The Case of the

TAGEBAU JÄNSCHWALDE

Groundwater Governance in the Context of Lignite Mining

November 2023

Preface

For over 120 years, the industrial extraction of lignite in the Lusatian mining district has significantly influenced the region's water balance. The river basins of the Spree, in particular, have been affected by this decades-long practice, leading to considerable water supply and management challenges. With the nationwide coal phase-out planned by 2030, these challenges will further intensify due to significant changes in the water balance.

A substantial reduction in the Spree's water flow is anticipated, which could lead to the river almost drying up in sections during drought periods. Furthermore, the effects of climate change exacerbate the increasing imbalance between water supply and demand, which has far-reaching consequences for the region's population, industry, and ecosystems.

A deep understanding of the legal and institutional frameworks governing water management, especially artificial groundwater extraction, is essential. This brochure provides insights into the governance of groundwater extraction at the open-pit mine (Tagebau) Jänschwalde. This focus offers an in-depth overview of the complex network of legal guidelines, regulatory frameworks, and various actors with their respective resources and areas of responsibility, identifying potential governance gaps.

Contents

	Page
1. **Problem Context**	5
a. Political Background	6
b. Lusatia Area	6
c. Groundwater & Mining	6
d. Spree River Basin	7
2. **Problem Demarcation**	8
a. Problem Demarcation - with Rene Schuster	9
b. Problem Demarcation - Summary	11
3. **Analysis**	12
a. Analysis - Governance Framework	15
b. Analysis - Stakeholder Relationships	17
c. Analysis - Permitting Process	19
4. **Reflection**	20
a. Reflection - Tagebau Jänschwalde	21
b. Reflection - Motivation	22
c. Reflection - Governance Dynamics & Prioritise	23
d. Reflection - Ineffective Enforcement	24
e. Reflection - Disjoint Principle Actors	25
5. **Recommendation**	26
a. Recommendation - Establishment of Task Force	27
b. Recommendation - Strengthening Enforcement	28
c. Recommendation - Foster Collaborative Integration	29
6. **Conclusion**	30
7. **Resources**	31

1. Problem Context

Political Background

Lusatia Area

Mining & Groundwater

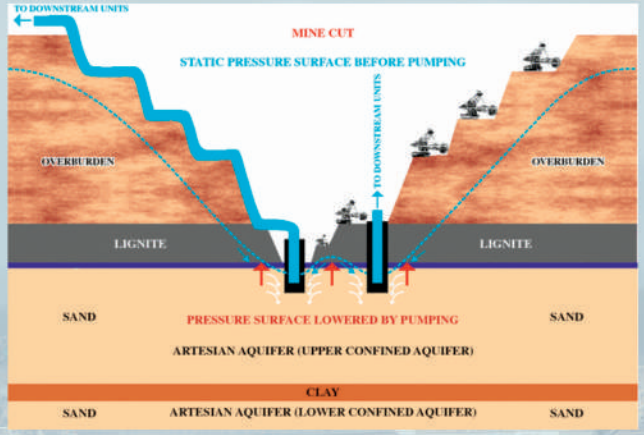
Spree River Basin

Problem Context

Political Background

Germany stands at a pivotal juncture in its journey toward a sustainable future. The nation's ambitious "Energiewende" – or Energy Transition – is a testament to its commitment to decarbonizing both the economy and the energy sector.

Central to this transition is the planned coal phase-out by 2030. Regions with a rich coal legacy, like Lusatia, face intricate challenges as they navigate this transformative shift.



Lusatia Area

Positioned in the northeast of Germany, Lusatia, also known as "Lausitz", is a region deeply intertwined with lignite mining. Once home to over 30 active mines, the area now confronts challenges stemming from Germany's Energy Transition.

With only four active lignite mines remaining, the region stands at a crossroads, tasked with managing environmental rehabilitation, socio-economic transformation, and the weight of its profound industrial history.

Groundwater & Mining

Lignite mining, especially prevalent in regions like Lusatia, requires the excavation of vast pits that often delve below the groundwater table. This procedure entails pumping out substantial volumes of groundwater, subsequently impacting the surrounding environments.

Spree River Basin

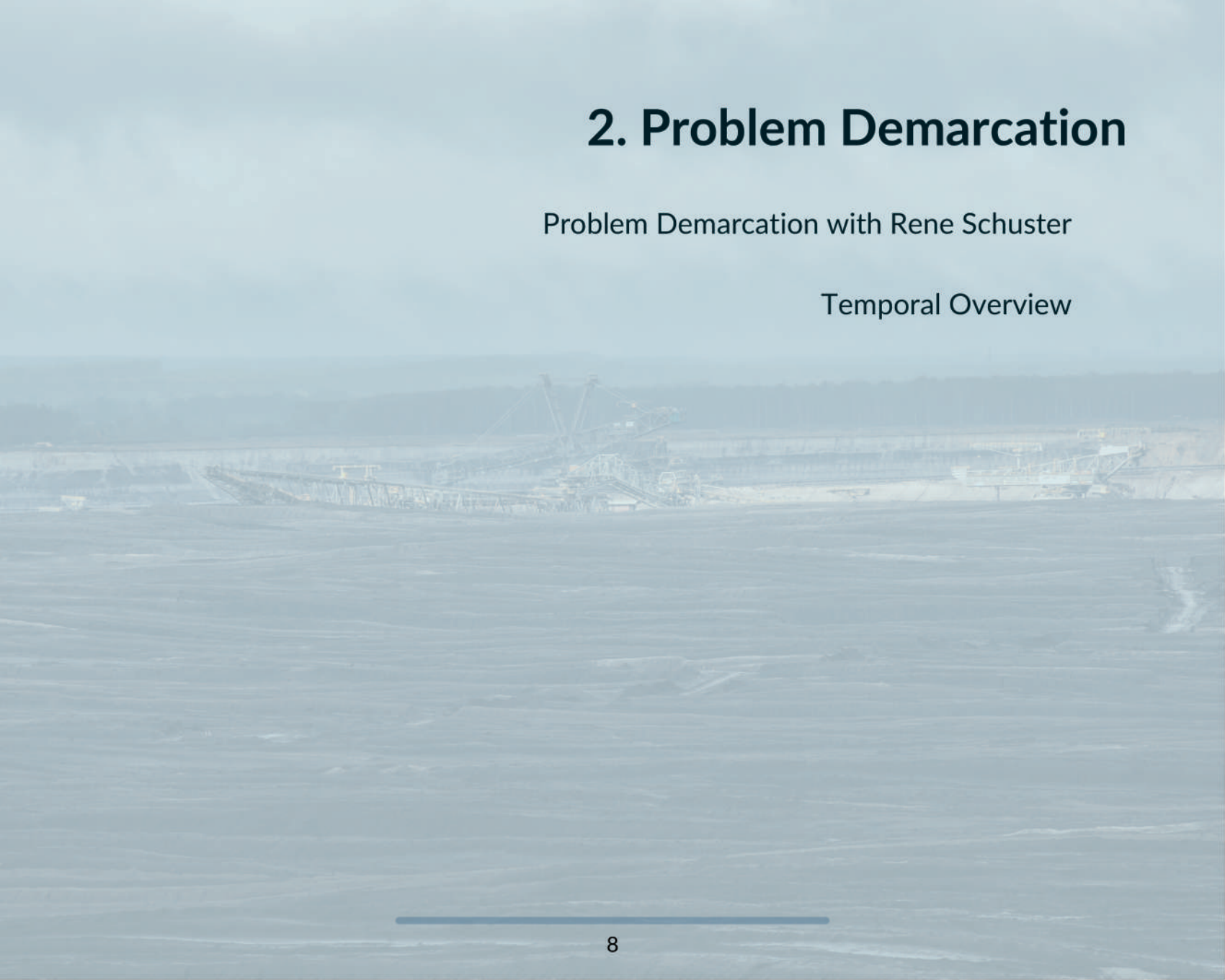
Originating from the Lusatian Highlands, the Spree River flows 380 km through Lusatia before reaching Berlin, draining an area of approximately 10,000 km². Once in Berlin, it joins the Havel River and subsequently the Elbe. With an average flow rate of 36 cubic meters per second, the Spree waters the distinctive Spreewald UNESCO Biosphere Reserve. Historical groundwater extraction for mining in Lusatia has artificially augmented the river's levels, thereby affecting its natural flow and water quality.

