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## **CHARTERED EXPERTS IN BEST AVAILABLE TECHNIQUES IN RUSSIA: KEY PRINCIPLES AND FIRST PRACTICES**

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### **ABSTRACT**

New Russian Integrated Pollution Prevention and Control (IPPC) legislation has come into force at the beginning of 2018. In 2015-2017, 51 Information and Technical Reference Books on Best Available Techniques (BREFs) had been developed and officially approved. About 6,500 installations of various sectors had been registered as IPPC (or Category I) installations. In 2019-2025, all of them will be obliged to demonstrate compliance with requirements of Best Available Techniques (BATs) set by respective sector BREFs and to obtain Integrated Environmental Permits (IEPs).

To provide for the professional and unbiased assessment of IEP applications and render support of the national environmental authorities, it is suggested forming a special body managed by the Russian BAT Bureau, namely the Society of BAT Experts. Chartered BAT experts will represent knowledgeable, experienced, competent and committed BAT professionals. Leading teams and departments, advising governments and working as hands on practitioners, they will use their specialist knowledge and broader technological, technical and environmental engineering understanding to apply sustainable thinking throughout their daily working life. But most importantly, members of this Society will be called to assess IEP applications of Category I industries in sectors where they are most experienced and can provide their professional advice.

The core of the BAT Expert Society has already begun working: 51 BREFs developed just for 3 years had been prepared by knowledgeable, experienced and committed sector and multidisciplinary experts who demonstrated their ability to run comparative assessments of the environmental performance and resource efficiency of Russian industries, select candidate BATs and reach agreement with stakeholders on sector BATs and BAT-AELs. This, high level of skill and experience, independence and discipline of BAT experts have already been proven.

**Keywords:** Best Available Techniques, Integrated Environmental Permits, conformity assessment, environmental performance enhancement programmes, Society of BAT Experts.

## **INTRODUCTION**

The Federal Law ‘On introducing changes in the Federal Law ‘On Environmental Protection’ and other legislative acts of the Russian Federation’ (so called ‘BAT Law’) passed back in 2014 [1], is the main RF instrument regulating pollutant emissions from industrial installations. The BAT Law aims to achieve a high level of protection of human health and the environment taken as a whole by reducing harmful industrial emissions, in particular through the application of Best Available Techniques. Around 6,500 industrial installations will be required to operate in accordance with Integrated Environmental Permits granted by the environmental authorities. These permits should contain conditions set in accordance with the principles of the BAT Law [1].

Requirements to the IEPs and to the permitting procedure have been developed and tested since 2015, and the necessary legislative acts and Orders of the Ministry for Natural Resources and Environment will be passed later in 2018. Public discussions and environmental role games conducted in 2016-2017 proved that the key challenge of the permitting procedure is the issue of the expert assessment of IEP applications.

This article discusses key principles of the Society of BAT Experts and lessons learnt from the development of BREFs and the assessment of pilot IEP applications of leading Russian industries.

## **NEEDS FOR FORMING A SOCIETY OF EXPERTS IN BEST AVAILABLE TECHNIQUES**

Discussing and testing the draft Guidelines on IEPs, Russian stakeholders emphasised, that applications contain much information on the conformity of technological processes and environmental techniques with sector BATs [2]. Moreover, IEP conditions are set on the basis of sector BAT-AELs, and operators have to provide the necessary reasoning on achieving emission levels by means of BATs and – when necessary – undertaking additional measures. This technical information needs to be thoroughly considered, and to do that one should have a strong technical background.

It is assumed that IEPs will be granted by the regional units of the Federal Supervisory Natural Resources Management Service (or Rosprirodnadzor) acting under the authority of the Ministry of Natural Resources and Environment.

In various regions of the Russian Federation, the number of IPPC installations varies a lot, and the sectoral pattern can be rather complicated. At the beginning, the environmental reform will address 300 installations emitting around 60 % of pollutants to air, water and land; they will be obliged to obtain the IEPs in 2019-2022. These installations belong to such sectors as the exploration of oil and natural gas, ore mining, pulp and paper manufacturing, production of fertilizers, energy generation, municipal wastewater treatment, etc. (see Fig. 1). It is planned that these 300 pilot installations will be granted IEPs at the federal level, namely by the Central Office of Rosprirodnadzor.

