

EPILOGUE: THE CONTINUITY AND DISRUPTION OF GREEN INDUSTRY IN THE (POST)- SOVIET ERA

In summer 2021, my father and I traveled to the village of Miynala in Russian Karelia near the Russian-Finnish border. This tiny place, formerly part of Finnish territory, found itself on the borders of the USSR after the Soviet-Finnish War of 1941–1944. My father had lived there during his childhood from the late 1950s on, and had left the place in his twenties with memories of it as a land surrounded by towering evergreen fir trees. Returning after twenty-five years, he regretfully found that some parts of the previously dense fir forest near his childhood home had been clear-cut. His tears and long silence after what he saw spoke of his pain; an open space where evergreen fir trees once stood bore visual testimony to the realities of tree cutting, transforming the cut tree from an industrial material to a symbolic object of memory. It was not a total shock, however; living in Karelia during the 1990s and 2000s, I myself used to see logging trucks with full loads of cut timber headed to neighboring Finland for export.

The post-Soviet decades have a great deal in common with the practices of Soviet planned economy in terms of wood harvesting and the technological levels of the forestry

industry. Rapid deforestation continued, though frequently through more illicit channels than before, with numerous companies cutting and selling huge amounts of timber abroad. In the early 1990s, official statistics recorded decreases in the overall volumes of cutting compared to the figures of the late perestroika era, but they were nonetheless intensive. Cutting processes continued developing in the eastern parts of Russia where some infrastructure and enterprises had been established by state socialism. Russian domestic demand for wood had been and still remains small, and the amounts of cut wood significantly exceed the consumption capability of the inner market. The predictions made by Soviet specialists about the rapid and intensive growth of industrial production due to sophisticated technologies have not been realized. Instead, the volumes of harvested wood have increased, now cut mainly by private companies and leading to the wood crisis. In the 1990s, private profit became the most important category and motivation for harvesting, and to a large extent maintained the intensive cutting of forests in Russia. The fate of the wood-harvesting industry resonates with that of other extractive economies that export wood instead of developing full processing circuits inside the country.

Like coal, oil, and gas, wood has remained an important raw material for the resource-based economy, maintaining its dependence on natural riches. And in the 1990s, as previously, Russian specialists who remained employed in the forestry industry often described the situation prevailing in wood harvesting and processing as difficult and careless (*beskhozyaistvennyi*). From a professional point of view, the wood crisis persisted, and remained a real danger because

of the ongoing and extensive exploitation of forests. Public attitudes toward deforestation, especially of the illegal kind, were also critical toward cuttings and illegal exports of wood.

Many post-Soviet forestry practices have remained as wasteful as they were in the Soviet Union, and post-Soviet industry is still largely based on old Soviet technical infrastructures—even as the immediate post-Soviet decades proceeded with disavowals of prior Soviet experience in forestry, representing a rupture between past and present. The post-Soviet industry has refused to forge a postsocialist forestry industry based on past models, condemning them as useless Communist experiments. It has also relegated to the past the socialist attempts to predict and explain the wood crisis along with those pioneering projects of rational resource use and no-waste production. This break with socialism incinerated the forms of industrially embedded ecology that had emerged over the course of the last decades, even as rapid deforestation, the wasting of forests, and pollution continued to be notorious realities in Russia. The numerous professional proposals, experiments in no-waste production, and ideas around increasing the efficiency of manufacturing from wood that developed as part of Soviet industrially embedded ecology were attributed to a bygone ideology, thrown into the “dustbin of history.” Many engineers again emphasized the importance of learning from Western experience, referring, for instance, to the so-called Scandinavian type of cutting (*skandinavskaya rubka*)—sometimes also identified as Finnish—or a type of cutting techniques employed in northern Europe (primarily Finland and Sweden).¹ Russian foresters have, as in the past, connected these models to efficiency and nondepletion technologies, underscoring

the importance of technology transfer from the West. Yet they do not consider the lessons learned through previous Soviet experience.² This has partly echoed the ways in which the Soviet industry denied the industrial know-how developed over the czarist period, like the experiences of manufacturing from reed. The post-1945 period did not invent but rather developed previously invented ideas, such as the complex and rational use of forest resources found in the 1930s at least. Equipped with better technologies and more environmentalist attitudes, however, it saw czarism and often the pre-Second World War period as backward and hindering of modern development, while explaining earlier experiments as pioneering and useful yet technologically lagging behind. Similarly, postsocialist Russian forestry has not seen the Soviet past as something to positively reflect on. Cyclical denial of industrial experience has derived from the neglect of the preceding political and ideological system, which has always been relegated to a less developed and therefore useless stage in the linear timeline of history.

