



# Derisking as a perpetuation of dependency?

## A political-economic analysis of the Hyphen Hydrogen Project in Namibia

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### Abstract:

The "sustainable" transformation of industrial capitalism, as well as Western countries turning away from Russian gas and oil, opens up new potential for some African countries to establish themselves as energy suppliers of green hydrogen. Namibia stands out, as its geographical conditions offer optimal conditions for hydrogen production. However, to realise this renewed development promise, massive investments in the development of production capacities are needed first. In our work, we therefore examine the political economy of financing a new energy infrastructure as part of the Hyphen-Hydrogen-Project (HHP) in Namibia, which is taking place with German participation. For its implementation, Derisking measures are used to mediate between a renewed development promise for Namibia and the securing of cheap, green energy for Germany. We examine this area of tension with the help of the research programme of International Financial Subordination and a stronger focus on dependency theory. Our research question is: How does the Derisking of the Hyphen Hydrogen Project affect Namibia's dependency in global North-South-relations?

In a methodological approach to the topic, we conducted five guided expert interviews with politicians, activists and academics, which we embedded in a document analysis. Despite a more egalitarian claim and a change in communication on the HHP, the results of our analysis indicate that Namibia is not only becoming more deeply integrated into global capitalism, but that its dependence on the capitalist centre tends to deepen. There are two main reasons for this: Firstly, the scope and priority of the HHP is primarily due to the German interest in cheap and green energy for its own industry, so that Namibia will be dependent on German import interests and thus on economic development in Germany. Secondly, this dependency is also reflected in the design and Investment of derisking in the HHP. Derisking as a financing model is not suitable for enabling sustainable and broad industrialisation in Namibia in the context of its National Hydrogen Strategy. Despite the more active role of the Namibian and German state, exclusively private sector profit interests continue to be decisive.

Contents

- 1. Hydrogen and the renewal of the development prospect ..... 1
  - 1.1. Problem & question ..... 2
  - 1.2. Relevance & state of research..... 3
- 2. Theory: International financial subordination ..... 5
  - 2.1. Operationalisation of the dimensions..... 6
- 3. Method..... 8
- 4. Contours of the global hydrogen market..... 9
- 5. Analysis..... 10
  - 5.1. Production ..... 10
  - 5.2. State ..... 13
    - 5.2.1 Building a new mode of accumulation..... 13
    - 5.2.2 Pacification of social antagonisms ..... 15
  - 5.3. Risks of Namibia's dependency development in the context of the HHP..... 18
- 6. Outlook: An end to dependency? ..... 19
- Bibliography ..... 23

## 1. Hydrogen and the renewal of the development prospect

The transformation of the economy is of central importance for tackling the climate crisis. The focus here is on the energy transition, i.e. the increasing use of renewable energies instead of fossil fuels, as energy production is responsible for a significant proportion of global emissions at just under 38 per cent (EDGAR/JRC 2023). In addition, the energy transition has taken on a security policy dimension, particularly for Germany, against the backdrop of the Russian war of aggression against Ukraine - the main focus here is on diversifying energy sources and importing countries in order to free itself from geopolitical dependencies. Although the expansion of domestic energy capacities has gained considerable momentum, it is becoming apparent that energy imports will continue to play a decisive role in the future. In its National Hydrogen Strategy, the current German government is focusing primarily on countries in the Global South, which promise a particularly low-cost supply of the required energy sources, especially hydrogen, due to their climatic advantages. However, in order to fulfil these hopes, massive investment in the development of production capacities is first required.

One important project to produce green hydrogen is the *Hyphen Hydrogen Project* (HHP), which is planned in southern Namibia as part of an energy and climate partnership between Namibia and Germany. The Namibian joint venture *Hyphen Hydrogen Energy Ltd* (*Hyphen* for short) consists of the German company ENERTRAG, which develops projects in the field of renewable energies, and the offshore investment company Nicholas Holding Limited. *Hyphen* plans to build a wind and solar farm with a capacity of 5GW to produce 350,000 tonnes of green hydrogen per year using electrolysis plants. The hydrogen is processed into the derivative ammonia, which is then exported. German companies such as RWE have already positioned themselves as major customers. Following the selection of *Hyphen 2021* as the preferred supplier, an Implementation and Realisation Agreement was negotiated with the Namibian Government, setting out the key terms and conditions of the project. The project is currently in the final assessment phase with regard to its feasibility and environmental compatibility before the final investment decision of almost USD 10 billion is made. Due to its planned size, the HHP is therefore of enormous importance for Namibia and Germany.

