

Protection of industrial heritage in Estonia

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44 **T**he topic of industrial heritage protection in Estonia is multifaceted. Undoubtedly, one positive aspect is that the most important part of the large-scale industry before the Second World War has been taken under state protection in Estonia, and especially in Tallinn there are now numerous different examples of the revitalization of historical industrial buildings, the amount of examples and distance in time already allows to assess restoration practice so far. On the other hand, the heritage policy of the last two decades regarding the preservation of industrial heritage probably needs a critical analysis. This could also be one of the starting points for creating a perspective based industrial culture heritage policy concept, which, unfortunately, currently does not exist. Due to the limited volume, this article focuses on the topic of industrial heritage protection, its development and contemporary situation.

DEVELOPMENT OF INDUSTRIAL HERITAGE PROTECTION

In Estonia, the National Heritage Board, which reports to the Ministry of Culture, is responsible for the listing of industrial he-

ritage. To the extent that the National Heritage Board is limited in its composition and capabilities, the Board has not paid much attention to industrial heritage as a specific and at the same time very multifaceted heritage. It is possible that this has also been influenced by the fact that the National Heritage Board has transferred national heritage protection-related tasks to city governments in major Estonian cities – Tallinn, Tartu, Narva. However, it is precisely in these cities that the largest and most prominent part of Estonia's industrial heritage is located.

A more academic interest in Estonian industrial heritage emerged in the 1980s. In 1984, the National Design Institute of Cultural Monuments, which dealt with the research and design of historical buildings, started the national inventory of Estonian industrial heritage for the first time, which lasted until 1991. The work, with varying success, was extensive and covered a wide variety of industrial heritage, from factories and railway stations to mills and lime kilns, with a particular focus on rural areas. Since Estonia was still part of the Soviet Union in the 1980s, and even though the country's socialist economy was disintegrating at an increasingly rapid pace, industrialization, especially large-scale and heavy industry, continued to be the ideological cornerstone of the country. Among other things, this meant that essentially all historical industrial complexes, especially large-scale industries, were still in operation and the access to them for researchers was difficult. The inventory of industrial heritage, including photography, was essentially excluded in industrial complexes considered strategically important, e.g. classified so-called "number" factories, i.e. factories under the direct control of Moscow ministries. Therefore, it must be recognized that the inventory undertaken in the 1980s mainly dealt with railway architecture, bridges and small production companies located in the countryside, un-

The Valga railway station on the Estonian-Latvian border was completed in 1949. Project by Leningrad Transport Design Office, architect V. Tsipulin. The building was placed under heritage protection in 2017. Photo: Henry Kuningas 2012.

fortunately this did not provide an exhaustive overview of large industries and the state of industries located in cities. The main organizer of the inventory was Tõnu Hagelberg, whose aim was to create a continuous presentation of Estonia's diverse industrial heritage for the general public with the help of the press.¹⁾

On his initiative, the Kasari reinforced concrete bridge (1903-04, according to the Hennebique system by the engineering and construction company "Monicourt & Egger"²⁾) and Tallinn's seaplane hangars (1916-17, Danish engineering firm Christiani & Nielsen³⁾) were taken under national protection as outstanding historical engineering constructions.

An overwhelming part of Estonian monuments, including its industrial heritage, were listed in the newly independent Republic of Estonia in 1995-1997,⁴⁾ and several important industrial complexes - e.g. the Sindi and Kreenholm textile factories in addition to the complex of surrounding buildings – continued to be added vigorously to the protection lists until 2000. In the following years, the pace of industrial heritage protection slowed down. Analysing the process retrospectively, critically it must be noted that until the beginning of the 2000s, the preparation of protection lists took place without sufficient basic research and expertise, including inventory. Due to the lack of administrative capacity, the decisions to protect important buildings were mostly made with "cabinet silence", without involving either the owners or the wider public, which is why there were occasionally curious situations when the owners found out only years later, or by accident, that the building they owned was a monument. At the same time, the process of that time cannot be criticized based on today's attitudes and practices, the economic and socio-political context of the newly independent country must be taken into account. Among other things, heritage protection was clearly underdeveloped and underfunded in the 1990s, at a time when it was urgently necessary to implement the new heritage protection law and establish new protection lists. This was, unfortunately, an overwhelming task. Likewise, it must be recognized that the rules for the implementation of correct administrative procedures were still being developed, and in several areas the transition from soviet-based management was still taking place.

BRIEF OVERVIEW OF THE HISTORY OF ESTONIAN HERITAGE PROTECTION ACTS

Protection of ancient monuments

1666 - Royal Placat by the Charles XI, King of Sweden and at the time, also of Estonia and Livonia. Since the Royal Placat focused on Sweden, the king's decree was not carried out in Estonia.

