The primary energy consumption in the year in question to produce the total physical output in that year, divided by the energy consumption that would have resulted had the same physical output been made with the energy efficiency in the year of reference (2005).

1.2 Procedure for entering into Long–Term Agreements

- 1) The preparatory activities for entering into agreements start with the **Letters of Intent**.
- 2) The public authorities will prepare **Guidelines for evaluation of the energy efficiency improvement potential of individual plants**.

These Guidelines should be specific for various industrial branches e.g., ferrous metallurgy, non-ferrous metallurgy, fertilizer plants, chemical industry, cement plants, glass plants, ceramic plants, pulp and paper plants and for all other branches, interested in Long-Term Agreements. The reason to make specific Guidelines for the different industrial branches is because they should take into account not only the typical energy equipment (boilers, burners, steam and condensate systems, compressed air systems, electrical systems, etc.), but also specific processes and technologies of the various branches. The Guidelines should be based on good knowledge of best practices in the world and of technologies that are currently widely used in Bulgaria.

The issues that will be clarified in the Guidelines are:

- *Minimum requirements concerning the metering, recording, processing and reporting of energy consumption related information.*
- *Minimum requirements concerning energy management systems and good housekeeping measures.*
- *Identification of equipment items and processes that need special attention for analysis of potential energy efficiency improvements.*
- *Description of best practice examples for the respective technologies and listing of specific types of improvements that are applicable also in Bulgarian conditions.*
- *Information about equipment producers and costs.*
- *Suggested structure of the Evaluations of potential for energy efficiency improvements.*

Most probably, both energy efficiency experts and engineers with experience in branch specific technologies will be needed for the development of these Guidelines.

- 3) In accordance with the Guidelines, industrial companies, interested to have Long – Term Agreements, will develop **Evaluations of their potential for energy efficiency improvements**. The companies will have the liberty to develop these Evaluations with their internal experts or with the participation of external consultants. Energy audit results could also be used for making such Evaluations.

The Evaluations will identify 3 types of potential for energy efficiency improvements during a 10 – year period:

- *Energy management potential – that could be achieved through low cost energy management and good housekeeping measures;*
- *Realistic potential – corresponding to investment that could be provided by the company itself, without external support;*
- *Ambitious potential – that could be achieved in case the respective company obtains soft loans, subsidies or other types of incentives from the national authorities.*

4) **Long-Term Agreement (LTA) negotiation stage.**

The negotiation stage will start with conclusion of Memorandums of Understanding, comporting certain commitments from the public authorities and the industrial companies (e.g., confidentiality and access rules for company information, serious interest from the part of the companies to enter into Long-Term Agreements, etc.).

The public authorities will announce a set of rules and criteria concerning the incentives for energy efficiency measures that they will be ready to provide. In such way will be observed the principle of equal opportunities for the industrial companies, participating in the negotiations.

During this stage companies will negotiate with the public authorities commitments concerning the energy management potential, the realistic potential and some measures for achieving the ambitious potential, conditioned by provision from the public authorities of tangible incentives (including promotion activities, acknowledgement of improvement of environmental impact, inclusion in various projects and programmes, soft loan guarantees, subsidies, commitments concerning sustainability of the legal framework, etc.).

On the other hand, the public authorities should be able to provide during the negotiations at least some realistic prospects for financial incentives, in observing the principle for equal opportunities of the various companies.

As a result of the negotiations, a Long – Term Plan for energy efficiency improvement (LTP) of the specific company will be prepared. In this plan will be specified energy efficiency targets. The time schedule of this plan will allow certain flexibility in the implementations of the various measures and in achieving the targets.

Cumulative targets for entire industrial branches and for the industrial sector as a whole will be based on summarizing of the individual company targets, following a decentralized down-up planning approach.

5) Implementation and monitoring stage.

The implementation and monitoring stage will comport annual reporting of energy efficiency information from the part of the companies, according to a reporting scheme, specified by the public authorities. The reporting scheme will make possible the calculation of both above specified energy efficiency indexes. Confidentiality rules will be observed concerning company information. Publicly available will be only information concerning entire branches and industrial sectors. Monitoring activities in randomly selected companies will be performed by the public authorities, for confirming the reported results.

The public authorities will specify an Administrative Body, specifically dedicated to carry out activities concerning the preparation, negotiation, conclusion and implementation of Long-Term Agreements. The activities of this Administrative Body will be observed by a Steering Committee of representatives of branch organizations and possibly also of individual companies. The Steering Committee could issue remarks and recommendations, concerning the activities of the administrative body.