The Namibian government sees the HHP as the starting point of a comprehensive green hydrogen strategy with the ambitious goal of green industrialisation of the country (Ministry of Mines and Energy 2022). The Namibian hydrogen strategy thus explicitly distinguishes itself from extractivist economic models that are based solely on the exploitation of domestic resources and

their largely unprocessed export abroad. Like many countries in the Global South, Namibia also has experience with such extractivist economic practices of international corporations, for example in mining or in the exploitation of the rich fish stocks off the coast of Namibia (INT Activist: pos. 33). In order for Namibia as a society and economy to finally benefit from its rich resources, Namibia's National Hydrogen Strategy aims to tap into potential in the field of renewable energies (Ministry of Mines and Energy Namibia 2022b). In addition to economic and security policy interests, the German Federal Government also emphasises the claim that Namibian society and its interests are the top priority with regard to the benefits and implementation of the HHP (Spiegel Online 2022). Federal Minister of Economic Affairs Robert Habeck emphasises that extractivist dynamics and "green energy imperialism" should be explicitly avoided so that Namibia as an economy and society can benefit sustainably and broadly from hydrogen production (ibid.).

### 1.1. Problem & question

Various hopes and aspirations are associated with the HHP, which, contrary to the constant assurances of those involved, do not result in a 'win-win situation', but are at least partially contradictory. On the one hand, there is Germany's need for cheap, green hydrogen to enable the national economy to undergo a climate-neutral transformation. On the other hand, Namibia hopes to establish itself as a globally important hydrogen hub based on the HHP, in the course of which broad industrialisation and deep value creation with good jobs will take place, enabling broad prosperity gains for Namibian society. These two positions are at least partially in conflict with each other. Despite assurances to the contrary, Germany's trade policy interests in cheap energy imports tend to favour a continuation of extractivist practices. Namibia hopes to overcome such dependencies and achieve broad industrialisation based on the national wealth of wind, sun and space. The manner of implementation and the specifics of the design of the HHP will be pivotal in determining the extent to which this tension is resolved in the HHP. This will be contingent upon whether one goal is ultimately prioritised over the other, or whether a synthesis of the two is actually feasible.

The HHP is to be implemented using the financing concept of derisking. The core idea of derisking is publicly financed risk minimisation for private investors. The aim is to create investible assets for private capital, for example by removing regulatory hurdles and offering return guarantees. The derisking concept is linked to the hope that private capital will finance the development of strategic sectors and infrastructure without creating public debt (World Bank 2017). In

recent decades, the concept of derisking has established itself as a central instrument in development cooperation. It structures the HHP, its design, its implementation and thus also the project outcome. We are therefore interested in what conclusions can be drawn from an analysis of the project design with regard to the above-mentioned conflict of objectives between a dependent hydrogen exporter and an emerging industrialised country. Accordingly, this research project aims to analyse the following question:

*How does the derisking of the Hyphen Hydrogen Project affect Namibia's dependency in the global North-South relationship?*

## 1.2. Relevance & state of research

Our research topic is highly relevant in view of the (global) energy transition currently taking place and the current political debate on the importance of hydrogen as a pivotal energy source of the future (van de Graaf 2022: 21). As the outcome of this debate will determine the energy supply of the coming decades and the relationship between importing and exporting countries, a critical examination of the implications and possible consequences of current plans is urgently required.

In addition to the political debate, our research project ties in with various current strands of research. We pick up on the fruitful research on derisking, particularly in the context of development policy, which has critically analysed this financing concept since its establishment. Beginning with the Third International Conference on Financing for Development in Addis Ababa, derisking was established with a view to the introduction of the Sustainable Development Goals (UN 2015). According to the principle of 'billions to trillions', public funds are to be used to mobilise even greater private investment in order to finance the implementation of the Sustainable Development Goals (World Bank & IMF 2015). Countries in the Global South and North as well as international institutions such as the World Bank and the International Monetary Fund have a responsibility to design development projects as profitable and secure investment objects for private investors (Gabor 2021). These political developments are analysed scientifically by critical macroeconomics, in particular by the work of Daniela Gabor, as well as by development research. The focus here is on analysing to what extent and with what consequences the financing model of development policy has changed (Gabor 2021; Gabor 2023; Babb & Kentikelenis 2021).

In addition, there is already research on the HHP in Namibia, although only a few systematic and comprehensive analyses exist due to the topicality of the subject. Daniela Gabor and Ndongo

Samba Sylla have already presented an initial study on HHP in Namibia (2023). In the German-speaking research area, this field is being researched in particular at the University of Kassel and Hamburg (Elsner et al. 2021). While the Glocalpower research project in Kassel is investigating the conditions for a successful global and local energy transition, the team at the University of Hamburg is researching the socio-ecological and development policy risks of Germany's import-oriented hydrogen strategy as part of the H2Politics project and on behalf of the Federal Ministry of Education and Research (Müller et al. 2022; Kalt & Tunn 2022). Our analysis builds on this work but differs in terms of the theoretical approach chosen. As will be explained in the next chapter, we choose a more political-economic and dependency-theoretical perspective, which places a special focus on Namibia's restrictions and dependencies in the international division of labour.

