

Impact of Ignitis Group’s operations on biodiversity

The generation and distribution of energy and the development of renewable energy not only create the conditions necessary for our daily lives, but also have an impact on the natural environment we are a part of. Therefore, we regularly examine the impact of our activities on ecosystems and biodiversity, manage the waste generated by our activities, and strive for a balance between business operations and the conservation of ecosystems and resources. The main impact of our operations on biodiversity come from the Networks, the Flexible Generation and the Green Generation segments.

Networks

Anthropogenic structures (overhead power lines and underground cables, gas distribution networks) and their maintenance contribute to the wildlife habitat loss or fragmentation.

Our impact	Our actions to reduce the impact
<p>Trees and bushes are cut down while maintaining overhead power lines in forests. This can lead to habitat fragmentation and migration disruption, negative aesthetic impact on landscape.</p>	<p>We change overhead power lines with underground cables, thus, reducing the impact on landscape and wildlife. 2021–2030 investment plan of ESO sets out plans to lay 11,900 km of new underground cables, which would increase the share of underground cables in forests to 72%.</p> <p>We reduce the number of trees removed from power line buffer zones (land alongside overhead power lines, where service and maintenance of power lines takes place) – only those trees are felled that obstruct the maintenance or that have disrupted the network and it needs to be repaired.</p>
<p>Overhead power lines pose threat to birds, especially – larger soaring birds (failing to notice power lines, the birds crash into them and die). Stork nests on structures supporting overhead power lines may pose threat not only to the birds, but also the electricity supply, therefore, such stork nest must be relocated.</p>	<p>ESO, in cooperation with Environmental Protection Agency, when performing unscheduled emergency maintenance of overhead power lines, dismantles and restores or relocates (not farther than within 100 metres) stork nests that endanger the electricity grid and human safety in accordance with the Law on Protected Animals, Plants and Fungi.</p>

Flexible Generation

Electricity generation facilities can impact the environment through the use of natural resources (for example, water), emissions (air, water), which can have an impact on biodiversity.

Elektrėnai complex

The Elektrėnai complex (EC) is not situated around national parks or Natura 2000 territories and does not have borders with any. The species that are included in the List of Protected Fauna, Flora and Fungi Species of the Republic of Lithuania or European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (The Habitats Directive) do not reside in the area.

The following bird species were spotted in the nearby Elektrėnai pond (called Elektrėnai Lagoon): grey heron, goosander, common goldeneye, mallard, tufted duck, whooper swan, mute swan, common coot, great tit, northern lapwing, gull.

EC uses water from the Elektrėnai pond for its generation activities. Water used for cooling is supplied through an open intake channel, is then filtered to remove large mechanical additives, its temperature increases when moving through heat exchangers by about 8 °C and then it is released back to the pond through an open channel. Moderate increase in temperature does not change the chemical and biological parameters of the water.

Nearby protected areas		
Name	Distance, km	Protected features
Strošiūnai landscape reserve	5.8	A very picturesque landscape of unique heavily eroded moraine uplands with habitats of rare species (glis, great crested newt, European fire-bellied toad).
Pipiriškės geomorphological reserve	6	A complex of lateral moraine formations in the Dzūkai Upland. A part of the reserve (0.72 km ²) is a habitat protection zone, where the protection applies to steppe grasslands, transition mires and quaking bogs, fennoscandian herb-rich forests with picea abies, fennoscandian deciduous swamp woods, oak-hornbeam forests, bog woodlands.
Gabriliava pedological reserve	7.5	The gleysols (JVP ₂) standard found at western slopes of the uplands of eastern Lithuania.
Kaukinė botanical-zoological reserve	9.5	Ash and oak-hornbeam forests as well as habitats of rare plants and mushrooms, typical for Dzūkai uplands. The reserve is a habitat protection zone, where oak-hornbeam forests, fennoscandian herb-rich forests with picea abies, fennoscandian deciduous swamp woods and bog woodlands are being protected. The following rare species reside here: otter, great crested newt, hermit beetle, European fire-bellied toad, the saproxylic beetle.

Trakai historical national park	11.5	The centre of historical statehood of Lithuania in Trakai, and its authentic natural environment.
Neris regional park	13	An especially valuable loop system of the Neris river, valuable biocenosis of wooded valley of the Neris river, rich in cultural heritage.
Aukštadvaris regional park	15	Valuable landscape of Verknė and Strėva upstream rivers, their ecosystems, cultural heritage features.

