



# **Practical Aspects of BAT implementation in Belarus**



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# Republic of Belarus Law “On atmospheric air protection” dated as of 16.12.2008 (December, 2008)

The best available techniques means technological processes, methods, ways the production of products and energy and performance of work (provision of services) are organized to ensure a reduction and (or) prevention of emissions of pollutants into the air compared to the ones currently used and which are most effective to ensure the quality of atmospheric air subject to economic feasibility and technical feasibility of their use.

According to Article 11, the programs in the field of air protection should contain measures to reduce and (or) prevent emissions of pollutants into the air, introduce **best available techniques**, use methods of construction and commissioning of facilities that reduce emissions of pollutants into the air.

According to clause 3.2 of Article 23 - “Requirements in the field of air protection in the design of objects of economic and other activities related to emissions of pollutants into the air during the design phase of the objects of economic and other activities related to emissions of pollutants”, the project documentation should include the design solutions based on the **best available techniques**, as well as design solutions for equipping the stationary sources of emissions with gas-purifying installations and other solutions enabling to reduce and (or) prevent the emission of pollutants, as well as ensure compliance with the air quality standards.

According to clause 1 of Article 27 the controlled stationary sources of emissions shall be equipped with gas purifying cleaning installations whenever is impossible to ensure compliance with standards for permissible emissions of pollutants into the air and (or) technological standards for emissions of pollutants into the atmosphere with regards to the application of the **best available techniques**.

According to clause 1.3 of Article 38, the legal entities are obliged to develop an inventory of emissions of pollutants into the atmospheric air, during which the compliance of technological processes and methods of production of goods and energy, as well as performance of works (services) with the **best available techniques** are to be validated and documented.



# Republic of Belarus Law on “Environment Protection” dated as of 26.11.1992 (May, 2010)

The best available techniques means technological processes, methods, order of organizing the production of products and energy, performance of work or the provision of services, the design, construction and operation of facilities and equipment that reduce and (or) prevent the flow of pollutants into the environment, production waste compared with those used and which are most effective for ensuring environmental quality standards, standards for permissible impact on the environment, provided the economic feasibility and technical possibilities of their application exist;

Whenever it is impossible to comply with the standards for permissible emissions and discharges of chemicals and other substances, the temporary standards for such emissions and discharges may be established on the basis of permits issued by the Ministry of Environment and such permits can be valid only if there are concurrent environmental protection measures are taken and the implementation of **best available techniques** is performed.

Article 33. When placing, designing, building, reconstructing, commissioning, operating, maintaining, dismantling and demolishing the buildings, structures and other objects, legal entities and individual entrepreneurs are obliged to ensure a favorable state of the environment, including the use of **best available techniques**, low-waste, energy- and resource-saving technologies.

## Republic of Belarus Presidential Decree on “Comprehensive Environmental Permits” dated as of 17.11.2011 № 528

An integrated environmental permit is a single permit document certifying the right to discharge pollutants into the air, special water use, storage and disposal of industrial waste, taking into account the possible introduction of the **best available techniques** and setting standards for permissible environmental impact, conditions for conducting economic and other activities in parts of the use of natural resources and (or) the impact on the environment

When taking a decision on issue of an integrated environmental permit in accordance with Resolution No. 1677 of the Council of Ministers of the Republic of Belarus of 12.12.2011, the following shall be taken into account: the compliance of the planned activity with the best available techniques and conditions for the implementation of environmental management.

# Republic of Belarus Water Code (April, 2014)

Article 25 General requirements for the design, construction, elimination of surface water bodies and objects exercising impact on the water bodies.

In the course of design, construction of buildings, structures and other objects affecting water bodies, measures should be taken to ensure the application of the ***best available techniques***.



# Republic of Belarus Law “On Ozone Layer Protection” dated as of 16.06.2014

According to Article 12, when designing construction sites intended to restore, deactivate and dispose the ozone-depleting substances, it is required to consider information on the **best available techniques** provided by the Ministry of Environment.