1925 - Act on the Protection of Antiquities was adopted in the newly created Republic of Estonia and was renewed in 1936. The goal was mainly the protection of ancient objects, ruins and to a lesser extent also medieval buildings.

Institutionalization of heritage protection

1947 - local, i.e. Estonian SSR, regulation "On Measures for the Preservation and Restoration of Architectural Heritage" was adopted, which also included a list of architectural monuments under protection, mainly from the 14th-17th century.

1961 - Estonian SSR was the first in the USSR to adopt a Heritage Protection Act containing the principles of modern heritage movement.

1966 - the protection zone of Tallinn's Old Town was established, which was the first conservation area in the USSR.

1978 - the All-Union Heritage Protection Act from 1977 came into force in the Estonian SSR, which remained in force until 1994. Practically the entire Soviet period, the gradation of monuments into monuments of local, national and all-Union importance was valid. During the Soviet period, heritage protection became institutionalized and specialized in heritage research, protection and restoration branches.

1988 - the first outstanding objects of industrial heritage were taken under protection.

1994 - a new Heritage Protection Act was imposed, which was based on international conventions and took into account the radical restructuring of society. Among other, the gradation of monuments was abolished.

2019 - a new Heritage Protection Act aims to be more flexible and take into account the interests of the owners of the monument.



46 PRIVATIZATION AND DEINDUSTRIALIZATION

In the 1990s, there was a property reform that deeply affected the whole economy and society of Estonia, centering on the privatization of companies. This can be considered the most important upheaval affecting industry in Estonia since 1940, when the Soviet Union nationalized businesses and introduced a socialist command economy. After the collapse of the Soviet economic model, the privatization of companies was started with the idealistic goal of securing company owners, who could modernize these companies and make them work effectively with new investments. However, as with to the period after Estonia's independence in the 1920s, it turned out that local industries suddenly

lost both access to cheap Russian raw materials and production and to the large Russian market. At the same time, production was not yet competitive in the Western market. As a result, a large number of facilities were already forced to stop production in the 1990s, while some large industries – e.g. the Kreenholm Manufactory in Narva and the Baltic Cotton Manufactory in Tallinn – managed to survive until the 2000s. Unfortunately, as far as we know, no quantitative economic historical study of this interesting period has been published, but it can be assumed that in the period 1991-2001, the majority of factories in production at the end of the 1980s closed. Thus, the process of listing industries often coincided directly with a wave of deindustrialization.



Table 1. The table includes auxiliary and residential buildings of industries, railway buildings (88), manor industry (72), lighthouses and their auxiliary buildings (72).

STATISTICS COVERING ESTONIA'S PROTECTED INDUSTRIAL HERITAGE

Defining industrial heritage both typologically and chronologically can be complex and dependent on both historical and socio-economic context. A cultural centre or church can play an important role in shaping workers' identities and as a community centre, despite not being an essential building for the operation of industry. The classification of residential buildings as industrial heritage can be equally complicated, especially if the industry has long since disappeared – such as the residences of the masters of the Maarjamäe sugar factory built at the beginning of the 19th century, which were adapted as auxiliary buildings of the representative's mansion built in place of the factory, which had already been demolished in the 1870s. At the same time, the charter of Nizhny Tagil, adopted in 2003 by the expert organization of industrial heritage TICCIH, defines industrial heritage quite broadly: “**Industrial heritage** consists of the remains of industrial culture which are of historical, technological, social, architectural or scientific value. These remains consist of buildings and machinery, workshops, mills and factories, mines and sites for processing and refining, warehouses and stores, places where energy is generated, transmitted and used, transport and all its infrastructure, as well as places used for social activities related to industry such as housing, religious worship or education.”⁵⁾

Based on this definition, auxiliary buildings of industries, including residential and administrative buildings of industrial settlements, have also been included in the statistical overview (table 1)

Oil shale mining in Kiviõli started in 1922 on the basis of a concession belonging to German capital, in 1925 the first oil factory started working. By the end of the 1930s, the monofunctional town of Kiviõli grew next to the factory. During the German occupation 1941-44, the expansion of the factory was started, which was completed after the war during the Soviet era. The oil factory continues to operate. Photo: Henry Kuningas 2020.