The permit conditions including emission limit values must be based on the sector BATs and BAT-AELs, set by the BREFs. Russian environmental authorities are experienced in single-medium permitting, which is not so that dependent on technological issues. But employees of Rosprirodnadzor do not necessarily have the technological background necessary to evaluate BAT-related information presented by the operators. The core of the IEP application is the comparative analysis of the environmental performance of the installation concerned with BAT-AELs. Each

position has to be substantiated by explaining which solutions are used to achieve particular BAT-AELs. It is reasonable to suggest then, that to assess this reasoning, sector BAT experts have to be included in IEP Commissions organised and led by Rosprirodnadzor.

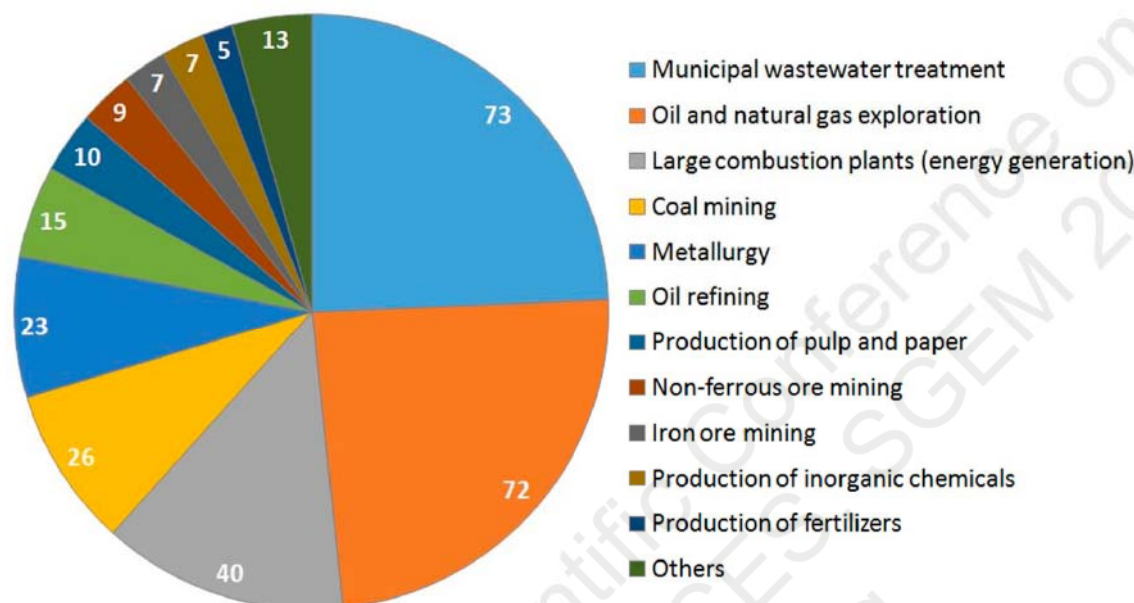


Fig. 1. Distribution of 300 'key polluters' by sectors

Considering the sectoral pattern of the Russian IPPC installations, one can realise that at the first instance, municipal wastewater treatment experts, energy generation, oil, gas exploration, coal and ore exploration experts as well as specialists in ferrous and non-ferrous metallurgy are needed to render support to Rosprirodnadzor.

It is likely that operators will not rush to Rosprirodnadzor immediately at the beginning of 2019; one can expect that annually, up to 20-30 IEP applications could be submitted in major sectors. The more complicated technological processes and the installations are, the more time and effort demanding work is to be fulfilled by the experts. Thus, in 2019-2022, Russia should need around 100 BAT experts ready to assess IEPs and issue conclusions on the conformity of the installations with sector BATs and BAT-AELs.

Later on, in 2023-2025, the number of installations will amount at least 6,500, and the number of experts needs to be increased significantly. In addition, IEPs will be granted at the regional level, and regional units of Rosprirodnadzor will start forming IEP Commissions in nearly 80 subjects (regions) of the Russian Federation. On the other hand, BAT experts will have gained additional skills by 2023, and less time will likely be needed to consider a typical application.