The Long-Term Agreements will have binding force both for the public authorities and for the industrial companies. In case of non-fulfilment of obligations by either contracting party, the other party will have the right to terminate the agreement. Actually, this will be the sanction in case of non-fulfilment of obligations.

1.3 Activities of the public authorities, branch organizations and industrial companies

A) Public authorities

The commitments of the public authorities (i.e., the Ministry of Economy and Energy) will include:

- To specify an Administrative Body, specifically dedicated to perform all activities on behalf of the public authorities, concerning the preparation, negotiation, conclusion, implementation and monitoring of Long-Term Agreements
- To provide specialized technical and financial information, concerning energy efficiency, to all industrial branches and companies that have signed Letters of Intent.
- To organize the development of branch specific Guidelines for evaluation of the potential for energy efficiency improvements.
- To publicly announce a set of rules and criteria for providing of incentives.
- To conduct negotiations for Long-Term Agreements with individual companies.
- To organize the fulfilment of all commitments and obligations of the public authorities,

specified in the Long-Term Agreements.

- To provide public non-confidential information about the results and achievements of the Long-Term Agreements.

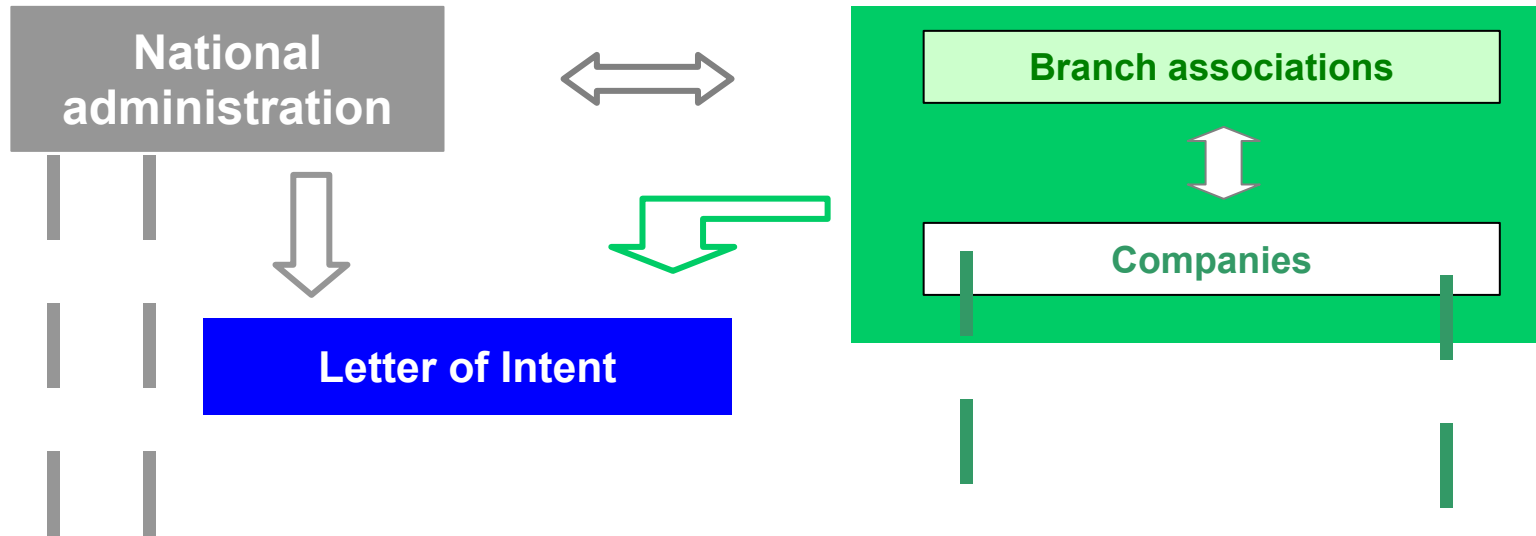
B) Industrial companies

- To organize evaluation of their individual potential for energy efficiency improvements, conforming to the branch – specific Guidelines (the companies will have the liberty to use for these evaluations teams of their internal experts and/or external consultants, or possibly results from energy audits).
- To enter into negotiations with the Administrative Body for conclusion of a Long-Term Agreement.
- To fulfil their obligations under the Long-Term Agreement concerning improvement of their energy management systems, good-housekeeping measures and investment in energy efficiency.
- To provide annual reports to the Administrative Body, concerning the energy efficiency indicators of the company, following a specified reporting form. The administrative body will observe confidentiality rules for these reports.
- To provide to the Administrative Body access for checking of the reported information (this will be performed for a small percentage of the reports, on random selection basis).