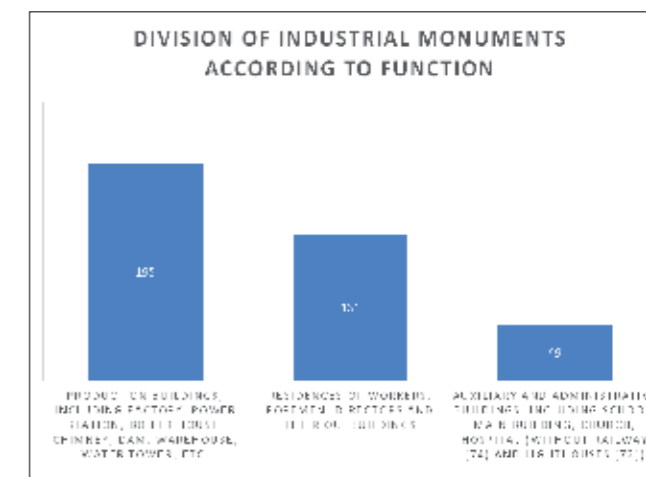


Table 2. Industrial monuments are divided into buildings directly related to production and residential and auxiliary buildings. Railway and lighthouse buildings are not reflected in the table.

of Estonia's protected industrial heritage. Since industrial heritage is not distinguished in the Heritage Protection Act, most of the protected industrial heritage in Estonia is classified as architectural monuments, which is why the collection of source data for quantitative analysis turned out to be so difficult. In accordance with the charter, the industrial heritage also includes numerous protected railway buildings, lighthouses and their auxiliary buildings, which are indispensable for the operation of sea transport, and peculiarly to Estonia, the pre- First World War manor based industries, whose main production was spirits.

As Table 1 vividly illustrates, by far the largest part – 80% – of the protected industrial heritage belongs to the period of the Russian Empire, i.e. before World War I, 15% to the period of the Republic of Estonia, and only 5% to the period of Soviet occupation after World War II. On the one hand, this relationship is understandable, because relatively little post-World War II architectural heritage has been recognized as worthy of national protection. At the same time, the periodical distribution of protected industrial heritage does not reflect the fact that the most extensive industrialization in the history of Estonia took place during the Soviet period and profoundly affected the entire society.

Table 2 shows the distribution of industrial monuments between buildings and facilities directly related to production, such as factories, hydro and power plants, boiler houses, chimneys, warehouses, depots, dams, water towers; housing for workers, foremen and management built by large industries; and auxiliary and administrative buildings of large industrial sites: hospitals, main buildings of factories, churches, fire brigade buildings and schools. For the sake of clarity, this table does not reflect the different categories of buildings pertaining to railways and lighthouses.

Table 3 provides an overview of the distribution of industrial monuments by production areas. As expected, the largest category, 120 or 23% of all industrial monuments, is related to the textile industry. This is understandable, as the textile industry



Table 3. Industrial Heritage by sector.

has historically been the largest industry in Estonia, led by the giant Kreenholm manufactory in Narva, both during the Russian Empire, the Republic of Estonia and the Soviet Union. Actually 11 textile factories are directly listed, and the remaining 109 buildings are domestic, auxiliary and administrative buildings related to the textile industry. Estonia also has a large number of railway buildings under protection – 88 monuments, of which 34 are station buildings. Inasmuch as there are many manor complexes under protection in Estonia, where a lot of raw spirits were produced, 72 manor distilleries are also under protection, several of which are in ruins today. Equally many – 72 – lighthouses and their auxiliary buildings have been recognized as monuments in Estonia. In the second half of the 19th century, especially just before the First World War, the metal and mechanical engineering industry, mainly oriented towards the Russian market, developed rapidly, mainly in Tallinn, the most important examples of this industry are also mostly protected, a total of 61 buildings and facilities. There are far fewer monuments than those mentioned above in the categories of the food industry, furniture industry, paper and pulp industry, energy and building materials industry. Compared to the Estonian textile and machine industries, fewer historic large-scale industrial companies have been preserved in these sectors. The oil shale industry has remained an orphan, which will be discussed separately below.

In Estonia, technical monuments constitute a separate type of industrial monument, which include very diverse production, ranging from rifles to locomotives. True, this is a rather marginal category of monument, which includes only 35 examples; therefore, most of Estonia's technical heritage is preserved in museums in stead. Although there is no technical museum in Estonia, there are numerous regional and field museums in Estonia, in which, depending on the size and character of the museum, the development of local industries and various aspects accompanying industrialization are reflected.

INVENTORY OF 20TH CENTURY ARCHITECTURAL HERITAGE

In the period 2007-2013, under the leadership of the Estonian Academy of Arts, the project "Mapping and Analysis of the Valuable Architecture of Estonia of the 20th Century (1870-1991)" was carried out, during which the industrial heritage, including infrastructure facilities, and residential architecture inseparably related to it, e.g. monofunctional industrial settlements, were studied. The goal of the project was, among other things, to submit proposals for protection. For this purpose, 15 regional overviews and four basis studies were carried out, one of which – railway stations of the 20th century – can also be classified in the field of industrial heritage. In total, more than 2,000 examples were identified, and then 129 more detailed studies were made on 200 different buildings or facilities, several of which specifically dealt with industrial heritage and buildings inseparably connected with it, including administrative buildings, auxiliary buildings, etc. In summary, a proposal was submitted to the National Heritage Board and the Ministry of Culture to place 113 buildings and structures, including several examples of industrial heritage, under state protection. The initial enthusiasm, supported by the thorough research work of many researchers, allowed us to attain much greater attention from the state than previously, ensuring the preservation of the highly diverse architectural heritage of the turbulent 20th century. This excitement has now subsided in the machinery of cultural bureaucracy and also with legal cases contesting the protection of a couple of buildings, which is why the proposal to supplement the list of monuments has been augmented by few additional examples, and only a few buildings and facilities in the field of industrial heritage: Linnamäe and Tudulinna hydroelectric plants and three railway station (Narva, Tapa, Valga) buildings. The most obvious example of this tendency is the process of designating Sillamäe as a heritage conservation area.