#### **FUNCTIONS OF THE SOCIETY OF BAT EXPERTS**

The BREFs, BAT Conclusions and BAT-AELs established for IPPC installations form the framework for setting conditions of IEPs. It is the case both in the European Union [3] and in Russia [1]. Thus, the first function of the Society of BAT Experts is described in the previous section: BAT experts are called to consider applications for the Integrated Environmental Permits, and in particular the conformance of Category I installations with BAT requirements.

In Russia, if a Category I (IPPC) installation cannot immediately meet all applicable BAT-AEL requirements, it is obliged to develop and gradually implement an Environmental Performance Enhancement Programme (EPEP). In principle, it is a kind of an Environmental Management Programme typical of all organisations registered against requirements of the relevant international and national standards. For example, ISO 14001:2015 standard states, “The organisation shall establish environmental objectives..., taking into account the organisation’s significant environmental aspects and associated compliance obligations, and considering its risks and opportunities”, and, a little later, “The organisation shall monitor, measure, analyse and evaluate its environmental performance. The organisation shall determine... the criteria against which the organisation will evaluate its environmental performance, and appropriate indicators” [4]. It is evident and important, that EPEP should have a clear set of criteria – BAT-AELs necessary to achieve in accordance with the BAT Law.

EPEP forms an integral part of the IEP application and has to be approved by the special Inter-Departmental Commission [5]. This Inter-Departmental Commission is a new collegiate body, co-ordinating activities of the federal and regional executive powers concerned about the implementation of the Environmental Performance Enhancement Programmes. These executive powers include Ministries for Industry and Trade, for Energy, for Construction and Municipal Services, for Natural Resources and Environment of the Russian Federation as well as numerous departments acting at the regional level and being responsible for the regional economic development and environmental safety.

It is difficult to assess which proportion of 6,500 Category I installations will be obliged to develop and implement EPEPs to achieve BAT-AEL requirements, but the first evaluation of 300 pilot installations suggests that 40-50 % them urgently need to draw Environmental Performance Enhancement Programmes. The proactive companies have already begun working on EPES and plan completing them before applying for the Integrated Environmental Permits.

The Inter-Departmental Commission co-ordinating activities of the executive powers while considering EPEP also needs the professional support of BAT experts, and it is logical to suggest that BAT experts addressed in the previous sections of the article should be involved in the assessment of Environmental Performance Enhancement Programmes. In the best case, for one installation, the same expert(s) should consider both the EPEP and the complete application for the IEP. This would provide for the deeper analysis and allow minimising time needed to run the permitting procedure [6].

Finally, the Society of BAT Experts could serve one more function providing the necessary expertise to the Industrial Development Foundation.

In Russia, economic instruments applied to support operators, include opportunities for getting loans on favourable terms (needed for instance to undertake primary and/or secondary measures to achieve BAT-AELs) and setting higher equipment depreciation rates. The Industrial Development Foundation (designed by and at the Ministry for Industry and Trade) offers favourable conditions for co-financing projects aimed at the revamping of Russian industries and development of new competitive enterprises implementing Best Available Techniques (<http://idfrf.org/>).

So far, the Expert Council of the Industrial Development Foundation runs the assessment of project proposals itself, but since 2016 the number of requests to provide

an assistance and to help evaluating BAT based project proposals has been growing gradually. Up to now, it is the Russian Bureau of Best Available Techniques who on *Ad Hoc* basis finds experts and helps the Expert Council making well-substantiated decisions. It would be reasonable to regularise relations between the two bodies and to use the same Society of BAT Experts as the official source of professionals called to assess BAT-related project proposals submitted to the Industrial Development Foundation. Here we come to the third (and not necessarily the last) function of the Society (see Fig 2).