## Republic of Belarus Presidential Decree “On the development of the entrepreneurship” dated as of 11.23.2017 No. 7

General requirements in the field of environmental protection towards maintenance and operation of major facilities (buildings, structures), isolated premises and other objects belonging to the business entities.

While carrying out the economic activities related to water use, all business entities are obliged to plan and implement measures ensuring the application of the **best available techniques**.


While carrying out the economic activities related to emissions of pollutants into the atmospheric air, all business entities are obliged to plan and implement measures to introduce the best available techniques, construct and commission facilities (gas treatment plants) that emit pollutants in a solid state - concentration no more than 50 mg /cub.m; ammonia, phenol (hydroxybenzene), formaldehyde - concentration no more than 20 mg /cub.m.



## Execution of Administrative Procedures

The unified list of administrative procedures carried out by state bodies and other organizations with regard to legal entities and individual entrepreneurs states:

While obtaining an Integrated environmental permit and issuing a conclusion of the state environmental review of project documentation for the construction and reconstruction of facilities for which an EIA is required according to the Article 7 of the Law of the Republic of Belarus "On the State Environmental Review, Strategic Environmental Assessment and Environmental Impact Assessment" to verify the conformity (non-conformity) of the technologies / design solutions applied in the production to the best available techniques principles.



The environmental regulations and rules of EcoNiP dated as of January 17, 2006-001-2017 **“Environmental Protection and Nature resource use. Environmental safety requirements”** were approved and put into effect since October 1, 2017 by the Decree of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus dated as of July 18, 2017 N 5-T


for boilers on gaseous, liquid and solid fuel and biomass over 0.1 MW,  
stationary engines over 0.1 MW

technological processes (furnaces) using gaseous, liquid, solid fuels (forge furnaces, metal casting and smelting processes (cupola, electric arc, induction and other furnaces), glass melting furnaces, oil refining and chemical processes, drying units)

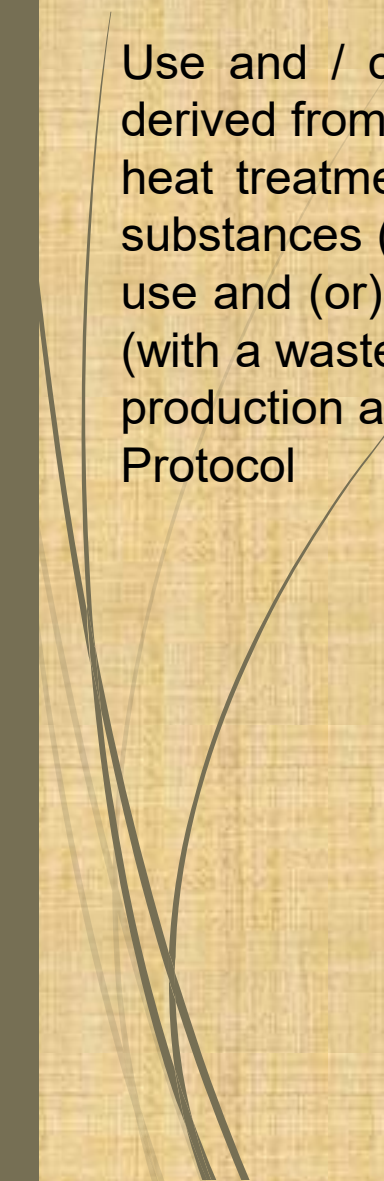
cement and lime production

use and (or) neutralization by burning medical waste, waste of medicines, medical devices and medical equipment


use and (or) neutralization by incineration of fiberboard and chipboard waste, as well as other waste containing binders of non-mineral origin/