## 2. Theory: International financial subordination

Theory must provide a complex understanding of the financial conditions and mechanisms of the periphery in the context of global capitalism. Therefore, the International Financial Subordination (IFS) research programme (Alami et al. 2023) is suitable as a theoretical framework. The IFS is based on three central strands of international political economy. These three heterogeneous currents are post-Keynesianism, dependency theory and Karl Marx's critique of political economy.

The research programme was constructed by the authors with six dimensions. These are the history of the IFS, social relations of production, money, the state, non-state actors and geographical aspects of space (Alami et al. 2023: 1363). In this project, only two of these dimensions will be analysed. We focus on production and the state in the context of the financing conditions of a subordinate space in global capitalism.

The *production* dimension faces the challenge of not falling into a false antagonism between production and financial economy on the other. This should be avoided by drawing on Marx's understanding of three different capital cycles (money capital, production capital, commodity capital), which interact dialectically (Alami et al. 2023: 1372). Capital is therefore not a fixed relation but is constantly changing its form. Money (G) becomes means of production (P) and finally commodities (W) before this cycle begins again (Pechmann 2016). In addition to the necessary linking of the three levels, the understanding of money as a neutral object is also refuted. Instead, money, with the concept of "money power" according to Ilias Alami (Banse & Shah 2021: 301), is understood as a disciplinary power that subjects processes of production and reproduction to the conditions of capitalist accumulation, and thus the exploitation of labour and appropriation of nature.

The *state* dimension summarises how peripheral states act within the IFS, which structural constraints of global capitalism they are subject to and which scope for action can be opened up and negotiated. The central point here is that Namibia is not only understood as a peripheral developing state, but like every other (capitalistically organised) state is subject to the same capitalist accumulation constraints. Following Simon Clarke, Alami et al. define the role of the capitalist state in terms of three functions: 1. realising the international division of labour (in accordance with global class relations), 2. negotiating and pacifying social antagonisms, 3. establishing and securing the national accumulation regime (Alami et al. 2023: 1375; Clarke 1991:

188). This is intended to counteract the misunderstanding that a (capitalistically organised) developmental state could evade capitalist logic, and particularly the IFS with suitable policies, possibly aimed at regulation and protectionism. Rather, Namibia, like any other state, must establish its own functioning accumulation regime regarding the international division of labour and negotiate or contain social antagonisms at the same time or with the help of this regime.

## 2.1. Operationalisation of the dimensions

In *production*, it is therefore particularly important to understand the dialectical interlocking of the three capital cycles. It should be noted that the three circuits of capital fulfil different functions. The genuinely capitalist character of the use of advanced value is primarily fulfilled in the money cycle. In the context of the HHP, the following area of tension needs to be analysed: On the one hand, the high production costs of green hydrogen compared to other energy sources and the high capital costs in Namibia for financing the project are seen as investment barriers that stand in the way of the short-term profitability of the HHP. On the other hand, institutional financial capital is explicitly addressed as an actor in development finance. With the help of the concept of Derisking, the risks of the project are to be secured by public guarantees and the HHP is to become a profitable investment. The design of this conflict needs to be analysed.

In the production capital cycle, the means of production must be reproduced, i.e. investments must be made in the manufacture and maintenance of equipment and in the wages of workers. In the context of the HHP, it can be seen that production capital exists primarily in the form of constant capital, i.e. the means of production. The electrolysis plant, the desalination plants for the treatment of seawater and the wind and solar power plants for the generation of renewable electricity are complex and technology intensive. In comparison, the proportion of variable capital, i.e. labour, is low. The HHP thus contrasts with the trend of production capital in the Global South, which tends to be fed by variable capital and generates profits from simple, labour-intensive production facilities (Hickel et al. 2024). In analysing production capital, it is important to understand the composition of capital in concrete terms and to draw implications from this. In the cycle of commodity capital, the consumed goods are renewed after the produced goods are converted into money. This last aspect in particular, the sale of green hydrogen, is critical in the current market phase, in which there is still no established market for green hydrogen and demand can only be forecast. With regard to commodity capital, it is therefore necessary to investigate what measures can be taken to stabilise the purchase of green hydrogen on a binding



basis and to make the market price of green hydrogen competitive compared to other energy sources.

In the dimension of the *state*, the three functions of the capitalist state according to Clarke can be applied to the field of tension of the HHP outlined at the beginning (1991). With the HHP and the national hydrogen strategy, the Namibian government aims on the one hand to establish a new, future-proof and sustainable accumulation regime in Namibia. On the other hand, it is linking this enormous economic transformation project with the promise of prosperity gains, jobs and economic upturn for the population, thereby aiming to satisfy and negotiate social antagonisms. Finally, with its focus on hydrogen, Namibia is also implementing a role for the climatically suitable countries of the Global South as a hydrogen-exporting country for the climate-neutral transformation of the Global North, thereby positioning itself in line with an international division of labour.