In principle, one can think of other functions, namely of the drawing up new and/or reviewing existing BREFs and national standards on Best Available Techniques, improving BAT methodology, etc. [7], [8]. These functions have already been performed by experts who have been involved in the development of BAT-related documents in the Russian Federation since 2003-2008 (see for example [9], [10], [11]). Thus, the Society of BAT has been gradually formed, and key experts have been involved in implementing pilot projects, drafting BREFs, legislative acts, running BAT-related role games, etc. promoting the BAT concept and supporting the public dialogue in this field [12].

### KEY PRINCIPLES FOR FORMING THE SOCIETY OF BAT EXPERTS

Chartered building and civil engineers, architectural technologists, environmentalists, etc. are professional qualifications awarded by the respective professional bodies. Such qualifications are known in many countries (some of them act internationally) but first of all – in the United Kingdom. Normally, professional bodies (associations, societies) support their members who wish to qualify as a chartered professional. For example, the Institution of Chartered Engineers published professional review guidance materials to support the Institution members, associate members and fellows, who seek for the qualification of the chartered environmentalists [13]. To apply for Chartered Environmentalist registration, a candidate must:

- be a Member, or Fellow of the Institution of Chartered Engineers;
- have a relevant master's-level degree or equivalent level of knowledge;
- be able to demonstrate the competencies;
- be able to demonstrate underpinning environmental knowledge and an ability to apply it in practice.

The competencies required to become a Chartered Environmentalist are set out in the Chartered Environmentalist attributes (<http://socenv.org.uk/page/cenv>).

Many attributes are of interest for forming the Society of BAT experts and being a bit re-formulated are listed below:

- have underpinning knowledge of principles and practice of Best Available Techniques (in a particular sector);
- apply their knowledge in pursuit of BAT implementation, pollution prevention and control;
- analyse and evaluate problems from an environmental perspective, develop practical solutions;