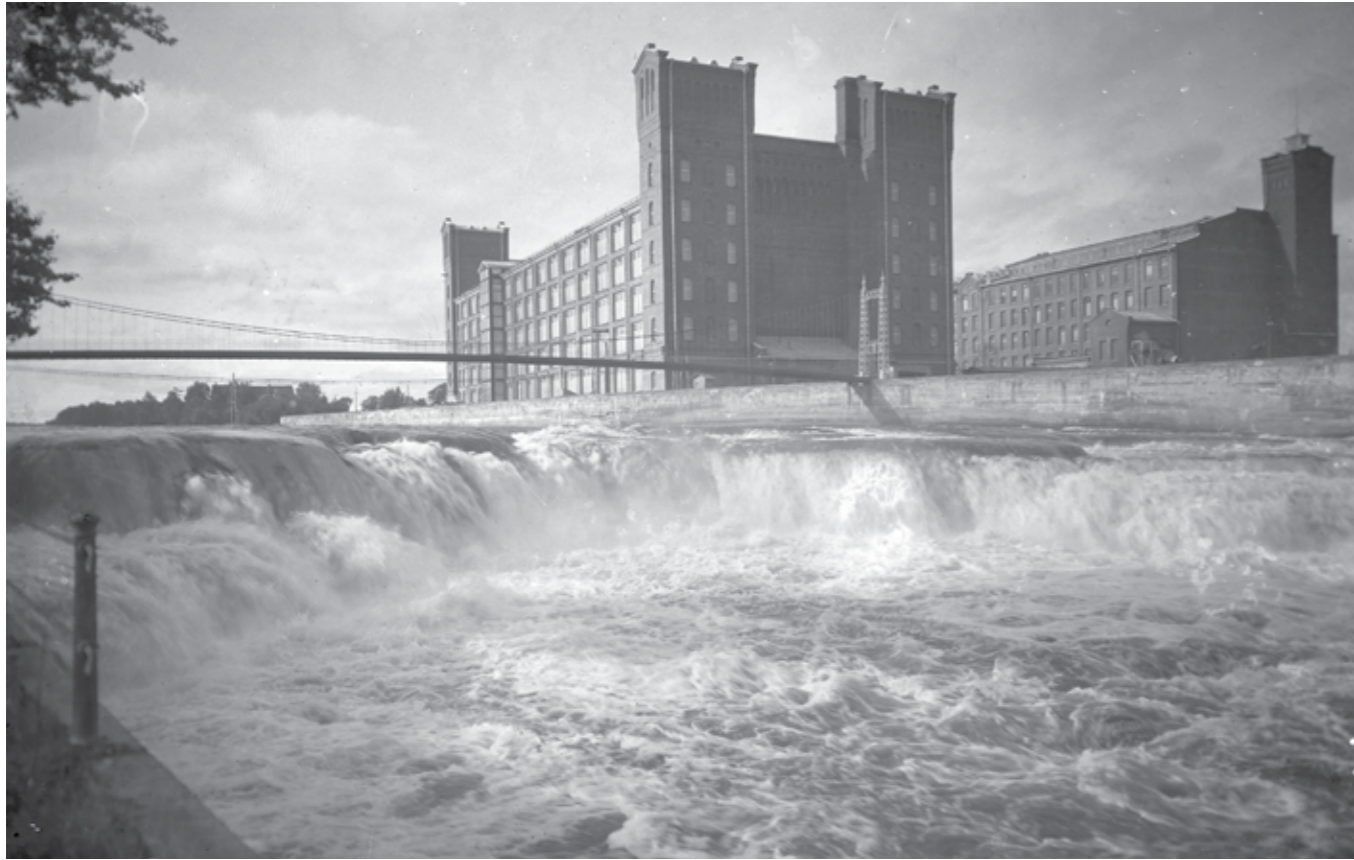
SILLAMÄE URANIUM PLANT

Although the first infamous atomic bomb was dropped on Hiroshima on August 6th, 1945, when the hostilities in Europe had already ended, the leadership of the Soviet Union was probably already aware of the successful US nuclear program and decided to build an atomic bomb as quickly as possible. One potentially

promising source for obtaining the uranium needed to build a nuclear bomb was graptolite argillite in the recently occupied Northeastern Estonia. However, the uranium content in the layer deposited under the oil shale is not very high, only approximately 0.028%, i.e. 28 grams of uranium per 1 ton of graptolite argillite.⁶⁾