Use and / or disposal by incineration of municipal waste, RDF-fuel and fuel derived from municipal waste  
heat treatment and (or) chemical transformation of natural and (or) synthetic substances (pyrolysis, thermolysis, thermal neutralization)  
use and (or) neutralization by incineration of waste and fuel derived from waste (with a waste content more than 15%)  
production and technical processes emitting VOCs according to the Gothenburg Protocol







**48 opinions on compliance/incompliance of the engineering processes to the best available techniques got issued in 2018**



Facility(object)	Core manufacturing process	BREF, Protection of Environment document etc.
Construction of new production facilities for the production of watches, social infrastructure, as well as non-manufacturing buildings at the address: Independence Ave., 95 in Minsk	The process of new production facilities construction for the production of watches, social infrastructure, as well as non-manufacturing buildings	Best Available Techniques for Energy Efficiency; Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; Best Available Techniques on Emissions from Storage.
Gorodeya Sugar Refinery OJSC. Reconstruction and modernization of the sugar beet processing capacities up to 12 thousand tons per day.	Line milk production	1. Best Available Techniques Reference Document for the Production of Cement, Lime and Magnesium Oxide; 2. Best Available Techniques on Emissions from Storage; 3. Best Available Techniques in Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; 4. Best Available Techniques for Energy Efficiency.
Reconstruction of a part of industrial building at the following address: Criulina, 27 in Mogilev, with landscaping of the adjacent territory	Production of the secondary crushed polyethylene	Best Available Techniques to Emissions from Storage; Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; Best Available Techniques for Energy Efficiency; F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling"/

<p>Design and construction of a gas boiler, gas supply infrastructure at the address: 5, Metievichskoye Highway, Soligorsk region</p>	<p>Incineration of natural gas</p>	<p>Best Available Techniques for Large Combustion Plants; Best Available Techniques for Energy Efficiency; Best Available Techniques to Emissions from Storage; F-EP 17.11-01-2012 “Environmental Protection and Nature Management. Best available technical methods for recycling”</p>
<p>Refrigerator, electrical and electronic equipment waste recycling line</p>	<p>Recycling of used refrigerators, electrical and electronic equipment</p>	<p>1. Best Available Techniques to Emissions from Storage; 2. Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; 3. Best Available Techniques for Energy Efficiency; 4. F-EP 17.11-01-2012 “Environmental Protection and Nature Management. Best available technical methods for recycling”</p>
<p>Conversion of the plant protection product manufacturing workshop</p>	<p>Production of the plant protection product</p>	<p>Best Available Techniques for the Manufacture of Organic Fine Chemicals; Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; Best Available Techniques for Waste Incineration; Best Available Techniques to Emissions from Storage;  F-EP 17.11-01-2012 “Environmental Protection and Nature Management. Best available technical methods for recycling. ”</p>
<p>Reconstruction of the animal feed mill shop of Lidahleboprodukt OJSC with the stage-by-stage implementation of the project at the following address: Lida, Bulat St., 1, 1.4 line-reconstruction of the steam supply line with the installation of a steam generator - capacity of 4 tons / hour</p>	<p>Steam generation</p>	<p>Best Available Techniques for Energy Efficiency; Best Available Techniques to Emissions from Storage; Best Available Techniques for Large Combustion Plants.</p>



<p>Construction of a youth entertainment center at the address: Storozhevskaya, 11</p>	<p>Construction and operation of a youth entertainment center (parking space, café, office space)</p>	<p>F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best Available Techniques for Waste Recycling»; F-EP 17.02-01-2012 "Environmental Protection and Nature Management. The best available techniques for production of food, beverages and milk"; Best Available Techniques for Large Combustion Plants; Best Available Techniques to Emissions from Storage.</p>
<p>Reconstruction of the existing warehouse 3 at the site for production of veterinary drugs at Svisloch Pukhovichsky district</p>	<p>Veterinary products manufacturing</p>	<p>Best Available Techniques for the Manufacture of Organic Fine Chemicals; Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; Best Available Techniques to Emissions from Storage; Best Available Techniques for Energy Efficiency; F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best Available Techniques for Waste Recycling</p>
<p>Shopping center at the address: General Beloborodov, 2 in the city of Vitebsk</p>	<p>Operation of the mall. Culinary products production.</p>	<p>F-EP 17.02-01-2012 "Environmental Protection and Nature Management. The best available techniques for production of food, beverages and milk"; F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best Available Techniques for Waste Recycling; Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; Best Available Techniques to Emissions from Storage; Best Available Techniques for Energy Efficiency.</p>