In the first step of the analysis, the three functions of a capitalist state will be used to show how the Namibian government is planning the HHP and the development of the associated hydrogen economy, what goals are being pursued explicitly and implicitly, and what plans exist to realise them. In a second step, a prognosis will be made as to which resources Namibia will need to achieve these goals and how realistic their implementation is, taking into account in particular the enforceability vis-à-vis other actors, such as Germany and private companies, and vis-à-vis the structural constraints of global capitalism.

### 3. Method

In approaching this case-study we worked with a common mix of methods consisting of expert interviews and document analysis. At the end of 2023 and beginning of 2024, we conducted five guided interviews with relevant experts from politics, business and civil society who are directly or indirectly involved in the HHP. The guidelines set different priorities, depending on the expertise of the interview partners. They focussed on the financing conditions of the HHP and the potentials and risks arising from an emerging hydrogen economy in Namibia.

Our analysis is also based on secondary data taken from policy papers of international energy organisations, partnership agreements between Namibia and Germany, as well as government documents on Namibia's hydrogen economy. Data from these current developments are embedded in longer-term socio-economic developments, which we drew from available statistics from the Namibian government and international organisations.

The risk of Namibia's renewed dependency due to the way in which the hydrogen strategy is planned was particularly voiced by Namibian experts during the interviews. Following the abductive research tradition (Timmermans & Tavory 2012), we took this hypothesis as the starting point and centre of our study, which follows a deductive and abductive category system. The interviews were coded using MaxQDA and analysed in the form of thematic qualitative data analysis according to Kaiser (2021).

## 4. Contours of the global hydrogen market

In order to categorise the HHP in the global development of a market for green hydrogen, a brief description of the status quo and the forecast demand is useful. To this end, the key points of hydrogen production and distribution are outlined below.

Hydrogen can be produced in different ways. So far, *grey* hydrogen, which is produced from fossil fuels by means of steam reforming, has dominated. According to the Federal Ministry of Education and Research, this produces around 10 tonnes of CO<sub>2</sub> per tonne of hydrogen (BMBF 2024). In 2022, 94 million tonnes of hydrogen were produced in this way.

However, *green* hydrogen, which is produced through the electrolysis of water, is relevant for the global energy transition. Electricity from renewable sources is used for this. Green hydrogen is considered to be the energy carrier of the future, as it is emission-free in its production and use and offers the potential to decarbonise those chemical and industrial processes that cannot be electrified (Küper & Malte 2021).

To achieve an emission-free world by 2050, forecasts assume a demand of 500 million tonnes. At least 22,000 TWh of electricity will be needed to produce this, which corresponds to around 20% of current global electricity demand (IEA 2021: 75-76).

Meeting this demand will require not only a massive expansion of production capacity, but also the development of a transport infrastructure. At present, 85% of hydrogen is produced at the point of use, and even if it is traded, it is not traded over long distances because transport is very expensive. If hydrogen is to be traded over long distances in the future, it could be in the form of its derivative ammonia, which can be transported by ship. Only for shorter distances, between 1000-4000 km, is direct transport of hydrogen by pipeline possible (IRENA 2022: 33).

## 5. Analysis

### 5.1. Production

To analyse the production dimension, the three capital cycles of money capital, production capital and commodity capital are to be traced and their interaction analysed. The circulation of money capital focuses primarily on the multiplication of the money used. In the context of the HHP, this process will take place in a peripheral region of global capitalism. The conditions of this context are characterised by a long history of oppression and are expressed today by the interwoven factors of (1) the high cost of capital, (2) neo-colonial patterns of accumulation, (3) the challenge of foreign currency debt, to which the de-risking mode of financing responds.

The level of capital costs depends largely on the investment conditions. Due to legal uncertainties, a lack of basic infrastructure and qualified labour, as well as racially connotated assumptions, these investment conditions are considered unfavourable compared to the global North:

As I said at the beginning, the central problem (.) that investors will face is the cost of finance, i.e. credit financing. (Note: Namibia) has no equity of this magnitude, but (.) the banking world has to get involved (.) and the banking world looks at Africa and then says (.) "Interest rates are twice as high." (INT German government expert: pos. 19)

High capital costs reduce the profitability of the project, as lenders' interest must be earned in the accumulation process before profits can be realised. This tends to discourage investment, which, among other things, has led to a lack of industrialisation in many sub-Saharan countries (Döver & Kappel 2015). Under the given financing conditions, only extractivist practices geared towards the export of unprocessed raw materials remained profitable (Brand & Dietz 2022: 251).

Accordingly, the high cost of capital is closely linked to the common patterns of accumulation in sub-Saharan Africa. The peripheral states lack a broad industrial base to finance themselves, which they could tax; instead, they depend on the world market prices of the primary goods they export.