As it winds through industrial, ecological, and urban terrains, the water system grapples with challenges pertaining to both ecosystems and water supply. The Spree's dynamics, molded by nature and human influence, underscore the necessity for a comprehensive water policy.

2. Problem Demarcation

Problem Demarcation with Rene Schuster

Temporal Overview



Problem Demarcation - Rene Schuster

René Schuster about the relations between lignite mining in Lusatia and the increasingly scarce water in the region. He is the author of the brochure titled "Coal.Water.Money - How to deal with the water problems of lignite mining in Lusatia?"

"From a water volume perspective, it's clearly the lignite," Rene Schuster began, addressing the primary factors influencing the water situation in Lusatia. The Spree River Basin, in particular, has borne the brunt of over a century of lignite mining. The practice of pumping groundwater to access coal deposits has left an indelible mark on the water balance of the Spree river basin.

Today, approximately 58 billion cubic meters of groundwater have been artificially drained over time, resulting in a current groundwater deficit of about 4 billion cubic meters. This drainage has led to the Spree's discharge being unusually high, surpassing the natural capacity of the catchment area. On average, the water flow of the Spree at Cottbus is comprised of 50% artificially introduced groundwater. This percentage can surge to 75% during the arid summer months.

“groundwater bodies are pumped empty, making the Spree River appear full"

Communities along the Spree, notably Berlin with its 3.8 million residents and the UNESCO Biosphere Reserve Spreewald, have adjusted to the altered water conditions. Berlin is particularly impacted as it relies on the Spree for its drinking water. With expected population growth in the Berlin-Brandenburg metropolitan area and the emergence of new industries, such as the Tesla factory, the demand for water will only increase.

"neither the mining as the cause nor the state bear the multi-million costs"

A primary challenge for the region's water system lies in striking a balance between the diminishing water supply from the Spree and the escalating demands from nature, residents, and industries.

In the second segment of the interview, Rene Schuster took a moment to shift attention towards the complex governance and management systems at work. When questioned about the governance of the 2030 coal phase-out in relation to groundwater extraction, Rene Schuster noted that, as of today, all the necessary tools, technology, and knowledge are available to hold entities accountable.

"Proactive governance is the key"

He posited that local and regional governance structures occupy a crucial position within the overarching governance framework. Schuster also highlighted the significance of multi-stakeholder engagement, emphasizing that the responsibility doesn't rest with a single entity. "Various actors," he stated, "play a pivotal role in monitoring, feedback, and advocacy."

"Effective water management and landscape transformation isn't solely the responsibility of the state [...]. It's a collective effort."

Additionally, Schuster highlighted the necessity of a dynamic governance model, emphasising its adaptability and forward-thinking approach.

"While the landscape is undergoing a physical transformation, there's an equally significant evolution occurring in the realm of governance"

He concluded on an upbeat note regarding the future of Lusatia and Brandenburg, asserting, "The challenges are immense, but our determination to navigate them successfully is just as strong."