Neglecting Soviet practices of industry-nature relations serves as an important indicator of the low priority given to nature in modern Russia in general. While for a period of Vladimir Putin's presidency, increasing state interest toward ecology and the environment could be detected, it did not last long. In 2017, the Russian government declared a "year of ecology" in the country to increase public and professional attention on environmental problems, expressing at least a formal state concern over the environment. In just a few years, however, political transformations, most starkly expressed in the war actions that the Russian government launched in Ukraine in February 2022 and in declaring a

number of environmental organizations as “foreign agents,” put nature in Russia on the back burner.³ Climate change, rapid deforestation, and large-scale forest fires remain pivotal issues, but they are on hold as themes of secondary importance. A radical change in the state’s approach to the environment over the last few years has put political pressure on environmental activists, despite environmentalist declarations made by the state.

The post-Soviet era has seen the continued and extensive use of naturally growing forests and witnessed only a small share of reforestation. Russia has also continued the export of round wood and not invested a great deal in the already weakly invested wood-processing industry. As in the Soviet Union, Russia still consumes significantly less paper per person than developed liberal economies.⁴ Along with this, it suffers from numerous environmental problems related to forest depletion and pollution in its different regions. Local dwellers of Svetogorsk, for instance, a town on the border with Finland where a huge pulp and papermaking plant operates, describe colored snow and dirty air as familiar features of their urban landscapes.⁵ Huge swathes of forest in Siberia and the Far East have been cut by Russian and foreign companies, particularly Chinese ones. In 2017, Russian sawmill products made up 30 percent of all sawmill products exported to China, according to some calculations.⁶ Forests wasted by harvesters and local dwellers, along with incredible forest fires, are still major problems in Russian forests to this day, especially those in Siberia. The processing of wood waste remains a vague prospect for the future due to little interest and poor forest infrastructure.⁷ In 2022, the state issued a complete ban on exporting round timber from



Figure E.1 Clear-cut of forest in the Russian north. Source: “Ostanem-sya bez lesa,” <https://arh.aif.ru/society/people/1307897>.

Russia, exemplifying not only the break of economic operations between Russia and the West but also showing how deep the problem of wood depletion is in Russia.

The materiality of wood nevertheless remains important as political crisis and economic sanctions on Russia imposed by Western countries since 2014 have not radically diminished consumer demands for paper, furniture, and other wood-based products. In 2022, economic sanctions were sharpened, interrupting supplies of the chemicals and components required for the high processing of wood. The price of printing paper in Russia has especially skyrocketed. Some papermaking enterprises were even temporarily shuttered because of the lack of chemicals, revealing the backwardness of the papermaking industry. While there was still raw wood available, enterprises lacked materials needed for

manufacturing and bleaching pulp, with most chemicals still imported from abroad and blocked by Western economic sanctions. This revealed a strong compensational function of Western imports to the Russian economy (often defined as “dependence” in Russian media and political circles) and the incapability of the latter to immediately adjust to the extreme conditions. Interestingly, in the wake of the political and economic crisis, several Russian newspapers wrote about a technological innovation developed recently by Russian scientists to process cow parsnip into bleached cellulose.⁸ Previously seen as a noxious weed that presented health hazards, cow parsnip, which grows across Russia, was rethought as a useful industrial material. Yet the Soviet projects of the past that sought to recycle annual plants were entirely forgotten in the enthusiasm for cow parsnip.