Thirdly, the resulting low state capacity is made more difficult by the challenge of the necessary debt in foreign currencies. This means that states are heavily dependent on the key interest rates of the dollar or the euro, as these determine the price of their debt (Koch 2024: 250). Like many countries in the Global South, Namibia's national debt has increased sharply because of the COVID-19 pandemic. Between 2018 and 2021, the debt ratio in relation to gross domestic product rose from 49% to 70% (Statista 2024). The high cost of debt burden is limiting the scope

of action for many countries in the global South. In 2020, for example, 62 countries spent more money on repaying external public debt than on healthcare (Munvar 2021: 2). The risk of a debt crisis has been latent since the pandemic and has led to an increased need for foreign exchange earnings (Gabor & Sylla 2023: 6).

Derisking is seen as the answer to these uncertain investment conditions and a lack of state financing capacity. The aim is to encourage private capital to invest in global infrastructure projects and enable the circulation of monetary capital by providing state security and producing profitable assets (Gabor 2021). The targeted private capital is heavily concentrated in the hands of institutional asset managers, which are disproportionately located in the US financial centres. Private asset managers such as Blackrock manage trillions of dollars and seek profitable investments worldwide. Derisking measures are intended to create investment opportunities for this same surplus transnational financial capital (Banse & Shah 2021: 313).

Due to the Namibian state's limited fiscal scope of action, it is not in a position to implement cost-intensive Derisking measures compared to the countries of the Global North. Namibia's main Derisking tool is the USD 1 billion "Namibia One" fund, which was set up with the help of loans from international development banks. These funds are intended to secure the development, construction and operation of hydrogen projects on the supply side (Ministry of Mines and Energy 2022: 17; Gabor & Sylla 2023: 8).

In addition, the Namibian government is taking regulatory and legal measures to support the hydrogen strategy to avoid obstacles and thus additional costs. In May 2023, the Namibian government made a commitment to Hyphen in the "Feasibility and Implementation Agreement" to create the "legal, fiscal and regulatory framework for project implementation" (Hyphen 2023: 1).

The transition from finance capital to production capital will take place after the final investment decision, which is due at the end of 2024, when the construction of the production facilities will begin. The production of green hydrogen requires technology and capital-intensive facilities. These include renewable energy plants, desalination plants for water treatment, electrolysis plants and a storage and transport structure for hydrogen and its derivative ammonia. The capital composition of the HHP is therefore heavily weighted towards constant capital, i.e. production resources. The complex plants only require a lot of labour for their construction. Hyphen expects to need 15,000 workers in the first five years. After that, only 3,000, mainly highly skilled, permanent jobs will be created (Hyphen 2024).

In addition to the equipment, the incoming resources are also crucial for a successful production process. These are renewable electricity and fresh water. Hyphen is planning to build 7 GW of production capacity to cover its electricity needs, which corresponds to 10 times Namibia's current electricity production (INT Journalist: pos. 24).

The energy required for the desalination of seawater is not included in the Hyphen plans and represents an unresolved challenge for the success of the production process:

But all the other projects never got off the ground because of water. (.) And that is [unv.] fact: No water. (.) Nothing is possible. (..) Uh, (.) like, I mean, if you [unv.] desalination plant, everybody says, oh, no, they'll build desalination plants. Um, (.) do you know, uh, you know, it takes a 3.5kW of electricity to generate just one litre of water. (.) Yeah. (.) Uh, if you're going to be producing 300,000 tons of their stuff, you know. (.) Yeah. Uh, that's 3.5 million, kilowatts. It's a three gigawatt of electricity just to have the water, just to have the water. And you haven't actually done any processing of that water. You haven't started up your hydrogen plant as well. (INT Hydrogen-expert: pos. 56).

Once the hydrogen has been produced, its conversion into a commodity form through sale on a market represents the final hurdle in the movement of capital. The fact that there is not yet an international market for green hydrogen complicates sales conditions (INT Hydrogen-expert: pos. 8). There is therefore a considerable price and volume risk with regard to expected demand, as companies cannot make any reliable expectations about how much hydrogen (derivatives) they can sell and at what price (INT Hydrogen-expert: pos. 8). This uncertainty has a negative impact on the planning certainty of green hydrogen projects, which tends to prevent them. The H2Global Foundation's derisking instrument is the central measure to counter the price and volume risk described above. As an intermediary trading platform, the Hydrogen Intermediary Company GmbH (HINTCO) is intended to facilitate the development of a green hydrogen market by countering demand uncertainties. This is done by means of a so-called double auction process, in which HINTCO concludes long-term supply contracts on the supply side with companies that can offer a tendered supply quantity of green hydrogen at the most favourable price. On the demand side, they sell the purchased hydrogen to the highest bidder, whereby the supply contracts are shorter-term in order to take into account an expected increase in willingness to pay as a result of rising emission costs for fossil alternatives (INT Hydrogen-expert: pos. 22). As it is expected that supply and demand will not meet, at least initially, despite this mechanism, contracts for difference are concluded (Bollerhey et al. 2022). This price gap is closed with funds from a generally public sponsor; in the case of H2Global, this is financed by the Federal

Ministry of Economics and Climate Protection (BMWK) from the federal budget. The BMWK already approved 900 million euros at the end of 2021, and a further 3.5 billion euros have already been pledged. Other countries in the Global North, such as Canada, want to participate in financing the instrument.