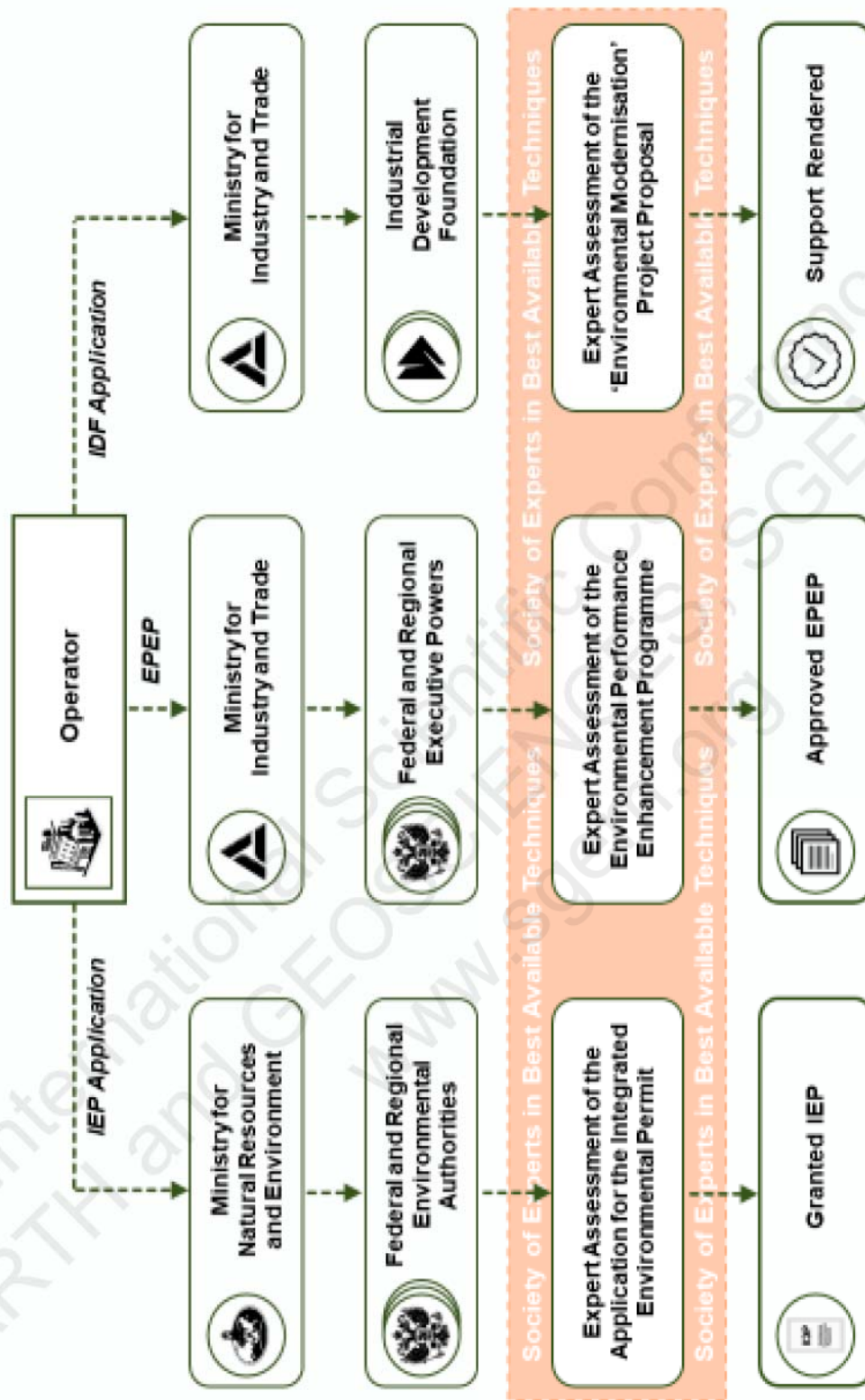


Fig. 2. Functions of the Society of Experts in Best Available Techniques

Fig. 2. Functions of the Society of Experts in Best Available Techniques



- influence others to promote behavioural and cultural change to secure environmental improvement within and beyond legislative compliance;
- demonstrate leadership and management skills;
- communicate the environmental case, confidently, clearly, autonomously and competently;
- take responsibility for personal development and work towards the implementation, promotion and further improvement of BATs;
- comply with relevant codes of conduct and practice.

These attributes are characteristic of many BAT experts who have been working with the Russian BAT Bureau and drawing up Reference Books and standards since 2014. They have already formed (though informally) the core of the Society of Chartered Experts, which, according to the expected changes in the environmental legislation [14], has to be co-ordinated by the Russian BAT Bureau. Chartership as BAT expert reflects the broad impact of the practice, recognising high levels of skill and experience; it establishes proven knowledge, experience and commitment to professional standards, and enhances career prospects. It is necessary to emphasise that acting as experts while assessing IEP applications, EPEPs and environmental modernisation project proposals, members of the Society will be paid quite ‘symbolic’ sums of money [15]. The competence and the reputation form the capital of BAT experts, who will continue working at their engineering institutions and universities, consulting companies, etc. while providing BAT expertise when called to the special commissions.

## CONCLUSION

The Society of Chartered Experts in Best Available Techniques has been gradually formed in Russia to provide for the professional and unbiased assessment of BAT-related applications, proposals and programmes. Three main functions performed by the BAT experts will include (1) the assessment of the applications for the Integrated Environmental Permits, (2) the analysis of the draft Environmental Performance Enhancement Programmes, and (3) the assessment of the environmental modernisation project proposals.

It is assumed, that similarly to other chartered societies, the Society of BAT experts will be formed based on the assessment of applications of professionals interested to be awarded the chartership; it is suggested also that the applicants need to be nominated (supported) by such professional bodies as the Russian Chemical Society and the Russian Engineering Society, as well as industrial associations, associations of technical universities, etc.

The core of the Society of Chartered BAT experts has already been formed: 51 BREFs developed for 3 years had been prepared by knowledgeable, experienced and committed sector and multidisciplinary expert, who demonstrated their ability to run comparative assessments of the environmental performance and resource efficiency of Russian industries, select candidate BATs and reach agreement with stakeholders on sector Best Available Techniques and BAT-AELs. Many experts have been working in the field of BAT since the late 90s, initiating pilot projects, running sector environmental performance and resource efficiency benchmarking procedures and developing draft legislative acts. This, high level of skill and experience, independence and discipline of BAT experts have already been proven.

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