Soviet experience in this sense provides lessons for contemporary Russia. But it also offers insights for liberal societies in terms of proposing theory and experiments that led to specific types of industry-nature interactions. Based on rationality and the complex use of natural resources, the Soviet approach sought to achieve no-waste production and sustainable economic growth with a stable supply of material goods. Considering the Soviet experience of developing solutions to prevent a wood crisis requires drawing a distinction between professional expectations and experimenting, on the one hand, and implementation, on the other. This is an important difference, emphasizing that experimentation and the professional dreamscapes that revolved around the concepts of progress and technological advancement met the materiality of socialism and found numerous infrastructural obstacles. In the twentieth century, the forestry industry

was not simply a critical industrial branch but significantly depended on state investments and material support too. Natural resources played a crucial role in this process: they were materials, both physical and symbolic, constituting the surrounding environment for the people. Wood provided the green power to both build the industrialized society and uphold narratives of Soviet might, especially in the context of competition with the West. From the 1950s to the 1980s, Soviet specialists proposed to restructure the raw material base in order to realize effective industrial development, prioritizing new spheres of consumption while seeking to manufacture as much as possible with minimal costs. Initiatives moved by alarmism usually were supported by state political leaders in word, but rhetoric and partial funding met serious obstacles, with militarism—an obvious priority under socialism—drawing incredible amounts of funding away from these efforts. In the Soviet Union, for many forestry specialists, making cardboard packages for food was a symbol of progress and inevitable consumerism, while producing arms remained a greater priority for the state. Consumer paper was the subject of rhetoric about a future Communist society and often was not abundantly available to Soviet citizens. In the industry, a huge gap between the harvested volumes of wood and real production of consumer goods therefore was a pivotal issue during the whole Soviet period and afterward. As one book put it in the year of the demise of the Soviet state, “The main quantity of sawmilling materials is consumed in Canada, Sweden, Norway, and Finland. We, being the forest superpower, should obviously aim at the same level.”⁹ This quote perfectly reflects the gap between the availability of natural resources and

technological possibilities, attributing forest to *superpowerness*, but at the same time stressing that the Soviet Union was *behind* developed forested economies. Even though the forestry industry was an important supplier of a vast range of products, its share in the industrial sector was small—only 5 percent of the whole production in 1988.¹⁰ The ambitious thinking about nature-given resources as evidence of resourceful might and superiority still coexists with poor technological infrastructures and a lack of sophisticated technologies in present-day Russia.

Importantly, though, forest alarmism among Soviet specialists after the Second World War had challenged Russia's traditional *resourceful imperialism* long grounded in history along with its slow colonization of densely forested and scarcely populated lands from the Urals eastward. The professional investigation of forests explained the clear difference between wood as an item of economic prosperity versus cultural myth. Huge forest covers of the eastern lands of Siberia and the Far East would serve the economy, but the economic abundance of wood, specialists explained, was more public illusion than economic reality. Colonial advancement to green unspoiled lands in the eastern parts of the USSR demonstrated the tension between mythmaking around the forest as a cultural actor and the industrial application of wood, showing that the depletion of industrial wood was a real danger to sustainable economic growth. Even so, extensive advancement into the eastern parts of the country to technologically colonize unspoiled forests was a project grounded in rationality as well as a deep expectation of turning a new page and building new organizational forms in the forestry industry there. Industrialism and a passion for technocracy

instigated by the availability of scientific and technological instruments to transform wood, waste, and annual plants into sophisticated consumer materials, along with a strong belief in the power of progress, provoked concerns about the future “fuel” for economic development. Technology acted in this sense not as a risk for nature but instead as a possibility to reconcile economic growth and nature together as two ingredients of the modern world. Increasing the volumes of production was important for Soviet specialists as it could change society, bringing technological achievements into social life and bringing forth a diversity of material goods—one indicator of the quality of life. Despite the fact that public views still often replicated the image of forests as historically bestowed abundance, professional alarmism appealed to the scarcity of industrial wood. In contemporary Russian society, forests are still seen as vast green riches, and ongoing overexploitation is leading to depletion. This highlights the continuity between Soviet professional predictions of the past and the likely future of Russian forests: the Soviet experience had demonstrated the fragility of Russian forest imperialism and the scarcity that belied the apparent abundance of wood stocks.