Vilnius Third Combined Heat and Power Plant

Vilnius Third Combined Heat and Power Plant (Vilnius CHP3) is not situated around protected national parks or Natura 2000 territories and does not have borders with any of them. The species that are included into the List of Protected Fauna, Flora and Fungi Species of the Republic of Lithuania or the Habitats Directive do not reside in the area.

The nearest protected area – the Neris river’s habitat protection zone, an area located 0.3 km north of Vilnius CHP 3. It contains 3,260 river flows with mole crickets, rare flora and fauna species: Baltic salmon, rhodeus, spined loach, European bullhead, green club-tailed dragonfly, asp, otter, European river lamprey.

Vilnius CHP 3 and Vilnius CHP border each other’s territories, therefore, more about their valuable nearby natural territories can be found in the description of Vilnius CHP.

Green Generation

Developing renewable energy generation reduces GHG emissions, thus mitigating the impact on climate. However, renewable energy projects (wind farms, solar parks, combined heat and power plants, hydroelectric power plants) as well as supporting infrastructure poses threat and challenges to biodiversity.

Wind farms

We pay attention to biodiversity issues from the early stages of project preparation and territory planning. For example, when a new wind farm project is initiated, the following measures are performed:

- Noise level modelling
- The plant's shadow's impact assessment
- Verification if there are rare animals and plants in the area
- Verification if the area is not included in the Natura 2000 or other protected areas

In order to protect birds and bats, the Group undertakes various measures for reducing and managing risks. During the autumn (September–October) and spring (March–May) migration, we monitor the number of dead migratory birds as well as nesting and migrating birds next to the UAB “Vėjo vatas” wind farm (Lauksargiai eldership, Tauragė municipality). All monitoring data is provided to the Environmental Protection Agency.

We installed automated solutions in Pomerania wind farm (Poland), which reduce the impact on bats. This reduces the likelihood of human error and ensures compliance with environmental requirements.

We will provide more information about the wind farms' impact on biodiversity and protected zones in the future.

Kruonis Pumped Storage Hydroelectric Plant (Kruonis PSHP) and Kaunas Hydroelectric Power Plant (Kaunas HPP)

The main environmental impact in these territories is related to water level fluctuations in the pond created by the dam at Kaunas HPP (Kaunas Lagoon). Water fluctuation does not affect the habitat protection zone of Kaunas Lagoon and the protected species negatively.

When conducting their operations, Kruonis PSHP and Kaunas HPP comply with security requirements, Rules on Reservoir Utilisation and Maintenance, therefore, there is no significant impact on fish and bird population. Automatic water level measuring systems are installed and the operations of Kruonis PSHP and Kaunas HPP are regulated according to the current water level.

Out of the three protected bird species, only the little crane and the common kingfisher have their nesting habitats in the vicinity of Kaunas Lagoon. The little crane nests in swampy coasts and islands of Kaunas Lagoon and is especially sensitive to water level fluctuations. With increasing water level, the bird nests closest to the water can be flooded, and if the water level decreases too much, the nests in small islands can be accessed by predators.

The common kingfisher nests in steep coastal outcrops of Kaunas Lagoon. Water level fluctuation has had no negative impact on this species in Kaunas Lagoon so far.

The habitats of the black kite are situated outside the Kaunas Lagoon. The black kite nests in forest greenery, trees, therefore, water level fluctuation does not affect this species.

Among the fish species residing in the Kaunas Lagoon, there are quite a few protected and endangered ones: weatherfish, common nase, asp, rhodeus. The main fish species residing in Kruonis PSHP reservoir include common bream, white bream, rutilus roach, European perch, zander, Eurasian ruffe.

Protected territories that have borders with Kruonis PSHP and Kaunas HPP

Name	Protected features
Kaunas Lagoon regional park	Unique landscape of the lower part of Kaunas Lagoon, its natural ecosystem and cultural heritage features.
Bird protection zone and habitat protection zone in Kaunas Lagoon	Black kite, little crane, common kingfisher, juniper formations, steppe grasslands, petrifying springs with tufa formation, siliceous rocky slopes, western taiga, fennoscandian herb-rich forests with picea abies, fennoscandian wooded pastures, Tilio-Acerion forests of slopes, screes and ravines, rhodeus, pond bat, hermit beetle, saproxylic beetle, asp and otter.
Vaiguva forest's habitat protection zone	Hermit beetle.

Surgantiškės archaeological reserve is located 0.25 km east of Kruonis PSHP, Kaunas Lagoon landscape reserve – 0.6 km north of Kruonis PSHP, Uolė hydrographic reserve – 1.3 km north of Kruonis PSHP, and Arlaviškiai botanical reserve – 1.5 km west of Kruonis PSHP.