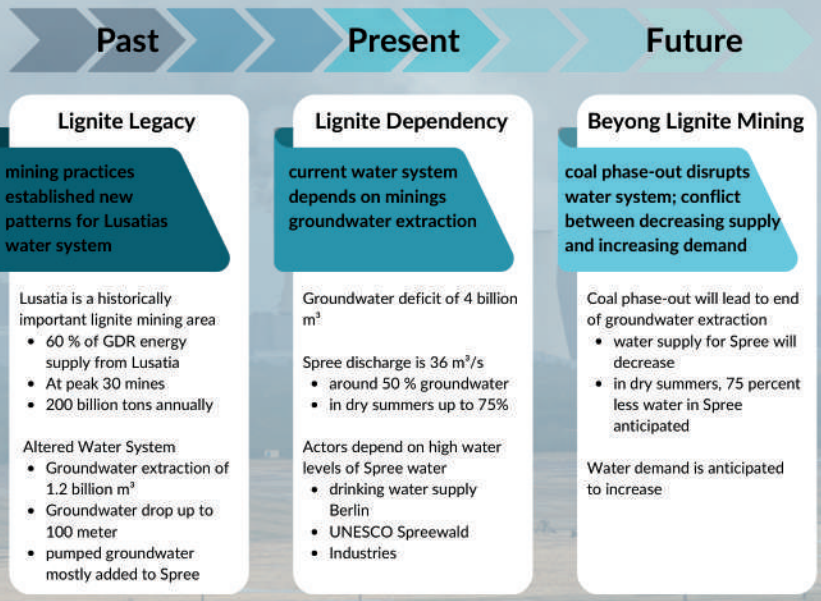
Problem Demarcation - Rene Schuster

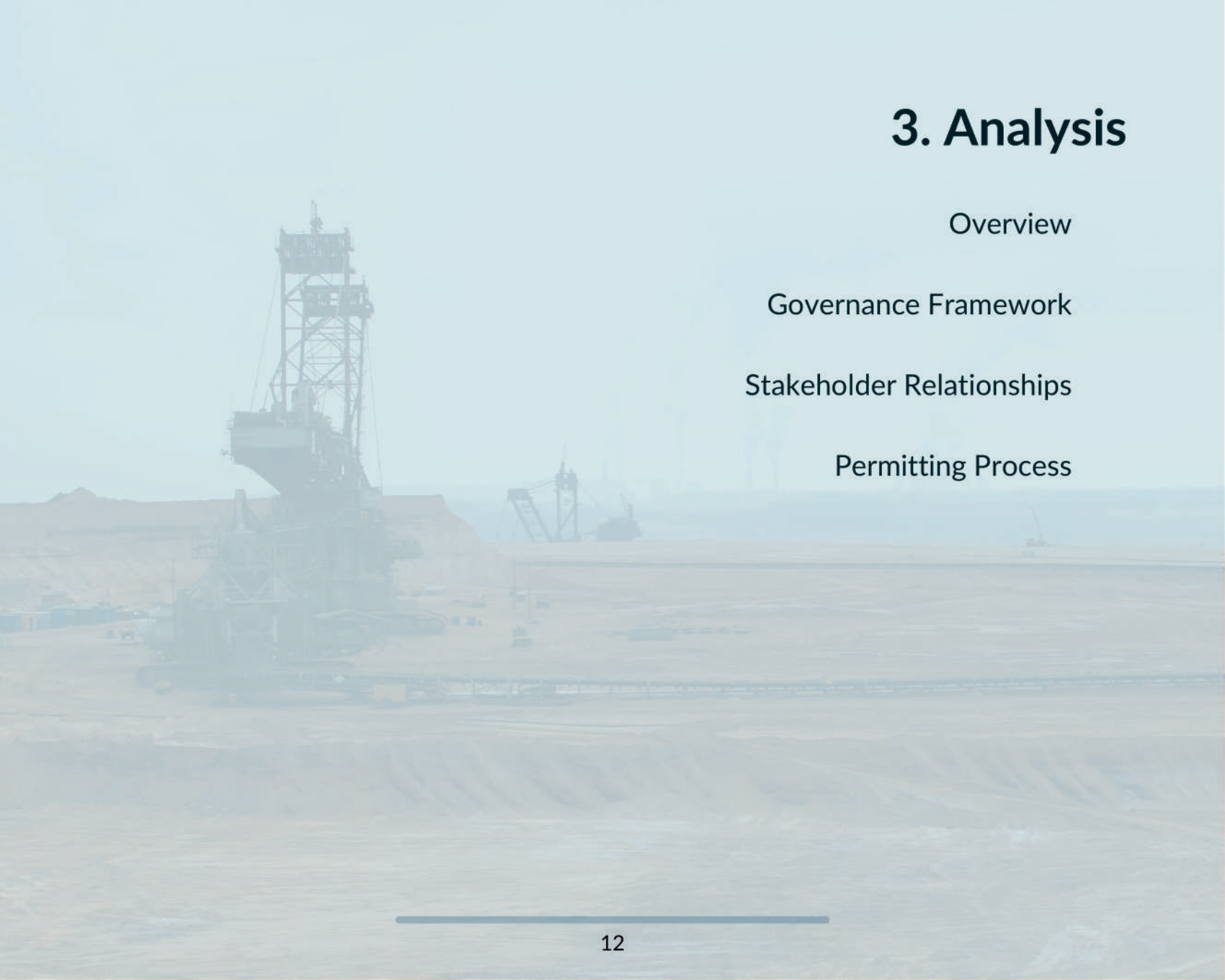
The essence of Schuster's insights are clear: By embracing proactive governance and inclusive management, Brandenburg and Lusatia have the potential to not only confront their historical challenges but also carve a path for harmonious coexistence among nature, recreation, and urban development.

A profound grasp of the legal and institutional frameworks governing water management is imperative.

This brochure zeroes in on the Jänschwalde open-pit mine as a case study, providing a comprehensive look into the intricate web of legal guidelines, diverse stakeholders, and layered governance structures.

Problem Demarcation - Temporal Overview





3. Analysis

Overview

Governance Framework

Stakeholder Relationships

Permitting Process

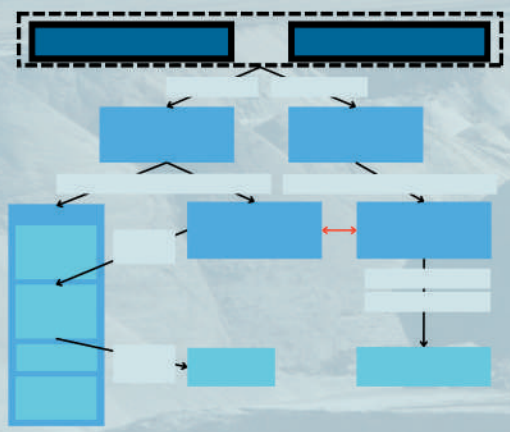
The analysis of water governance in the realm of groundwater extraction is looked at through three distinct lenses.

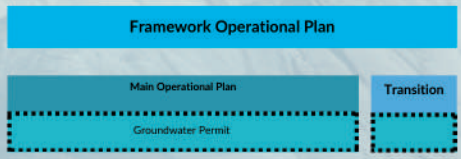
Analysis - Overview

Governance Framework
This initial step delves into the structural layers of governance. It sheds light on regulations, ownership dynamics, and the legal frameworks in place.

Stakeholder Relations
Here, we unravel the intricate relationships between various stakeholders. This exploration helps identify the relational dynamics and structural hierarchies pivotal to groundwater governance.

Permitting Process:
This critical phase focuses on the protocols surrounding groundwater extraction. As a primary regulatory mechanism, the permitting process is integral to the effective governance of groundwater extraction.