The first factory of the state-owned Kohtla-Järve oil shale factory was completed in 1924. The continuously operating factory grew into the largest oil factory in Estonia during the Soviet period. Photo: Henry Kuningas 2011



The view across the Narva River to the Kreenholm Manufacture's Georgi (1899, architect Paul Alisch) and Joala (1884, architect Roman Heinrichen; 1890, architect Paul Alisch) factories. Photo: Karl Akel 1939. Estonian National Archives photo collection EFA.10.4.2255

In 1946, it was decided to build an industrial complex to produce uranium under the name Kombinat No. 7 in North-East Estonia.⁷⁷ The construction of the new secret Sillamäe uranium enrichment plant and the attendant city with its Stalinist planning and architecture, closed to the rest of the world, continued until 1949 utilising the labour of tens of thousands of prisoners of war. Since the production of uranium from local raw material turned out to be too expensive and inefficient, it was repurposed from 1952 to the processing of ore imported from Eastern Europe. Until 1991, approximately 100,000 tons of uranium were produced at Sillamäe. Since the factory was privatized, the complex has become one of the few plants producing rare metals and rare earth metals outside of China.⁸⁰

The creation of the Sillamäe heritage conservation area was first proposed by Estonian Academy of Arts professor Lilian Hansar in 2008 in the Ida-Viru county inventory of regional architecture prepared during the project "Mapping and analysis of the valuable architecture of the 20th century (1870-1991) in Estonia".⁹¹ In 2012, L. Hansar specified the historical architectural development of Sillamäe, the objectives of the protected area and the reasons for its formation in the expert assessment of the heritage protected area.¹⁰² Unfortunately, for both works, the only starting point is that the architectural-historical principles, according to which the city centre built at the end of the 1940s, the apogee of Stalinist architecture, deserves protection above all else. Based on this, the National Heritage Board prepared the 2019-2021 Sillamäe heritage

protection area draft protection order, involving, among other interests, the local community.¹¹³ At the time of writing this article, the process of creating a heritage conservation area has been halted.

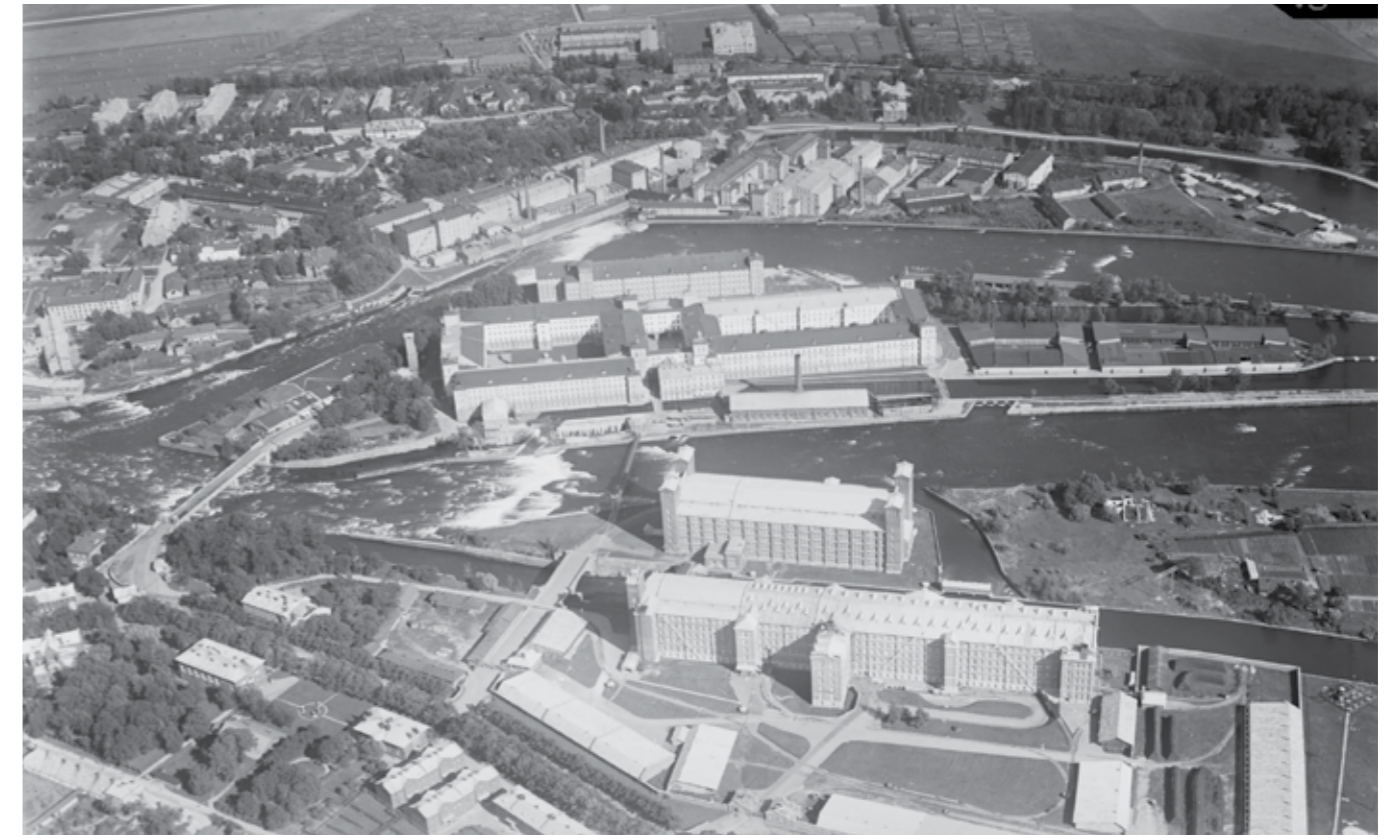
Although the multi-faceted buildings of the factory, dating from different decades, are not a masterpiece from an architectural point of view, the Sillamäe Uranium Factory played a significant role in the Soviet Union's effort to build an atomic bomb and holds an undeniably important place in the post-war development of Ida-Virumaa. The fact that the uranium plant was the only reason the town was built that is not considered by the proposal for the heritage site. Considering the economic and military-historical importance of the uranium factory, the building of the factory would need to be thoroughly investigated and consideration should be given to preserving at least part of it as a characteristic sign of historical processes. Otherwise, the approach adopted in Soviet times, when the existence of the Uranium Plant was shrouded by secrecy would, ironically end up being repeated. As far as is known, no assessment has been made of the factory's industrial and military historical heritage. It is unknown whether the inclusion of the factory site in the planned heritage protection area was abandoned due to the strategic importance of the factory, opposition from foreign owners or for some other reason. Of course, it is clear that reconciling the preservation of industrial heritage with the needs of a working factory is a process that is more complicated than the usual situation and requires compromises.