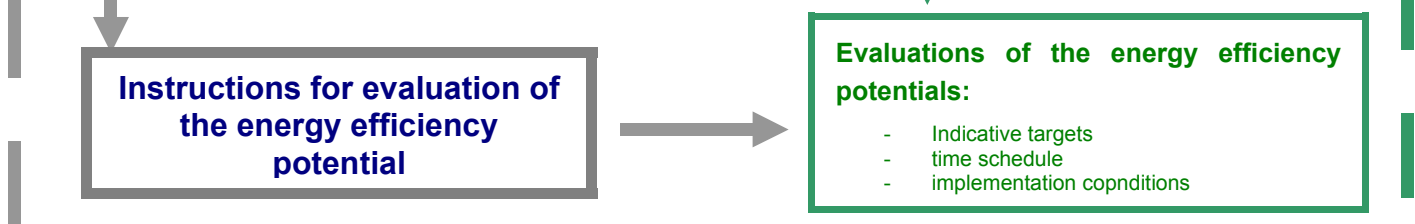
C) Industrial associations and branch organizations

- To represent their members in the initial stages of the process (e.g., the conclusion of Letters of Intent).
- To support through their expertise and advice the development of branch specific Guidelines for evaluation of potential for energy efficiency improvements.
- To facilitate the transfer of information and dialogue between the public authorities and the industrial companies, participating in these organizations.
- To represent their members in the Steering Committee, observing the activities of the Administrative Body for the Long-Term Agreements.
- To participate in the promotion activities for the results and achievements of the Long-Term Agreements.

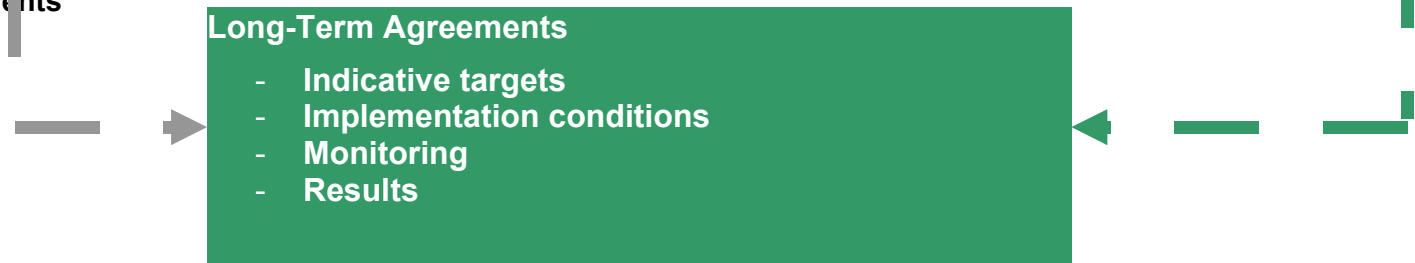
Start of partnership



Preparatory activities for Long-Term Agreements



Long - Term Agreements



2 Main issues and discussion points that need to be looked for the development of Long - Term Agreements

As this was already pointed out above, the basic objective of the Long-Term Agreements will be to improve the interaction between industrial companies and public authorities.

There is a widespread opinion among the industrial community (which was expressed also in the feedback for this project) that only tangible and specific commitments from the part of the public authorities could interest industrial companies to participate in Long-Term Agreements. What is needed is a balance between requirements and input from the part of the public authorities and such balance could be achieved through a Long – Term Agreement procedure.

Consequently, the first important discussion point is:

➤ **What should be the scope of commitments that the public authorities should be able to take?**

There are several types of input that could be provided by the public authorities:

- Elaboration of guidelines;
- Dissemination of technical and financial information;
- Promotion activities;
- Commitments for sustainability of the legal framework, concerning energy efficiency and environmental protection issues;
- Financial incentives.

The difficult point in all this input is the last one – the financial incentives.

Of course, energy efficiency improvements are of public interest, even when they are performed in a private enterprise. This is due both to financial and environmental protection reasons. Public support for energy efficiency improvements in several cases could have at least equal importance with the support for construction of new capacities for energy generation and distribution. Yet, when energy efficiency improvements are being planned in a national scale, there is always an element of uncertainty and risk, which tends to be greater in comparison with the one, corresponding to the planning of new capacities.

From this point of view, the down-up approach for decentralized planning of energy efficiency improvements could provide a greater degree of confidence in achievement of a cumulative target.