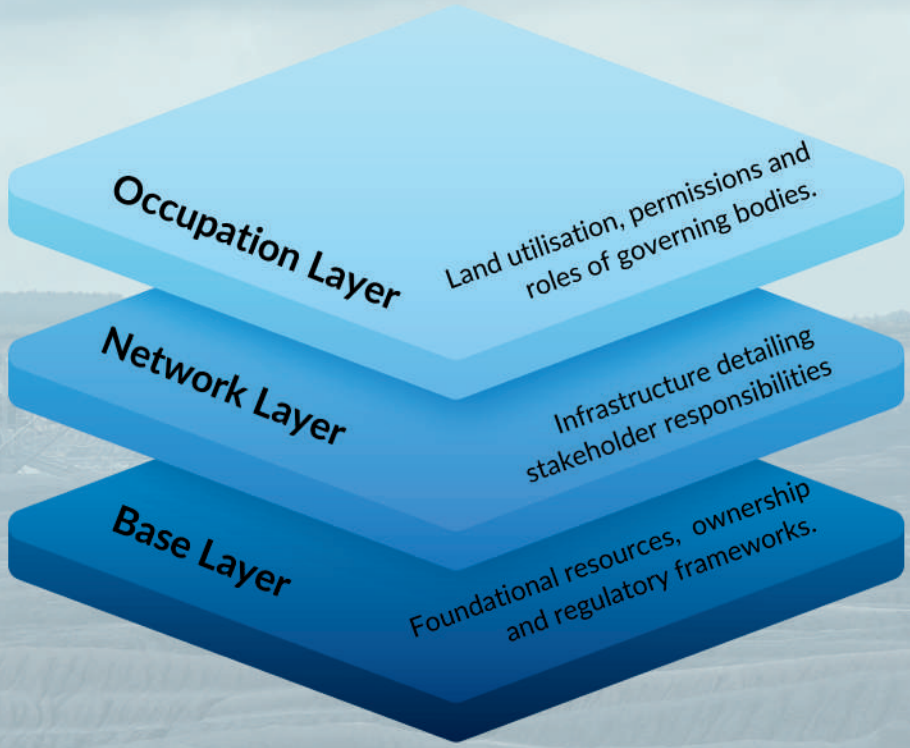


Analysis - Governance Framework

Governance Framework

To understand the governance framework, first, a layered analysis approach is employed. The focus lies on examining the base, network, and occupational facets.

The analysis provides insights into infrastructure, stakeholder relationships, and workforce dynamics, offering a comprehensive view of the mine's operational landscape.



Summary

The foundational layer for lignite mining governance—and by extension, groundwater extraction within mining—derives from national state authorities. This is primarily steered by two legislative acts: the Water Resource Act and the National Mining Act. Overseeing this layer are two federal State Offices: the State Office for Mining, Geology, and Raw Materials (LBGR) and the State Office for Environment.

Occupation Layer

There's a balance between state and federal authority. Land ownership is state-regulated, but significant federal influence exists, particularly with the Federal State Mining Authority overseeing mining permits and relocations. This layer underscores the interplay between state regulations and federal administration in mining-related matters.

Network Layer

The network layer displays shared governance. Waterways are split between federal and district oversight. District-level water associations, in collaboration with private entities, manage the water supply, signifying a blend of public and private management. Lignite mining companies have their own water infrastructure network.

Base Layer

Governance at the base layer is primarily state-centric. Water, being publicly owned, is governed by the Water Resource Act. Minerals are state-owned and regulated by the National Mining Act, emphasising the state's leading role in resource management.

Occupation Layer

Ownership - State-regulated with significant federal influence on land use

- Federal State Mining Authority (LBGR) holds power to relocate people; due to ue to underlying state-owned resources

Mining Permits - issued on federal level through LBGR

- LBGR review, approve and administrates mining permit applications.

Groundwater Extraction - on district level by municipalities; regulated via State Office for Environment

- Groundwater extraction in relation to lignite mining; authorities change and LBGR becomes the official water authority

Network Layer

Waterways - regulated via Open Water Framework (OGewV, 2016) which separates governance into:

- Category 1 - governed on federal level by the State Office for Environment and the Federal Waterways and Shipping Administration.
- Category 2 - governed by district-level Water Associations.

Water Supply Network - governed on District-level by Water Associations that cooperate with private water companies

- Mining companies have their own private water network

Base Layer

Water - Publicly owned; regulated via Water Resource Act of 2000 (WHG).

- National ministry and District level Water Associations oversee groundwater (GrwV, 2010).

Minerals - State-owned; regulated via National Mining Act (BBERGG, 1980).

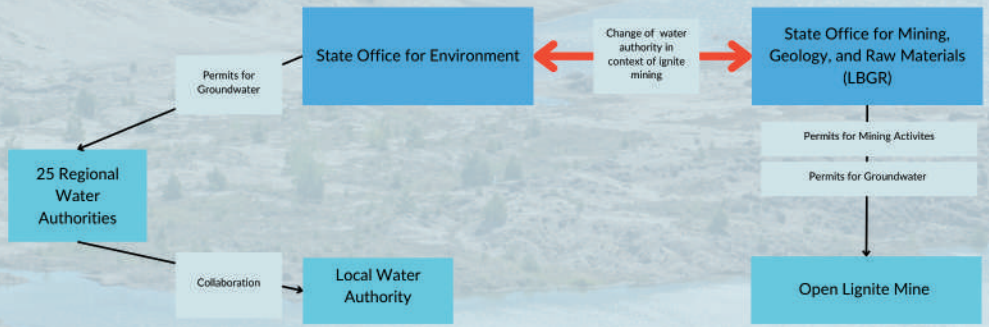
Stakeholder Relationships

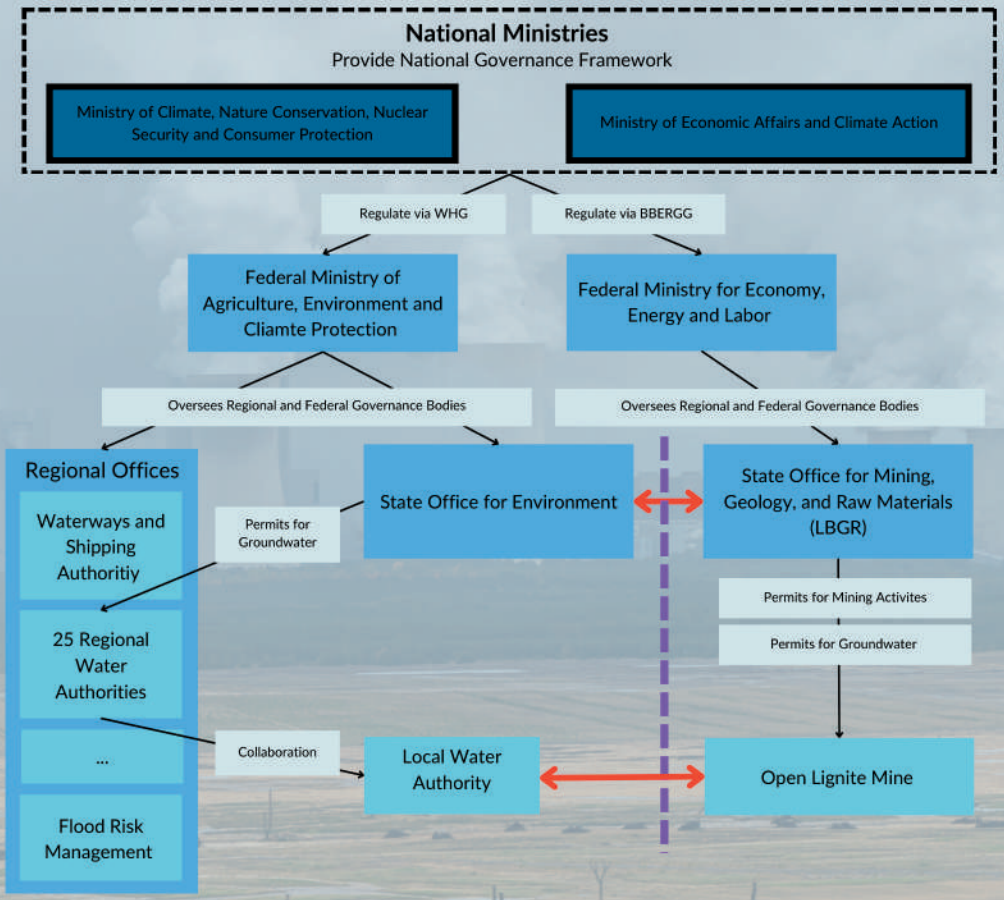
While the overarching framework is national, administrative and permitting duties cascade down to federal entities, overseen by the federal ministries. State offices are responsible for the permitting issues, while regional governance bodies cooperate on a local level with stakeholders.