## 5.2. State

### 5.2.1 Building a new mode of accumulation

The National Hydrogen Strategy, which the Namibian government published in 2022, was the result of several years of efforts to develop a new economic development strategy. The strategy was developed under the leadership of the consulting firm McKinsey with the participation of the Namibian agency Monasa Advisory and Associate, funded by the German Federal Ministry of Education and Research (the Brief 2022). A 2020 World Bank study had already emphasised Namibia's potential for the competitive production of green hydrogen (IPPR 2021: 3), and further studies followed (Gabor & Sylla 2023: 16). Namibia's geographical and climatic conditions are considered ideal locational advantages: The combination of sun and wind in Namibia is one of the most favourable in the world. For example, photovoltaic systems in Namibia can generate 2950 full-load hours of green electricity compared to 900 in Germany (INT German government expert: pos. 3). In addition, photovoltaic and wind power plants require large, free areas. Namibia fulfils this requirement due to its low population density. However, other harsh site conditions make investments in Namibia more difficult. There is limited project-specific infrastructure required for the various phases of the HHP. For example, the construction of a project of this scale requires a stable electricity grid for operation, distribution within the country requires pipelines and specialised port infrastructure is needed for export (INT Hydrogen-expert: pos. 4). This form of infrastructure is only available to a limited extent in Namibia, as Tom Alweendo, the Namibian Minister of Mines and Energy, also states and still needs to be largely built and financed accordingly (Ndjavera 2023). Other factors, such as the availability of well-trained, preferably specialised workers or the technology, have also only been partially available to date. On the way to becoming a pioneer of the global hydrogen market, the Namibian state is planning three hydrogen corridors: in the north around Kunene, in the centre around the capital Windhoek and in the south around Kharas.

With its National Hydrogen Strategy, Namibia is also part of globally coordinated efforts and plans to establish an international hydrogen market at various levels. With REPowerEU, the European Union once again increased the targeted import volume of hydrogen to 10 million tonnes

in 2030 and emphasised the central role of this energy source for the decarbonisation of sectors that are difficult to electrify (European Commission 2024). In this context, the EU concluded agreements with Namibia and other African countries to expand capacities for renewable energies and green hydrogen. Germany is playing a pioneering role in this transformation; as early as 2019, the Federal Government adopted a National Hydrogen Strategy, which, in its 2023 update, assumes an import requirement of between 50 and 70% for 2030 (BMWK 2024: 9). This was followed in July 2024 by an "Import Strategy Hydrogen", which again emphasises that "a large part of Germany's hydrogen demand [...] must be covered by imports from abroad in the medium and long term" and is intended to provide "orientation and clarity" about German import requirements (BMWK 2024: 2). In this scenario, the HHP plays a pioneering role in Germany's post-fossil energy supply. The German government has classified the project as a strategic foreign project (Enertrag 2024).

The international plans to establish green hydrogen as the central energy source of the future are thus closely linked in time and causally to Namibia's decision to position itself on the "next frontier of the energy transition" (van de Graaf 2022: 21; Gabor & Sylla 2023: 15).

With its National Hydrogen Strategy, Namibia is not only formulating a claim to establish a new and sustainable accumulation regime that will enable broad and sustainable industrialisation but is also positioning itself as an energy exporter in the context of a reorganising international division of labour. It should be noted that these two objectives are, at least in part, in conflict with each other. In their hydrogen strategies, the countries of the Global North, and Germany in particular, only formulate specific targets for the import of the energy source and its derivatives. The production of goods such as fertilisers or steel using green hydrogen should continue to take place within the developed economies in order to maintain the accumulation regimes, which can also be understood in terms of the chosen derisking instruments and their design (see chapter on production). Namibia's hope of shifting green hydrogen-based value chains into its own economy, in addition to exporting green hydrogen, is therefore supported only to a limited extent by development funds from the Global North. This leaves Namibia with only a vague prospect that successful establishment as a hydrogen producer will result in cost advantages that will enable further manufacturing processes to be relocated. However, these cost advantages will have to be substantial in order to compete with massively funded de-risking efforts such as HINTCO from Germany for the limited quantities of hydrogen available.