All three solutions for preventing a wood crisis examined in this book—imperial, experimental, and modernization—implied the more rational use of wood to facilitate more sustainable economic growth. Specialists remained industrialists and never truly became ecologists. Production as a paradigm was never criticized by the Soviet power and professional communities; rather, it was the conventional basis for the economy of a society impassioned by overindustrialization. Ideologically, it was crucial for completing the

project of forging the material basis to build a Communist society. Natural resources played a crucial role in this process.

Industrially embedded ecology was found in all of these solutions, and derived from an economic purpose to increase production through more efficient methods explained as rational and waste minimizing. A desire to save on costs and improve a wasteful economy, as specialists recognized it, provoked a desire to decrease the burden on forests by different means. For the colonial model, moving harvesting and wood-processing capacities to the “underexploited” eastern forests could work to decrease the volume of harvesting in the exhausted northwest. Extensive advancement to the east thus aimed to save old industrial regions from total depletion and a future of desertification. Those who developed experiments in waste recycling and reed processing did so in the hopes of rendering the use of cut wood more efficient, making cutting both less wasteful and less necessary in providing the material required for industrial production. The modernization model relied on intensifying technological processes as well as increasing the levels of mechanization and automation to prevent wood loss during harvesting and wood processing at industrial enterprises. Effectiveness implied minimal loss, and stimulated numerous initiatives to save costs and reduce wasting from woodcutting operations. These models were all based on a technocratic vision of nature and relied on a few important notions that circulated in the Soviet economy: rationality, saving or economizing, and the complex use of natural resources. Rationality referred to minimizing waste, emphasizing that all possible resources should be used in industrial processes. The complex use of natural resources emerged as an influential

principle in late Soviet industrial development. Complexity could help maintain sustainable resource supplies and industrial growth; now, not only the best wood could be used, but all parts of trees that had hitherto been left as waste accrued industrial value.

Attempts to make progress in forest exploitation failed in practice, however. This book has told the story of how a huge country that tried to deal with its own natural riches did not manage to *implement* professional solutions to provide sustainable development. The failure of the planned economy resulted in the incapacity to implement expert ideas even as the central state made investments in new industrial enterprises and infrastructures. Failure is, as such, woven through the chapters of this book to demonstrate that state socialism and central planning produced progressive views of the interplay between industry and nature, but simultaneously set obstacles in the path of implementing them. Innovative ideas expressed by specialists required modern infrastructures and long-term investments, but were often not met with sufficient resources. As in the case of waste processing and the use of annual plants, material shortages and the lack of expensive infrastructure created obstacles for innovation and production.

Yet attributions of failure should not be made wholesale. None of the proposed solutions to the wood crisis succeeded at full capacity, yet *neither* were they all total failures in terms of their discursive value and experiment. Found in backward material infrastructure, projects designed for saving wood from depletion in order to make more diverse goods for consumption instigated discussions and experiments to make industry greener under state socialism. Compared with

previous decades, many ideas derived from late Soviet projects were based on the belief in more progressive technologies and the need for sustainable consumer production to address earlier concerns about forests. By the mid- to late 1970s, specialists developed even more sustainable industrial thinking and spoke of the ecological as well as recreational functions of forests, insisting on the importance of keeping them safe by deploying new methods for acquiring raw materials in place of brutal clear-cutting. They did not talk about the conservation of forests as such but instead sought out solutions beyond legislation to most efficiently use wood and wood-related materials. This brought greater environmentalism to industry; using waste material was important because of the envisaged lack of wood, but also because of the noneconomic functions of the forest. Undoubtedly, this view on industrial sustainability developed in the context of increasing environmentalism in the Soviet Union and beyond, and reflected transformations in the views of specialists working in the forestry industry. Using waste would keep forests clean, decrease the number of forest fires, and allow for the manufacture of numerous modern consumer products.