This is evident in the network layer, where, apart from primary waterways, water infrastructure management (including waterways and groundwater extraction) is decentralised and responsibilities are shared across 25 Water Authorities.

However, an exception emerges when a mining company solicits a mining permit. In such cases, water-related concerns, typically within the jurisdiction of the State Office for Environment, transition to LBGR's purview, establishing LBGR as the principal water authority.

Overall, there exists a layered governance structure for groundwater management, with national actors at the top, cascading responsibilities to federal entities, and a bifurcation in permitting authorities based on the purpose of groundwater extraction. Notably, when mining intersects with water governance, the LBGR assumes a central role, disregarding Regional Water Authorities.





Summary

The Formal Chart Analysis reveals a potential governance challenge stemming from the transition of the water authority in relation to lignite mining.

Successful navigation of this transition hinges on effective collaboration between the water governance framework, particularly concerning groundwater, and the mining governance framework. For local stakeholders, such collaboration is vital, paving the way for joint projects between local water authorities and mining companies.

Permitting Process

The relation between mining operations and groundwater management is primarily governed via a mine's permitting process.

To provide a context-specific approach, juxtaposed against the theoretical layer analysis and the formal chart analysis, a comprehensive exploration of the permitting governance is provided.

Mining companies, by standard procedure, must adhere to this meticulous permitting protocol.

The initiation phase sees the development of a Framework Operational Plan which sketches out the grand scheme, both spatially and temporally, of the mining venture. This includes the Main Operational Plan duing the active mining phase and the Transition Plan for the Post-Mining Activity, as mining companies are responsible for the restoration of the lignite mines.

The Main Operational Plan delineates the exact scope and specifics of the mining project. It includes water law accreditations, mandates environmental evaluations, and narrates in detail the quantity and quality of the intended mining. The LBGR steps in as the water authority, and the permitting institution for all Operation Plans.

4. Reflection

Tagebau Jänschwalde

Motivation

Governance & Prioritise

Ineffective Enforcement

Disjoint Principle Actors

Reflection - Tagebau Jänschwalde

Tagebau Jänschwalde
Since 1974, Tagebau Jänschwalde has operated as a pivotal lignite mine in Lusatia, significantly influencing the region's energy, economy, and water system. Owned and operated by LEAG (Lausitz Energie Bergbau AG), the mine falls under the administrative authority of the LBGR.

Although mining at Tagebau Jänschwalde is scheduled to end by 2023, the extraction of groundwater won't cease immediately. A successful transition requires the gradual reduction of groundwater usage.

However, LEAG's lack of a comprehensive closure plan is alarming. Previous issues with water rights exacerbate these concerns, suggesting potential governance gaps.

Permitting History
From 1996 to 2019, the mine's operations were grounded in an Operational Plan that had undergone rigorous water law scrutiny. This plan permitted a withdrawal rate of 4.8 cubic meters per second for the Main Operational Plan.

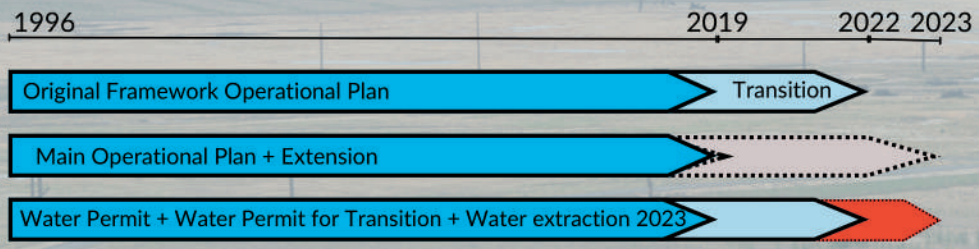
However, the Transition Plan's water allowances were slated to decrease annually starting in 2020, reaching a projected 42 million cubic meters of groundwater extraction in 2022.

Yet, contextual circumstances led to the extension of the Main Operational Plan to 2023. However, the Tagebau operated without a new water permit, relying on the Transition Plan's water permit for 2019-2022.

This decision disregarded the stark difference between the approved 42 million cubic meters and the actual extraction rate of 112 million cubic meters.

Furthermore, despite knowing since 1996 that extending mining activities would necessitate a new permit, LEAG only applied for one in late 2022, specifically for 2023 operations.

This delay underscored that Tagebau Jänschwalde was operating beyond legal parameters. This overreach was highlighted by the Cottbus Administrative Court in March 2023, emphasizing the absence of a valid water permit and the mine's continued over-extraction.



While groundwater management in Lusatia traditionally follows a layered governance structure — with national guidelines at its pinnacle, responsibilities cascading to federal entities, and regional cooperation at the grassroots — a distinct deviation is observed in the case of lignite mining. When mining enterprises seek permits, the authority, typically resting with the State Office for Environment is shifted to the LBGR. This transfer, although seemingly designed to optimize processes and tap into LBGR's geological expertise, holds significant ramifications.

Instead of the usual environmental-centric governance, the focus now aligns with LBGR's industrial objectives. The history of permitting at Tagebau Jänschwalde epitomises this shift, hinting a pivot from environmental conservation to a more industry-aligned approach.

Therefore, understanding the governance surrounding Tagebau Jänschwalde's groundwater extraction is vital for a smooth phase-out permitting process, enabling decision-makers to develop effective policies.

This reflection, drawing from previous analyses, offers historical context, helping to discern if Jänschwalde's groundwater challenges mirror broader governance issues in Lusatia's groundwater management by answering the following questions;

Do past and present challenges indicate underlying governance discrepancies?