You can read more in [Information regarding the selection of the Environmental Impact Assessment of installation and operation of an additional 225 MW unit No. 5 at Kruonis PSHP.](#)

Vilnius Combined Heat and Power Plant (Vilnius CHP)

Vilnius CHP is not situated around national parks or Natura 2000 territories and does not have borders with any. The area does not have species that are included into the List of Protected Fauna, Flora and Fungi Species of the Republic of Lithuania or the Habitats Directive.

The natural environment here is subject to human interference, therefore, plant and animal communities adapted (or made to adapt) to urbanised environment and human activities thrive here.

The territory of Vilnius CHP contains plant communities typical for such areas: couch grass, field brome, scentless chamomile, field wormwood, field pansy, chickweed, etc. The part of the territory where economic activities are not carried out contains willow and hackberry shrubbery. Black alder, aspen, Norway maple also grow here. Hawthorn, Baltic pine grow in more open spaces of the area.

All protected territories in the vicinity of Vilnius CHP, which are included in the Natura 2000 and other important territories from biological perspective are located at a safe distance from Vilnius CHP and are not impacted negatively by its operations.

Nearby protected areas		
Name	Distance, km	Protected features
The Neris river's habitat protection zone	0.95	3,260 river flows with mole crickets, rare flora and fauna species: Baltic salmon, rhodeus, spined loach, European bullhead, green club-tailed dragonfly, asp, otter, European river lamprey.
Landscape reserve of Paneriai erosive hills	1.2	Erosive hills located by the Neris valley, habitats of rare plants (dark red helleborine, long-bracted green orchid, wild garlic).
Grioviai geomorphological reserve	1.4	A part of erosive hills located by the Neris valley with expressive ravine formations.
Vokė hydrographic reserve	2	Natural and picturesque section of Vokė downstream valley.

More information available on [Environmental impact assessment of economic activities planned in Vilnius CHP.](#)

Kaunas Combined Heat and Power Plant (Kaunas CHP)

Kaunas CHP is not situated around national parks or Natura 2000 territories and does not have borders with any. The species that are included into the List of Protected Fauna, Flora and Fungi Species of the Republic of Lithuania or the Habitats Directive do not reside in the area. Scarce biodiversity and flora (grassland, shrubbery), which is periodically removed during the maintenance and clearing of Kaunas Free Economic Zone. There are no essential forest habitats in Davalgony's forest, which is located in the vicinity of Kaunas CHP.

All protected territories in the vicinity of Kaunas CHP, which are included in the Natura 2000 and important territories from biological perspective are located at a safe distance from Kaunas CHP and are not impacted negatively by its operations.

Nearby protected areas		
Name	Distance, km	Protected features
The Neris river's habitat protection zone	2–3	3,260 river flows with mole crickets, rare flora and fauna species: Baltic salmon, rhodeus, spined loach, European bullhead, green club-tailed dragonfly, asp, otter, European river lamprey.
Kaunas Lagoon regional park	4.5	Unique landscape of the lower part of Kaunas Lagoon, its natural ecosystem and cultural heritage features. Bird protection zones and habitat protection zones contain juniper formations, steppe grasslands, petrifying streams with tufa formations, siliceous rocky slopes, western taiga, fennoscandian herb-rich forests with picea abies, fennoscandian wooded pastures, Tilio-Acerion forests of slopes, screes and ravines, rhodeus, pond bat, hermit beetle, saproxylic beetle, asp, otter, black kite, little crane, common kingfisher.
Lapės geomorphological reserve	5	Unique erosive gully relief formed in the moraine ridge.
Nevėžis landscape reserve	13	Erosive old valley landscape of the Nevėžis. Habitat protection zones contain steppe grasslands, eutrophic tall herbs, Northern Boreal alluvial meadows, lowland hay meadows, fennoscandian herb-rich forests with picea abies, oak-hornbeam forests, Tilio-Acerion forests of slopes, screes and ravines, alluvial forests, otter.
Būda-Pravieniškės forest biosphere reserve	15	Babtai-Varluva forest ecosystem – in order to maintain the population of the middle-spotted woodpecker and the white-backed woodpecker in the territory, perform monitoring and study of protected species.

More information available on [Environmental impact assessment of economic activities planned in Kaunas CHP](#).

More information about sustainability in Ignitis Group:

[The Group's website](#)

or email sustainability@ignitis.lt

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