Yet, in order to be able to conduct successful negotiations with the industrial companies, the proposed Administrative Body should have the capacity to provide all the above public input components, including the financial ones. Consequently, mechanisms for providing of

financial incentives, similar to the ones existing in other European countries and in observing the principle of equal opportunities should be introduced.

Another discussion point is:

➤ **Why are needed the suggested Guidelines for branch specific evaluations of the energy efficiency potential?**

Good expertise and experience in improving of specific technologies for achieving higher energy efficiency exist in our country. However, it would be beneficial to combine good knowledge of local conditions with respect to the existing technology and updated information about the best practices in the world and from this point of view to analyse the possibilities for specific improvements. Also, the Guidelines will set the minimum requirements for energy management and good housekeeping measures. Consequently, besides being an important element in the proposed procedure, the Guidelines will contribute for the dissemination of specific expertise.

➤ **Who should provide the monitoring of the Long-Term Agreement results?**

In the Netherlands, the monitoring is provided by SenterNovem, which has the statute of an independent organization.

What is suggested here is performance of the monitoring by the already mentioned Administrative Body (existing one or newly created) in the framework of the Ministry of Economy and Energy. The activities of this body will be observed and recommendations will be provided by a Steering Committee, consisting of representatives of branch organizations and (possibly) individual companies. The reason for suggesting such an option is because such Administrative Body could have more influence on financial incentives, rather than an independent organization. Yet, the creation of a specific independent organization is also a possibility. There are such precedents in Bulgarian practice – e.g., such is the statute of the State Energy and Water Regulation Commission.

➤ **Who should prepare the Evaluations of potential for energy efficiency improvements?**

In our opinion, the industrial companies (most of them privately owned) should have the liberty to select the respective teams that should prepare the Evaluations. These teams could include internal experts, or external consultants, or maybe be mixed ones. If the companies prefer so, they could use also the results of energy audits. The only requirement concerning the Evaluations will be that they should conform to the Guidelines.

➤ **Who should provide the monitoring of the Long-Term Agreements?**

In the Netherlands, the monitoring is provided by SenterNovem, which has the statute of an independent organization.

What is suggested here is an Administrative Body (existing one or newly created) in the framework of the Ministry of Economy and Energy. The activities of this Body will be observed and recommendations will be provided by a Steering Committee, consisting of representatives of branch organizations and (possibly) individual companies. The reason for suggesting this option is because such Administrative Body could have more influence on

financial incentives, rather than an independent organization. Yet, the creation of a specific independent organization is also a possibility. There are such precedents in Bulgarian practice – e.g., such is the statute of the State Energy and Water Regulation Commission.

➤ **Should there be specific projects, programmes and support funds for companies, having concluded Letters of Intent and Long-Term Agreements?**

Yes, this is an important element of the suggested LTA model, for 2 reasons:

- Financing schemes are needed to convince industrial companies that the national authorities have serious intentions to develop LTA activities.
- Financial support will be needed for achieving ambitious targets for energy efficiency.

Of course, the financial incentives should be based on pre-defined criteria and rules, in observing the principle for equal opportunities for all participating companies.

The following types of financial support should be considered:

- Subsidies for energy efficiency studies, organized by industrial companies;
- Energy efficiency investment tax reductions (e.g., re-invested profit from energy efficiency activities could be liberated from corporate tax payments);
- Loan guarantees and soft loan schemes;
- Financial support for research, demonstration and dissemination projects;
- Advice and support for applying to sources of international financing.

3. Plan for future activities

After the initial manifestation of interest on behalf of the national authorities and industrial companies, expressed with the conclusion of Letters of Interest, the following steps to be taken are:

- Development of branch-specific Guidelines for evaluation of potential of energy efficiency improvements.
- Identification of support instruments for LTA activities, development of pre-defined rules and criteria for applying, co-ordination and approval of the support mechanisms by the Ministry of Economy and Energy, the Ministry of Finances and all other relevant institutions.
- Specifying of an Administrative body, dedicated to LTA activities. This could be either an existing or a new organization or department in the framework of the Ministry of Economy and Energy.

These are the first 3 steps, which are needed for continuing of the LTA process in our country. Following activities will include:

- Starting LTA negotiations between the Administrative Body and as much as possible of the large industrial energy consumers.
- Development by the interested companies of Evaluations of their specific potential for energy efficiency improvement.
- Conclusion of LTA.
- LTA support activities, reporting and monitoring.

Follows a brief description of the first 3 steps.