Importantly, the perestroika period again surfaced a gap between the professional dreamscape and realities of implementation, and stimulated professional discussions about the need for making the forestry industry more effective—that is, more productive with lesser costs—and the use of natural resources more rational. Transforming industrially embedded ecology from a set of discourses to programs of action was still a prioritized aim of late Soviet producers. Recognizing the failures of all three models by this time,

specialists continued emphasizing that the use of waste, reed recycling, and other technologies was urgent—in ways that were similar to the tenor of their discussions decades before. Likewise, they spoke of the need to develop forest settlements and social infrastructures close to depleted forests, even as those forests remained a marker of social decay in the former Soviet Union.¹¹ Perestroika, which began from the drive for economic modernization, resulted in loud discussions about Soviet political and economic problems, but did not result in moves to modernize the industry. Once more, the political center set long-held aims for overcoming wastage and the lack of efficiency in the forestry industry, but explained them as matters for the future. What made this period different from earlier decades was a changed view of forests. By the 1980s, specialists increasingly described nature as having its own agenda as well as being important for the broader ecosystem and human life. By this time, they had also come to connect waste not only to industrial value; they tied it to an environmental practice, advancing the need to keep nature pristine even though economic development remained a priority.

In recent decades, scholars have sought to explain green strands of past and present political regimes. Some have demonstrated the evolution of green nations of capitalism, discussing how countries like Norway and Germany were much greener than previously imagined. Peder Anker, for instance, stresses how scholars and activists portrayed Norway as place of environmental stability and a pioneering green nation on the periphery of a contaminated and conflicting world.¹² Frank Oekötter argues that Germany founded a sustainable future in the late twentieth century because of a strong

environmentalist initiative.¹³ In contrast, East Germany specifically and every other socialist regime, Arvid Nelson concludes, destroyed the environment and to a large extent met their end because of their ignorance of ecology.¹⁴ In these studies, capitalism is to a large degree portrayed as the cradle for green ecology in the context of the growing environmentalism of late decades, exemplifying that some liberal economies *finally* produced a strong concern for nature.¹⁵ They debate with a robust and old (yet still powerful) discourse expressing a critical view of capitalism as depleting nature because of its egoistic interests. In particular, an iconic story about the 1930s' dust bowl is one of many examples invoked to demonstrate how concerns about quick profit can result in the devastation of pristine nature.¹⁶

Beyond the discussion about capitalism and nature, there is a changing view of socialism as not exclusively ecocidal but in fact containing more strands of green than previously countenanced. Zsuzsa Gille, for instance, discusses the waste regime in socialist Hungary as a model of socialist interaction with the material remains of socialist industrialization.¹⁷ Stephen Brain insists on a more careful approach to nature under Stalinism in the USSR that saw a period of forest conservation.¹⁸ Petr Jehlička and Joe Smith provide evidence for a postwar Czech environmentalism through nature conservation and education, which remained alive and influential after the demise of socialism there.¹⁹ While this measurement of both the good and bad effects of human activities on nature should not be exaggerated, socialist experiments should certainly not be reduced to the ecocide model. *The Green Power of Socialism* has not sought to enter the fray to advance another example of socialism's benefits for nature.

Instead, it has shown how economic priorities and the passion of industry supported a specific, complex, and at times contradictory attitude toward nature among industrialists. The Soviet Union, a space where large-scale industrialization became a national idea, was home to a contradiction, demonstrating how industrial ecology coexisted with a wasteful economic regime. Soviet specialists raised their voices against the depletion of forests in the name of producing more industrial goods in the future and developed a discourse of industrially embedded ecology as a by-product of rapid industrialization. They argued that the transition from extractive to intensive economy was to be based on saving natural resources in the name of future economic development. The professional attitude toward forests, even as it remained critical and alarmist, underscored the liminality of forests along with their ability to undergo a substantial economic, cultural, and political transition. The forest was transformed from an abundant material resource exclusively serving humans to an actor in its own right that provided a great service for society. The forest—the green coverage—was a power that compelled socialism to rethink its relation with nature while remaining committed to industry as its conventional priority. In the context of ongoing environmental crisis in the world today, we stand to learn a great deal from this historical transformation about how to build a better dialogue with this green power for a sustainable future.

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The Green Power of Socialism

Wood, Forest, and the Making of Soviet Industrially Embedded Ecology

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