### 5.2.2 Pacification of social antagonisms

Namibian President Hage Geingob, who died in office at the beginning of 2024, suffered a significant loss of votes at the start of his second term of office in the 2019 general elections. While Hage Geingob won 87% of the vote in 2015, he only received 56% in 2019, and SWAPO, which has been in power since Namibia gained independence, also lost its absolute majority in parliament. In the following local and regional elections, SWAPO continued to lose votes, especially in the country's major cities (Melber 2021: 77ff.; INT Grobler: pos. 24). Various corruption scandals and a general dissatisfaction with the lack of economic recovery and the lack of jobs promised in previous elections are the main reasons for SWAPO's declining popularity (INT Journalist: pos. 24). SWAPO's popularity is particularly declining among the younger generation, which was born in independent Namibia and has little connection to the party's liberation rhetoric and suffers particularly from unemployment (El Obeid & Mendelsohn 2022: 21). Against this background, there is an urgent need to renew the promise of development, which has remained unfulfilled for other sections of the population since independence in 1990. Hage Geingob therefore commissioned consulting agencies to develop a national economic strategy at the beginning of his second term of office. In view of the emerging demand from the Global North for green hydrogen, the National Hydrogen Strategy was developed (INT German government expert: pos. 3), which was later included as a central pillar in the Namibian development plan "Harambee Prosperity Plan II" for the period from 2021 to 2025 (Republic of Namibia (n.d.): 4).

Specifically, the SWAPO government hopes that the national hydrogen strategy will lead to a broad socio-economic upturn. By 2030, its development is expected to contribute over USD 6 billion to the gross domestic product (GDP) (GDP 2022: USD 13 billion, Statista 2024: 3) and thus create 280,000 new jobs (Ministry of Mines and Energy Namibia 2022b: 32). With an unemployment rate of over 33%, the prospect of new jobs is particularly well received by the general population (Namibia Statistics Agency 2019). At the same time, publicly communicated job figures are the central issue in every election campaign, which is why such announcements are increasingly received with scepticism (INT Journalist: pos. 2; INT Activist: pos. 13).

With a view to the HHP, the Namibian government endeavoured to shape the terms of the investment in line with its own development goals in the negotiations with *Hyphen*. Ambitious targets were agreed, particularly with regard to job creation. 90% of the jobs are to be filled by Namibians, creating 15,000 full-time positions during the construction phase and 3,000 during operation. So far, the only concrete step towards this goal is a BMBF funding programme to support the education and training of 200 Namibian students. However, the total funding amount

of 40 million euros appears to be manageable given the scope of the HHP (BMBF 2022). It has also been agreed that 30% of the goods and services used will be sourced from Namibian companies, although the specific implementation and scope of this agreement are unclear (Ministry of Mines and Energy Namibia 2022a: 16). In addition, *Hyphen* pays around €16 million per year to Namibia for the project area during operation (ibid.), which cannot be compared with the income of €500 for the one-off issue of a mining licence (Ministry of Mines and Energy Namibia 2023: 3). The mere fact that Namibia was able to negotiate these contractual conditions shows a change in the mode of cooperation compared to previous fossil fuel projects. The change can also be observed in the communication of the Hyphen Group, which describes its plans more transparently and openly than fossil fuel companies such as the Canadian ReconAfrica (INT Activist: pos. 31). Civil society is invited to consultations on environmental impact assessments and the company makes documents on the project process available to the public on its website (INT Activist: pos. 7; INT German government expert: pos. 25).

However, there are doubts as to whether all agreements can be implemented and, above all, monitored. This is because the Namibian state sometimes lacks effective resources and practices to effectively control international companies, as one interviewee noted:

Our government doesn't have the capacity, or our government is not interested in scrutinising, (..) what the mining company is doing here. (...) They don't go around and check what they are doing. Even if the community is complaining like, this company is poisoning us. No - no government official will go there and have a look and see if these companies are doing things according to the plan that was set up. Or according to the contract that was signed with government. (.) Our government doesn't do that. They just let these companies come here and run wild. You know, those are - those are nice words that they are using in the hyphen contract. We will do this. We'll do that. But who's going to make sure that they stick to that. Nobody will be. So we're not expecting anything. It's just a contract. It doesn't mean anything in Namibia. (INT Activist: pos. 60)

Nevertheless, the Namibian government seems determined to utilise the potential of the hydrogen economy for Namibia. Namibia has secured the option to acquire a 24% stake in the HHP in order to benefit directly from the hoped-for economic success. As this participation exceeds Namibia's financial scope, the European Investment Bank and a semi-governmental Dutch financing company have promised Namibia a loan on favourable terms (INT German government expert: Pos. 60). Although the final decision on Namibia's participation in the HHP is still pending, there are already critical voices. They warn that if the HHP fails, Namibia could face national

bankruptcy due to the debt burden of a single project (Wagner 2023: 108). As a result, this possible participation would be associated with considerable discipline for Namibia, as it would practically no longer be possible to cancel the project independently.