What are the extent and nature of these discrepancies?

Reflection - Governance & Prioritise

Tagebau Jänschwalde's water permit challenges underscore a larger narrative:

- **Shifting Dynamics:** An absence of defined roles and responsibilities.
- **Evolving Priorities:** Misalignment in policy coherence and evident trade-offs.
- **Ineffective Enforcement:** Gap in the integrity of the regulatory framework.
- **Disjoint Principle Actors:** A lapse in cross-sectorial coordination and integrated water management at relevant scales.

Governance & Prioritise

When the renewal of the 1996 operation plan became due as 2020 approached, an absence of a clear administrative authority blurred legal groundwater extraction lines. This culminated in massively exceeding the water allowances in the Transition Plan, turning a belated permit application into a stark governance shortfall.

I argue that the shift in the overseeing authority led to administrative gaps arising from cross-sectoral governance changes that caused an absence of clear responsibilities. Additionally, these changes coincided with evolving priorities, resulting in a disconnect between water and environmental policies and the mining practices focused on energy and industry.

This gap became apparent in the way, the responsible water authority LBGR commented on Jänschwalde's longstanding over-extraction as they argued that halting mining would jeopardised the energy supply, already fragile due to geopolitical tensions and thus; they believed the environmental impact of continued mining, was a lesser evil.

Furthermore, this statement hints at the challenge of reconciling evolving environmental standards with long-standing mining practices. Therefore, the evident divergence between mining operations and the contemporary environmental and water policies points towards both management and governance-related problems. While the mining sector operated on guidelines set decades ago, environmental priorities evolved with the changing global climate narrative. This bifurcated development of prioritise and narratives was only enhanced by the authority shift of the LBGR being the official water authority for mining operations.

Ineffective Enforcement

The continuation of mining activities despite glaring discrepancies in water permits reveals a regulatory framework that, while perhaps robust on paper, falls short in practice. Thus, groundwater governance faced the challenge of apparent flexibility within the groundwater regulatory framework specific to lignite mining. I argue that the administrative shift to the LBGR, coupled with changing priorities, has transformed the existing frameworks into perceived guidelines rather than binding regulations.

This perception was manifested in LEAG's actions - their delay in permit applications and the continuation of mining activities without necessary permits.

A pivotal moment that illustrated this was when the Cottbus Administrative Court pinpointed the mine's excessive groundwater extraction and authorised a halt of all mining operations in the Tagebau. LBGR, however, instead of following the Cottbus Administrative Court, issued an emergency permit to LEAG, allowing them to continue operation.

This action not only bypassed essential water rights but also underscored the non-enforcement of the extant regulatory framework.

Determining whether these governance issues arise from underlying political agendas or represent a gap in effective water governance due to unclear roles and responsibilities is challenging.

Addressing these concerns necessitates a re-evaluation and strengthening of the regulatory frameworks. Clear demarcations of roles, responsibilities, and oversight mechanisms, inspired by the first

OECD's principle of effectiveness can ensure that such frameworks are both respected and enforced.

Reflection - Disjointed Principle Actors

Moreover, different responsible authorities lead to a lack of coherence in the operations of the principal actors involved, hinting at a gap within the cross-sectorial co-ordination and in the integrated governance of the water system at appropriate scale.

Disjointed Principal Actors

The implications of this divergence manifest on multiple fronts. The layer analysis reveal that water supply networks remain primarily segregated between water associations and mining entities.

For example, Tagebau Jänschwalde boasts over 1400 active groundwater pumps coupled with an expansive piping system. Yet, intriguingly, this infrastructure remains isolated from GeWap, the local water distribution company.

One could argue that such compartmentalisation indicates a wider gap between governance and the practical aspects of groundwater management. The current framework finds it challenging to encourage collaboration due to incongruities in the scope of the entire water system. Main stakeholders encounter hurdles in collaboration stemming from their unique water authority boundaries.

A stark illustration of these governance challenges emerged around 2010 when the Groundwater Supply Station Jänschwalde was compelled to shut down due to critically depleted groundwater levels.
This event underscored the inherent risks of disjointed groundwater governance, especially when the primary actors involved operate under divergent objectives and administrative jurisdictions.

It becomes evident that effective cooperation at the operational level is inexorably linked to a harmonised governance framework and underscores the OECD's emphasis on "effective cross-sectoral co-ordination."

5. Recommendation

Establishment of Task Force

Strengthening Enforcement

Foster Collaborative Integration

Recommendation - Establishment of Task Force

With the Tagebau Jänschwalde, ending its mining operation by the end of this year, its transition phase could serve as a case study for potential challenges arising during the coal phase-out in the Lusatia region.

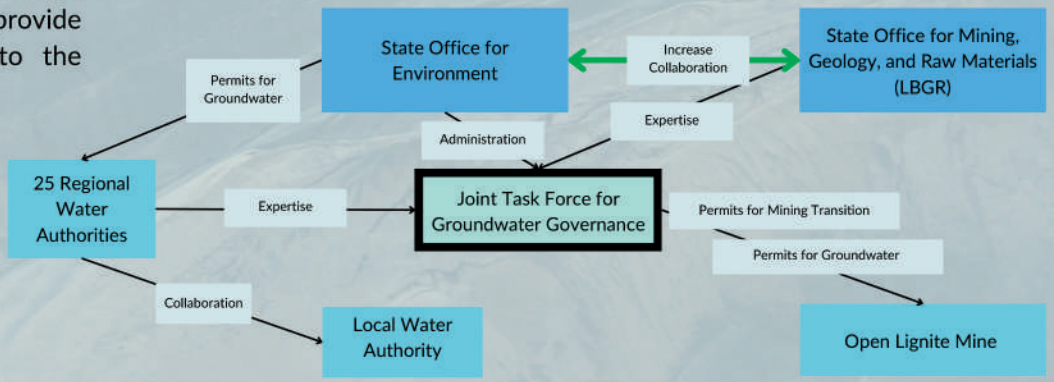
To overcome the identified governance inconsistencies and to ensure the sustainability of the post-mining landscape, it's essential to address these challenges with targeted, holistic solutions.

Commencing with localized solutions at Tagebau Jänschwalde will provide scalable strategies beneficial to the broader Lusatia region.

The region's ecological balance is at risk due to the misalignment of water and environmental policies with traditional mining operations.

To ensure a balanced alignment of water and environmental priorities, the role of the environmental state office must be augmented, especially in the upcoming decision-making process concerning transition water permits.

This new responsiblity could be supported by a joint task force composed of environmentalists, mining professionals, and local community members. Positioned at the convergence of the State Office for Environment and the LBGR, this team can holistically manage the evolution of post-mining water governance in alignment with environmental restoration efforts.