THE LEGACY OF THE OIL SHALE INDUSTRY

During the past decade, especially in recent years, there has been an increasing public debate about the uncertain future of the Estonian oil shale industry. Above all, this has been motivated by the goal set in the European Union's Green Deal to reduce greenhouse gas emissions by 55% by 2030 and achieve carbon

neutrality in the European Union by 2050. Among other things, this would lead to a significant decline in the oil shale industry and the end of oil shale energy.

On one side of the "front line" of the debate are increasingly strict environmental requirements, on the other is the largest industrial sector of Ida-Virumaa; to a much lesser extent, the pro-



Part of the cotton spinning and weaving Kreenholm Manufacture complex in Narva. The very first spinning factory, completed in 1858, is located on Kreenholm island. In the background of the photo, on the right bank of the Narva river, the Stieglitz flax factory and the Narva cloth factory were located. Most of the historical buildings of the Kreenholm Manufacture and its settlement are under heritage protection. Photo: aerial photo 1932. Estonian National Archives photo collection EFA.66.4.5750



Roterma factories bread factory (1912) and grain elevator (1904, 1930) are under heritage protection. The new obtrusive addition and extension to the bread factory with a glass facade dates from 2021 (KOKO Arhitektid). Photo: Henry Kuningas 2022

The barley mill (1905) of Roterma factories burned out in 2000 and was restored by 2007 (Teigar Sova Arhitektid). Photo: Henry Kuningas 2022



blems of preserving the physical environment of the oil shale industry, including heritage buildings, have been analysed during these discussions or alongside them. Is it worth preserving, and if so, to what extent, in what way and for what purpose?

Some dates in brief. The year 1916 is generally considered to mark the beginning of the Estonian oil shale industry, when oil shale mining began in Kohtla, Järve village and Kukrus due to the fuel crisis in Russia. Immediately after the War of Independence, the newly created Republic of Estonia initiated comprehensive and industrial exploitation of oil shale as Estonia's main mineral resource, both in energy and in the chemical industry. In addition, oil shale was used as fuel for trains, which were the main means of transport at the time. The leader of the field was the Kohtla-Järve oil plant of the State Oil Shale Industry, however already in the mid-1920s, several private companies also started mining oil shale and extracting oil based on concessions granted by the state. After 1929, the production of Kiviõli, Sillamäe and Kohtla oil factories owned by foreign capital already exceeded the production of the state-owned company.