<p>Reconstruction of the linear part of the Minsk-Gomel-GDS-2A connecting gas pipeline with regards to the cleaning device for launching and receiving chamber</p>	<p>Transportation of natural gas via pipelines. Gas pipeline system maintenance.</p>	<p>F-EP 17.11-01-2012 “Environmental Protection and Nature Management. Best Available Techniques for Waste Recycling; Best Available Techniques to Emissions from Storage.</p>
<p>Potassium nitrate plant at the industrial site of the 4th mine administration. Second stage.</p>	<p>Potassium nitrate production plant</p>	<ol style="list-style-type: none"> <li>1. Reference Document on Best Available Techniques for the Manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilizers;</li> <li>2. Reference Document on Best Available Techniques for Energy Efficiency;</li> <li>3. Reference Document on Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector№</li> <li>4. Reference Document on Best Available Techniques on Emissions from Storage.</li> </ol>
<p>Construction of industrial building at the following address: Radial streed, 40B</p>	<p>Mechanical treatment of ferrous and non-ferrous metals</p>	<p>P-EP 17.02-2-2012 “Environmental protection and environmental management. The best available techniques in the foundry industry “  ;2. F-EP 17.11-01-2012 “Environmental Protection and Nature Management. Best Available Techniques for Waste Recycling;  3. Best Available Techniques for the Surface Treatment of Metals and Plastics;  4. Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector.</p>



<p>Complex for the production and processing of turkey meat in the Klimovichi district of the Mogilev region.</p>	<p>Production and processing of the turkey meat</p>	<p>F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling. "Best Available Techniques for Energy Efficiency; Best Available Techniques to Emissions from Storage; Best Available Techniques for Large Combustion Plants; Best Available Techniques for Intensive Rearing of Poultry and Pigs.</p>
<p>Reconstruction with the modernization of the building of the old boiler house of the state enterprise IK 13-Berezveche</p>	<p>Furniture board manufacturing</p>	<p>Best Available Techniques for the Production of Wood-based Panels; Best Available Techniques for Energy Efficiency; Best Available Techniques to Emissions from Storage;</p> <p>F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling. "</p>
<p>2RU Organization of potassium chloride granulated packing unit into soft containers (2nd stage)</p>	<p>Packing of the granulated potassium chloride in a granulated form into soft containers</p>	<p>Reference Document on Best Available Techniques for Energy Efficiency;</p> <p>2.Reference Document on the application of Best Available Techniques to Emissions from Storage;</p> <p>3.Reference Document on the application of Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector.</p>
<p>Composite structure plant</p>	<p>Manufacturing of composite materials</p>	<p>Best Available Techniques to Emissions from Storage; Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; Best Available Techniques for Energy Efficiency;</p> <p>F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling.</p>



<p>Industrial waste management at the workshop for the production of lining material on the basis of paper impregnated with thermosetting polymers with incomplete curing of the resin IOOO Kronospan in the village of Novaya Gozha</p>	<p>Production of facing material based on paper. Waste incineration</p>	<p>Best Available Techniques for the Production of Wood-based Panels;  Best Available Techniques for Energy Efficiency;  Best Available Techniques to Emissions from Storage;  Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector;  Best Available Techniques for Waste Incineration.</p>
<p>Implementation of a gas-reciprocal installation with a capacity of 0.6 MW at OAO Dairy company Novogrudskie Dary</p>	<p>. Gas reciprocal installation operation</p>	<p>Best Available Techniques for Large Combustion Plants;  Best Available Techniques for Energy Efficiency;  Best Available Techniques to Emissions from Storage;  F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling."</p>
<p>№ 33-17 Construction of a fitness center in the village of Zhdanovichi</p>	<p>Operation of the fitness center</p>	<p>Best Available Techniques for Large Combustion Plants;  Best Available Techniques to Emissions from Storage;  Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector;  F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling."</p>