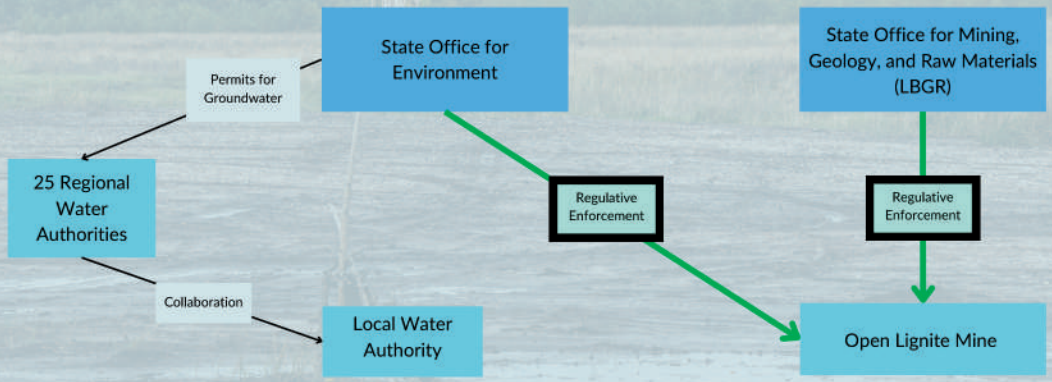


Recommendation - Strengthening Enforcement

The current perceived flexibility in regulatory frameworks undermines their effectiveness and diminishes trust in governance structures.

Enforcing regulations effectively is pivotal to the success of post-mining water governance. Thus, it would be prudent to distribute enforcement authority among both water governing bodies, ensuring each possesses the requisite power for regulation enforcement.

Furthermore, the evolving landscape that sees a diminishing emphasis on mining could necessitate a strategic recalibration of regulatory hierarchies. In this restructured framework, the state office for the environment is poised to assume a more pronounced role as the primary authority for water governance in the post-mining phase. To ensure the effectiveness of this revamped structure, it's imperative that the repositioned entity is endowed with unambiguous enforcement capacities and the autonomy to penalise regulatory infringements.

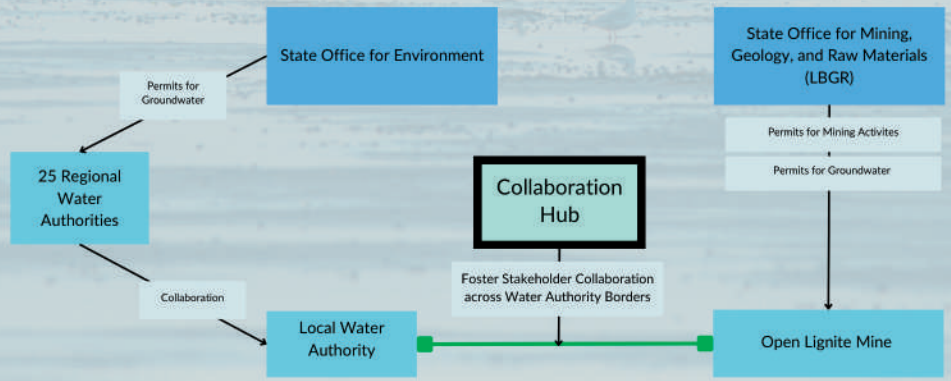


Recommendation - Foster Collaborative Integration

Disparate objectives and operational approaches among key stakeholders lead to compartmentalised solutions, undermining holistic governance between principle actors such as the GeWAP and Tagebau Jänschwalde.

To remedy this, the inception of a comprehensive coordination hub is vital. Drawing inspiration from the OECD's accent on "effective cross-sectoral co-ordination," this hub could be part of the Joint Task Force aiming to meld isolated structures. Its mission transcends mere infrastructure integration; it aspires to reposition tools like Jänschwalde's groundwater pumps to resonate with broader community aspirations and ecosystem requirements.

Central to this initiative is the encouragement of collaborative undertakings between key players. These collaborative ventures not only streamline water resource management but also symbolize the harmony achievable when economic endeavors meld with ecological conservation. By anchoring these projects, the coordination hub becomes a beacon of partnership, highlighting the intertwined destinies of mining entities, environmental custodians, and the community at large.



6. Conclusion

The most prominent issue is the shift of the water authority from the State Office for Environment to LBGR.

Such a pivotal change inherently perturbs the dynamics of governance and oversight, underlining the critical need to "clearly allocate and distinguish roles and responsibilities" as postulated by the OECD's principles.

With the transition of this authority, we witnessed potential overlaps and ambiguities in roles, leading to discrepancies in the enforcement and interpretation of water-related policies, notably in the Tagebau Jänschwalde case.

This shift also brought forth a change in governance priorities. The shift in authority seemed to embolden entities like LEAG, leading them to feel less constrained by the extant frameworks.

Such a change in stance harkens to the need for "effective cross-sectoral co-ordination," as emphasized by the OECD, especially when we consider water, environmental, and industrial sectors. The Tagebau Jänschwalde scenario presented a stark deviation from environmental conservation in favor of economic-driven mining interests.

Furthermore, we observe a clear discrepancy in groundwater governance. The challenges faced by Jänschwalde's groundwater supply station, which required relocation due to the adverse impacts of mining activities, echoes the importance of managing water "at appropriate scales" within integrated governance systems. This case underscores the importance of tailoring governance mechanisms to local conditions while ensuring holistic coordination.

Establishment of Task Force
Form a dynamic cross-functional task force that combines expertise in geology, environmental policy, and community engagement.

Strengthening Enforcement
Reinforcing the enforcement of existing governance regulations should be prioritised. With the combined knowledge of geology and environmental policy, the task force is equipped to ensure operations that adhere strictly to established guidelines.

Foster Collaborative Integration
Facilitate projects within the task force that unite existing infrastructures, streamline groundwater management, and emphasize the seamless transition to post-mining operations for the betterment of the environment and community.