3.1 Development of Guidelines for evaluation of the potential for energy efficiency improvements. Industrial branches to be covered by the LTA model

One of the principal goals of LTA activities will be to cover as much as possible of the industrial energy consumption. As this is mentioned in [ref. 4], according to data received from the Energy Efficiency Agency, in Bulgaria the large energy consumers (more than 3 000 MWh annually) are 352 sites, belonging to 330 companies. Their overall consumption amounted in 2004 to about 2 700 ktoe, which is about 80% of the final energy consumption of the industrial sector.

In order to cover as much as possible from these large energy consumers, Guidelines should be developed for the following branches:

- Metallurgy (ferrous and non-ferrous)
- Chemical industry (with specific attention to oil refining, fertiliser plants, production of synthetic yarn)
- Production of building materials (with special attention to cement industry and brick factories)
- Glass industry
- Pulp and Paper industry
- Wood processing industry
- Food processing industry (with specific attention to milk processing, meat processing and breweries)
- Textile industry

Of course, the LTA procedure could be initiated also by each interested company, even if it is not part of one of the above branches.

The Guidelines should be prepared by specially created teams, combining expertise in energy efficiency and in the specific technology, both from the point of view of Bulgarian conditions and of the existing best practice in the world.

The following topics should be covered into the Guidelines:

- Rules how to calculate the energy efficiency indicators;
- Minimum requirements for metering, reporting and analysis of energy consumption related values;

- Minimum energy management requirements;
- Basic guidelines for planning and performance of energy audit activities.
- Advices how to evaluate historic and current energy efficiency characteristics of typical equipment items and processes.
- Information about specific energy consumption values – Bulgarian and EU averages, best practice values.
- Information about best practice examples.
- Analysis of future development trends.
- Catalogue information about energy efficient equipment items, their producers and approximate costs.

3.2 Identification of support instruments for LTA activities.

In this task should be included:

- Overview of currently used energy efficiency support instruments in EU countries: subsidies, tax relieves, energy consumption taxes, white certificates, etc.
- Identification of optimum support levels and corresponding expenses for the budget or for end consumers
- Consultations between the Ministry of Economy and Energy, the Ministry of Finances and other relevant institutions concerning the introduction of energy efficiency support measures.
- Public announcement of plans to introduce energy efficiency support measures and initiating of the relevant legislative and administrative activities.

3.3 Specifying of an Administrative Body, dedicated to LTA activities

For the selection of (or creation of a new) Administrative Body, first should be clarified its statute and tasks. What is suggested here is that the Administrative Body should be in the framework of the Ministry of Economy and Energy. The tasks of this Body should cover all activities, involved in LTA negotiations, LTA support activities, analysis and monitoring of LTA reports. The industrial companies will have a say in respect to the activities of the Administrative Body through a Steering Committee, which will observe and provide recommendations to the Administrative Body.

The creation of the Administrative Body will involve:

- Specifying of its powers and responsibilities;

- Identification of the number of staff needed (it is interesting to note that the similar office in the Netherlands has a staff number of about 20 persons and covers LTA activities in about 1000 companies);
- Detailed specifications of staff competencies and skills;
- Staff training and studying of the experience of similar institutions;
- Organizing of information collection procedures and of a data base;
- Obtaining (or development) of specific software tools for the operational activities of the Administrative Body;
- Defining of the sources of financing (budgetary and possibly also other ones) for the Administrative Body.

4. Conclusion

As this becomes clear from this text, the introduction of Bulgarian – specific Long-Term Agreements is an ambitious task that will involve considerable amount of preparatory work and efforts.

But from another point of view, LTA activities will have several types of positive results, such as accelerated improvement of energy efficiency, environmental benefits and setting of an example for successful public – private partnership in our country.

5. References

- 1) Energy Strategy of the Republic of Bulgaria, adopted with Governmental Decision No. 279 from 11 May 2002 and approved by the Parliament on 17 July 2002, published in Darzhaven Vestnik (the Bulgarian Official Gazette, issue 71 from 2002).
- 2) Law on Energy – published in Darzhaven Vestnik (the Bulgarian Official Gazette), issue No. 107 from 2003, with modifications in issue No. 18 from 2004 and issue No. 18 from 2005).
- 3) Eric ter Avest, Overview of Voluntary Approaches in the European Union with focus on Long – Term Agreements on energy efficiency improvement in the Netherlands, Senter Novem, May 2006, <http://lta.esdb.bg>
- 4) Study on contextual issues, concerning energy efficiency in industry in Bulgaria, ESD Bulgaria Ltd., May 2006, <http://lta.esdb.bg>