

## Enhancing Groundwater Governance: A Focus on Licensing and Monitoring by The National Energy Authority of Iceland

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### Abstract

The National Energy Authority of Iceland (NEA) plays a crucial role in managing the nation's abundant groundwater resources, vital for both domestic consumption and industrial applications. In response to evolving challenges and increasing demands, the NEA has embarked on a comprehensive revision of groundwater governance frameworks, with particular emphasis on licensing procedures and monitoring mechanisms. This abstract highlights the key aspects of the NEA's initiative and its implications for sustainable groundwater management.

The revision of licensing procedures by the NEA entails a systematic overhaul aimed at streamlining the application process while ensuring rigorous adherence to environmental and regulatory standards. By implementing more transparent and efficient procedures, the NEA seeks to facilitate responsible groundwater utilization for various purposes, including geothermal energy production, land-based aquaculture, agriculture, and public water supply. The revised licensing framework emphasizes stakeholder engagement and consultation, fostering a collaborative approach towards resource management and minimizing conflicts of interest.

Furthermore, the NEA is enhancing groundwater monitoring practices to achieve greater accuracy and comprehensiveness in assessing resource utilization and environmental impacts. Leveraging advanced technologies such as remote sensing and data analytics, the NEA aims to establish a robust monitoring network capable of real-time data collection and analysis. This proactive approach enables timely detection of potential issues such as over-extraction or contamination, facilitating prompt intervention and mitigation measures.

The revised governance framework by the NEA represents a significant step towards ensuring the sustainable management of Iceland's groundwater resources as well as assuring compliance with the EU Water Framework Directive (2000/60/EC) requirements and related EEA-relevant EU acquis. By incorporating principles of transparency, stakeholder engagement, and technological innovation, the NEA aims to strike a balance between economic development and environmental conservation. The success of these efforts hinges on effective collaboration between government agencies, industry stakeholders, and local communities, emphasizing the shared responsibility in safeguarding this precious natural resource for future generations.

In conclusion, the NEA's initiative to revise groundwater governance underscores its commitment to promoting responsible utilization and conservation of groundwater resources in Iceland. Through streamlined licensing procedures and enhanced monitoring capabilities, the NEA aims to foster sustainable development while safeguarding the nation's groundwater resources.

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