Resources

Online Articles

Clean Energy Wire

Title: Eastern German coal phase-out threatens regional water supply – report
Author: Carolina Kyllmann
Date: Jun 2023
https://www.cleanenergywire.org/news/eastern-german-coal-phase-out-threatens-regional-water-supply-report

Sächsiche Zeitung

Title: Leag will noch bis 2044 Grundwasser in Jänschwalde abpumpen (Leag intends to pump groundwater in Jänschwalde until 2044)
Author: Irmela Hennig
Date: Jan 2023
https://www.saechsische.de/wirtschaft/kohle/leag-will-noch-bis-2044-grundwasser-in-jaenschwalde-abpumpen-5815088.html

WochenKurier

Title: Tagebau wird noch gebraucht (Open-cast mining is still needed)
Author: Dany Dawid
Date: March 2022
https://www.wochenkurier.info/cottbus/artikel/tagebau-wird-noch-gebraucht

Tagesspiegel

Title: Umweltschützer mit Erfolg vor Gericht: Leag darf ab 15. Mai keine Braunkohle mehr im Tagebau Jänschwalde fördern (Environmentalists successful in court: Leag is not allowed to mine lignite in the Jänschwalde open-cast mine from May 15)
Authors: Ingo Salmen & Cristina Marina
Date: March 2022
https://www.tagesspiegel.de/berlin/leag-darf-ab-15-mai-keine-braunkohle-mehr-im-tagebau-janschwalde-fordern-4785691.html

Online Articles

Tagesspiegel

Title: Mehr Grundwasser abgepumpt als erlaubt?:Umweltschützer klagen auf sofortigen Stopp des Braunkohle-Tagebaus Jänschwalde (More groundwater pumped than allowed?: Environmentalists sue for immediate stop of the lignite open-cast mine Jänschwalde)
Author: Steven Hanke
Date: Dec 2021
https://www.tagesspiegel.de/berlin/mehr-grundwasser-abgepumpt-als-erlaubt-umweltschutzer-klagen-auf-sofortigen-stopp-des-braunkohle-tagebaus-janschwalde-324874.html

RBB

Title: Darf die Leag in Jänschwalde noch Wasser abpumpen? (Is Leag still allowed to pump water in Jänschwalde?)
Author: Florian Ludwig
Date: Jan 2023
https://www.rbb24.de/studiocottbus/panorama/2023/01/wasser-rechtliche-erlaubnis-tagebau-jaenschwalde.html

Berliner Zeitung

Title: Tagebau Jänschwalde darf weiter Kohle fördern (Jänschwalde open-cast mine is allowed to continue mining coal)
Author: dpa/str
Date: May 2022
https://www.berliner-zeitung.de/news/gerichtsentscheidung-tagebau-jaenschwalde-darf-weiter-kohle-foerdern-li.226269

Heinrich-Böll Stiftung Sachsen

Title: Wassermangel im Lausitzer Kohlerevier (Water Shortage in the Lusatian Coal District)
Participants: Interview between Jana Mittag and Rene Schuster
Date: March 2022
https://www.weiterdenken.de/de/2022/03/16/wassermangel-im-lausitzer-kohlerevier

Resources

Reports

Title: Transformation Experiences of Coal Regions: Recommendations for Ukraine and other European countries
Source: Germanwatch
https://www.germanwatch.org/sites/default/files/Study_Transformation_Experiences_Coal_Regions_EN.pdf

Title: Abschlussbericht Wasserwirtschaftliche Folgen des Braunkohleausstiegs in der Lausitz (Final report on the hydrological consequences of the phase-out of lignite in Lusatia)
Source: Umweltbundesamt (Federal Environment Agency)
Date: 2023
https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/90_2023_texte_wasserwirtschaftliche_folgen.pdf

Title: Die deutsche Braunkohlenwirtschaft 2021 (The German Lignite Industry 2021)
Source: Assessment Report by Agora Energiewende from Öko-Institut e.V.
Date: Jan 2022
https://static.agora-energiewende.de/fileadmin/Projekte/2021/2021_06_DE_Deutsche_Braunkohlewirtschaft/A-EW_248_Deutsche-Braunkohlenwirtschaft-2021_WEB.pdf

Background and Summary Reports:

Title: Hintergründe zur Wasserhebung des Tagebaues Jänschwalde (Background on Water Uplift of the Jänschwalde Opencast Mine)
Source: Grüne Liga, Deutsche Umwelthilfe
Date: Dec 2021

Regulations, Laws, and Official Documents

Title: Verordnung über den Braunkohlenplan Tagebau Jänschwalde vom 5. Dezember 2002 (Regulation for Tagebau Jänschwalde December 2002)

Source: Federal Government Brandenburg

https://bravors.brandenburg.de/de/verordnungen-212412#2.9

Title: Gesetz zur Ordnung des Wasserhaushalts Wasserhaushaltsgesetz (Law on the regulation of water management)

Source: National Ministry for Environment, Nature Conservation Nuclear Safety, and Consumer Protection

Date: Jul 2009

https://www.bmuv.de/gesetz/gesetz-zur-ordnung-des-wasserhaushalts

Title: National Water Strategy

Source: National Ministry for Environment, Nature Conservation Nuclear Safety and Consumer Protection

Date: Mar 2023

https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Binnengewaesser/nationale_wasserstrategie_2023_en_bf.pdf

Title: Richtlinie des Landesamtes für Bergbau, Geology und Ressourcen zur Durchführung von Planfeststellungsverfahren (Directive of the State Office for Mining, Geology, and Resources for the Implementation of Planning Approval Procedures)

Source: LBGR

Date: Apr 2022

https://lbgr.brandenburg.de/sixcms/media.php/9/LBGR%20-%20Richtlinie%20zur%20Durchführung%20von%20Planfeststellungsverfahren%20vom%2011.pdf

Resources

Webpages and Portals

Title: Tagebau Jänschwalde
Source: LEAG (Official Company Website)
https://www.leag.de/de/geschaeftsfelder/bergbau/tagebau-jaenschwalde/

Title: Ministerium für Landwirtschaft, Umwelt und Klimaschutz (Ministry for Agriculture, Environment, and Climate Protection)
https://mluk.brandenburg.de/mluk/de/umwelt/wasser/grundwasser-und-wasserversorgung/

Title: Divisions of Power - Germany Water Management
Source: Online Portal of European Union
https://portal.cor.europa.eu/divisionpowers/Pages/Germany-Water-Management.aspx

Title: State Office for Environment
https://lfu.brandenburg.de/lfu/de

Title: State Office for Mining, Geology and Resources
https://lbgr.brandenburg.de/lbgr/de/

Title: GeWAP
https://www.gewap-tav.de

Research Publications

Title: Guiding principles in transformation processes of coal phase-out. The German case of Lusatia
Authors: Heer, S., Wirth, P., Knippschild, R., & Matern, A.
Journal: The Extractive Industries and Society, 8(1), 159-167, 2021

Title: Who owns the German subsurface? Ownership and sustainable governance of the subsurface in Germany
Authors: Berger, F., & Blum, P.
Journal: Environment, Development and Sustainability, 2022

Title: The 12 OECD principles on water governance–When science meets policy.
Authors: Akhmouch, A., & Correia, F. N.
Journal: Utilities policy, 43, 14-20, 2016

TPM 801A - Introduction to Water Governance

Msc. Engineering and Policy Analysis
Paul Ludwig Branzk
5862515

Scan for Digital Version