After the re-occupation of Estonia in 1944, the State Defense Committee of the USSR demanded the restoration of all mines destroyed in the Estonian war by 1948 and the construction of 11 new mines.¹²⁾ One of its most important goals was to supply oil shale to the oil shale gas plant built on the territory of the Kohtla-Järve oil plant in 1948, which began to supply Leningrad with oil shale gas via a 260 km long gas pipeline. In addition, the shale oil production plan called for an increase in the production of shale oil to 8.4 million tons per year by 1950.¹³⁾ After the Second World War, the energy industry became the main consumer of oil shale, especially after the completion of the world's largest oil shale-fuelled power plants, the Baltic (1st block 1959, completed 1965) and Estonian 1st block 1969, completed 1974) thermal power plants. During the Soviet period, the oil shale industry grew into the largest industry in Estonia.

The reconstruction and expansion of the oil shale basin in such a short period of time in the post-war years was an undertaking of unprecedented scale in Estonia. Thanks to forced development, nowhere else in the world does the oil shale industry

form such a weighty part of the country's economy and society. This is the only industrial sector in which Estonia has been the world's largest producer, processor and also consumer during the last seventy years. At the peak of mining in 1980, 47 million tons of oil shale were mined worldwide, of which as much as 31 million tons came from Estonia. In the field of oil shale industry, Estonia continues to be one of the major global producers.

During the last hundred years, the Estonian oil shale industry has built numerous buildings and facilities. There were 19 mines and quarries alone in Estonia until the regaining of independence. There were four oil factories in Estonia: Kohtla, Sillamäe, Kohtla-Järve and Kiviõli, of which the Kiviõli and Kohtla-Järve oil factories are still in production. Historically, there have been numerous shale-fuelled power plants, both public and industrial. Not including the Auvere power plant, which was put into operation in 2015, the older oil shale-fired thermal power plant; Kohtla-Järve, Balti and Estonian thermal power plants are still partially operational. In summary, hundreds of buildings, from utilitarian warehouses to representative administrative buildings, have been built for the use of mines, quarries, oil plants and power plants.

Therefore, it is easy to get the impression that the construction legacy of the oil shale industry will not end anytime soon. Unfortunately, during the last ten years, a large proportion of the buildings and facilities of quarries and mines built during the Soviet period and gradually closed since the 1990s have been demolished, and several thermal power plants that worked on oil shale have also been demolished. In one of the flagships of the Estonian oil shale industry, the Kiviõli oil plant, more than ten buildings from the 1930s-1950s have been demolished since 2009, including a historic gasoline factory from the 1930s in 2018.¹⁴⁾

Only one building of the oil shale industry is under protection as a building monument – the Sompma mine's (mine no. 6) main building completed in 1948 according to the "Giprošah't" standard project of the design institute of the Ministry of Coal Industry of the USSR, but unlike the main buildings of other mines, it is a building with outer walls made of natural stone. The building looks eye-catching, resonating due to the use of building materials associated with the industrial buildings of the historicist period, e.g. the Mõisaküla railway factory from the turn of the century, raising the question of the reason for its distinctive exterior. The standard design envisages a plastered building with classicist decor. The reason for the difference is said to be quite prosaic: namely, that there was a shortage of building materials during the construction of the administrative building, and at the suggestion of the construction site manager, natural stones collected

from nearby fields were used to clad the walls of the building.¹⁵⁾ Since several other main mine buildings, built according to the same standard design, were still in good condition in the year of protection, i.e. 1997, it can be assumed that the decision favoured of Sompma precisely because of its unusual exterior. Thus, an otherwise standard building that does not conform to the standard design has been protected in an exceptional way.

It is certainly worth noting that, in addition to the main building, the Sompma mine complex included a number of other buildings in the 1990s, including the shale sorting factory completed in 1963. As the other buildings in the mine were not protected, they were demolished after mining ceased and other buildings were sold in 2000. Today, however, the main building of the mine has become a ruin, with only picturesque walls surviving.



An extraordinary engineering achievement, the Tallinn seaplane hangars was completed as part of the unfinished giant project of the Tallinn military port of the Russian Empire in 1917 according to the project of the Danish company Christiani & Nielsen. Photo: 1920s. Estonian National Archives photo collection EFA.II4.A.335.365



Sillamäe uranium plant with its town in the background. Photo: 1996. Estonian National Archives photo collection EFA.564.0.185253

SUMMARY

The country's heritage policy cannot be separated from its broader cultural policy and the context of the economic and social policy of its society. The protection of industrial heritage exemplifies the emphases of Estonian heritage policy and societal expectations of heritage; perhaps looking critically at the passivity in the field of heritage protection when dealing with large-scale and difficult heritage, which in many ways characterizes precisely Soviet industrial heritage.