<p>Pre-project (pre-investment) documentation on renovation of the facility.-workshop of superphosphate manufacturing</p>	<p>Superphosphate manufacturing</p>	<p>Best Available Techniques for the Manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers;  Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector;  Best Available Techniques to Emissions from Storage;  F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling. "</p>
<p>Solid waste landfill near the city of Ostrovets</p>	<p>Solid domestic waste polygon operation</p>	<p>1. Best Available Techniques to Emissions from Storage;  2.F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling. "  3. ITS 17 "Disposal of the manufacturing and consumption waste".</p>
<p>JSC Belaruskali 3RU.  Restructuring of the granulation unit1 with the installation of granulation plants having total granulate capacity- 200 tons per hour, the 1st stage</p>	<p>Classification, transportation and storage of granulated potassium chloride</p>	<p>Best Available Techniques for the Production of Cement, Lime and Magnesium Oxide;  Best Available Techniques on Emissions from Storage;  Best Available Techniques for Energy Efficiency;  Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector.</p>
<p>Construction of a mini heat and power plant for 1 MW on the basis of a gas reciprocal unit with the installation of a two-section steam boiler for the needs of Kalinkovichi Meat Factory</p>	<p>Gas reciprocal plant operation</p>	<p>Best Available Techniques for Large Combustion Plants;  Best Available Techniques to Emissions from Storage;  F-EP 17.11-01-2012 "Environmental Protection and Nature Management. Best available technical methods for recycling. "</p>

<p>Sand-polymer products manufacturing lines</p>	<p>Polymer chips manufacturing</p>	<p>Best Available Techniques to Emissions from Storage;  2. Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector;  F-EP 17.11-01-2012 “Environmental Protection and Nature Management. Best available technical methods for recycling. ”</p>
<p>Production of bio-fertilizers from animal waste at the following address: Minsk region, Borisov district, Nemanitsky village council, 1.d.</p>	<p>Biofertilizers manufacturing</p>	<p>Best Available Techniques in the Slaughterhouses and Animal By-products Industries;  Best Available Techniques to Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector;  Best Available Techniques to Emissions from Storage;  F-EP 17.11-01-2012 “Environmental Protection and Nature Management. Best available technical methods for recycling. ”</p>
<p>The project of development and recultivation of the northern part of the gravel-sand mixture site called “Passages” at the Kamenetsky district of the Brest region with the placement of a complex of mobile equipment for processing the extracted raw materials</p>	<p>Processing of sand and gravel mixture</p>	<p>Best Available Techniques for Management of Tailings and Waste-Rock in Mining Activities;  Best Available Techniques to Emissions from Storage (p. 5.3, page 274);   F-EP 17.11-01-2012 “Environmental Protection and Nature Management. Best available technical methods for recycling. ”</p>



## Problematic issues related to BAT implementation

Odors, noise, vibration, incidents occurrence, energy and cold factors are neither considered, nor estimated;


Prevention and re-use of waste is defined in the Law only as a framework, no certain application is specified;

Conclusion on compliance with BAT is required only for the facilities where EIA is mandatory and as a part of Integrated Environmental Permits issue;

Water resource use – only while developing limit values;

While developing an inventory no validation of compliance with BAT is done;

There is no way to assess efficiency of BAT implementation оценки – there is not clear consistent methodology to estimate costs-benefits, including impact of the air quality on human health.



**Thanks for you attention**