The Sillamäe uranium enrichment plant and oil shale industry described above belong to this difficult heritage for several reasons. First of all, we can mention historical and emotional reasons: both embody the economic colonialism and large-scale russification of the Soviet Union, as well as the careless exploitation of the natural resources of Ida-Virumaa, including mineral resources, and the transformation of the landscape during the Soviet period. The protection of industrial heritage has also generated opposition for commercial and socio-economic reasons: it is considered an obstacle to the modernization of working industries, and the preservation of facilities and buildings that have lost their function is considered too burdensome.

The definition of industrial heritage as architectural heritage has inevitably led to an unjustified substantive and formal narrowing of this type of heritage. Among other things, the classification of industrial heritage exclusively in the field of architectural heritage has almost completely neglected the equipment and infrastructure of mines and factories, which is why the equipment from the factories under protection is being liquidated to this day.

At the same time, it is clear that in the assessment of industrial heritage, other aspects, including the historical, technological or social importance of the factory, may prove to be much more important than the architectural-historical or aesthetic aspects. Therefore, in addition to the architectural historians and architects who generally make value judgments in the field of heritage protection, a wider circle of historians and specialists could also be involved in the case of industrial heritage.

Notes

- 1) Including introductions of various objects on inside the front covers of the magazine „Tehnika ja Tootmine“ (Technology and Production) published in 1988-1991; T. Hagelberg, Tööstus – ja tehnikamälestistest Eestis ning mujal maailmas (Industrial and technical monuments in Estonia and other parts of the world). – Tehnika ja Tootmine, 5, 1990, p. 20-22.
- 2) T. Hagelberg, Kasari jõe raudbetoonsilla ajalooline ühend (A historical overview of the reinforced concrete bridge over the Kasari River). Tallinn, 1986. National Archives: ERA. T-76.1.11806
- 3) M. Mändel, O. Orro, The marvellous reinforced concrete shells of Tallinn seaplane hangars in the context of early concrete architecture in Estonia. – Construction History, 27, 2012, p. 65-85.
- 4) R. Alatalu, Muinsuskaitse siirdeühiskonnas 1986-2002: rahvuslikust südame-tunnistusest Eesti NSV-s omaniku ahistajaks Eesti Vabariigis: doktoritöö (Heritage Protection in Transitional Society 1986-2002: From Nation's Conscience in the Estonian SSR into the Harasser of Private Owner in the Republic of Estonia: Doctoral Thesis). Tallinn: Estonian Academy of Arts, 2012, p. 68.
- 5) The Nizhny Tagil Charter For The Industrial Heritage / July, 2003. <https://ticcih.org/about/charter/>
- 6) E. Maremäe, Sillamäe uraanitehase asutamise ja töö aastatel 1946-1952 (Establishment and work of the Sillamäe uranium plant in 1946-1952). – Akadeemia, 3, 2000, lk 478.
- 7) A. Cinis, M. Dremaite, M. Kalm. Mono-industrial towns in the Soviet Baltic Republics in the 1950s-1980s. – Scandinavian Journal of History, 33, 3, 2008, p. 230,231.
- 8) Today NPM Silmet AS.
- 9) L. Hansar, Ida-Virumaa. 20. sajandi arhitektuuri inventeerimine (Ida-Virumaa. Inventory of 20th century architecture). Tallinn, 2008. In the archive of the National Heritage Board: ERA.5025.2.8982, p 3.
- 10) L. Hansar, Sillamäe kesklinna muinsuskaitseala ekspertiis hinnang mälestise tunnustele vastavuse kohta (Expert assessment of Sillamäe city center heritage conservation area on compliance with the characteristics of the monument). Tallinn, 2012. In the archive of the National Heritage Board: ERA.5025.2.12360.
- 11) Additional materials on the website of the National Heritage Board: <https://www.muinsuskaitseamet.ee/et/sillamae-muinsuskaitseala-kaitsekorra-koostamine>.
- 12) 90 aastat põlevkivi kaevandamist Eestis: tehnoloogia ja inimesed (90 years of oil shale mining in Estonia: technology and people). Compiled: N. Varb, Ü. Tambet. Tallinn: GeoTrail KS, 2008, p 382.
- 13) M. Pihlamägi, Policy of Transition: Industry in the Estonian SSR During the First Post-War Five-Year Plan (1946-1950). Acta Historica Tallinnensia. Tallinn: Teaduste Akadeemia Kirjastus, 2010, 15, p 149.
- 14) In 2004, Eva Laarmann prepared the expertise and proposals for the protection of Kiviõli's oil shale factory historic buildings on the order of the National Heritage Board, including preserving the buildings of the oil factory built in the 1930s and 1950s. So far, no buildings on the territory of the oil factory have been listed.
- 15) L. Zarin, V. Nakonetšnoi, Kaevanduse nr. 6 ajalugu (Mine no. 6 history). – 50 aastat põlevkivi kaevandamist Eesti NSV-s. Tallinn: Valgus, 1968, p 192.