And, um, the other thing that really worried me was that (.) the government is also agreed to (.) taking up 25% shares (.) in the Hyphen Project. (..) If you - if you calculate that money, it's like (.) half hour - (..) half our national budget (..) that we are required, (.) you know, to provide for the Hyphen Project. (.) And if something went wrong with that project, (.) that - that's us left with - with some debt to pay. We don't have money as usual. We always depending on - on investors, (.) uh, foreign investors. (INT Activist: pos. 81)

In addition to the Namibian population, which determines parliamentary relations in democratic elections, the SWAPO government must also take into account the closer political environment and its interests in order to maintain its own power. In the context of SWAPO, an extensive patronage network has been established and developed in Namibia, which has increasingly attracted public attention in recent years due to various corruption scandals (El Obeid, Mendelsohn 2022: 18ff.). In the context of the HHP, due to a lack of information, it is only possible to make assumptions about the continuation of such patronage practices, but there are various indications that at least raise questions. On the one hand, Hyphen advised the Namibian government on the preparation of the tender; on the other hand, various parties have criticised the lack of transparency in the selection process and the inadequate justification for the choice of Hyphen, given its lack of experience with large-scale projects. Uncertainty also surrounds Hyphen's lease payments of €16 million for the 4,000km<sup>2</sup> area during the feasibility study. Currently, the *Sperrgebiet Diamond Mining Company*, which has close links to the family of SWAPO's first president, Sam Nujoma, has extensive rights in the area. When asked to whom Hyphen's lease payments are made, as there are no clear legal regulations governing these payments, a responsible actor did not respond to an interviewee (INT Journalist: pos. 4).

These legal loopholes and inadequately established bureaucratic processes provide scope for clientelist practices, which are both the result and the cause of a less pronounced separation of politics and economics in Namibia. However, it is likely that viable institutions and structures will need to be put in place to ensure that the already limited public revenues benefit the Namibian state.

### 5.3. Risks of Namibia's dependency development in the context of the HHP

Dimension	Category	Results
Production	Money capital	<ul style="list-style-type: none"> <li>- Framework conditions: high capital costs, neo-colonial accumulation patterns, foreign currency debt</li> <li>- Derisking as a solution to attract private capital to invest in strategic infrastructure</li> <li>- Profitability of investments in H2 must be guaranteed</li> </ul>
	Production capital	<ul style="list-style-type: none"> <li>- Capital and technology-intensive production facilities required</li> <li>- Qualified labour for operating the plants will probably come from abroad</li> <li>- Water and energy requirements for desalination still an unresolved problem</li> </ul>
	Commodity capital	<ul style="list-style-type: none"> <li>- Uncertain acceptance of green hydrogen, sales depend on implementation of decarbonisation plans in industrialised countries</li> <li>- Demand-side derisking instrument HINTCO equalises difference between purchase and sales price</li> </ul>
State	International division of labour	<ul style="list-style-type: none"> <li>- Namibia's hydrogen strategy is part of the development of a global green hydrogen industry:               <ul style="list-style-type: none"> <li>o Germany as a pioneer in green hydrogen and most important partner for Namibia (import: 3 million tonnes from 2030)</li> <li>o In the context of REPowerEU, the EU is also planning to establish hydrogen as the central energy source of the future (import: 10 million tonnes from 2030)</li> </ul> </li> <li>- Namibia is positioning itself as a producer of green hydrogen and is (primarily) supported in this role by countries of the Global North</li> </ul>
	Accumulation	<ul style="list-style-type: none"> <li>- Favourable site conditions and foreseeable increase in international demand for green hydrogen justify decision for new accumulation model</li> <li>- Namibia's economic policy efforts are mainly focussed on building up a hydrogen industry</li> <li>- Hope for broad industrialisation through competitive relocation of value creation to Namibia in the context of hydrogen production</li> </ul>
	Social peace	<ul style="list-style-type: none"> <li>- Towards the Namibian population:               <ul style="list-style-type: none"> <li>o Renewing the promise of development</li> <li>o New legitimacy for ruling SWAPO against a backdrop of declining voter support</li> </ul> </li> <li>- Towards power elite:               <ul style="list-style-type: none"> <li>o Possibly creating new economic benefits for patronage networks in the context of the SWAPO government</li> <li>o Inadequate addressing of corruption problems</li> </ul> </li> </ul>

Figure 1: Summary of the results (own illustration)

## 6. Outlook: An end to dependency?

According to Gabor and Sylla, the scenario aimed and communicated by Namibia and Germany can be described as *derisking developmentalism*. The Namibian state develops a hydrogen strategy under the conditions of *IFS* and creates the investment conditions with the financial support/participation of industrialized countries (such as Germany). This lays the foundation for private capital to significantly finance and build up Namibia's economic development vision due to the profitability of the assets created (Gabor & Sylla 2023: 3f.). Namibia's goal within the framework of the National Hydrogen Strategy is to implement the development promise, which includes broad industrialization as a result of initial hydrogen projects such as the HHP, the creation of good and sustainable jobs and a general socio-economic upswing and an increase in the financial leeway of the Namibian state (p. Hydrogen Strategy). In view of our analysis, this scenario is primarily supported by the agreements made with *Hyphen* regarding the employment rate of Namibian workers, the proportionate use of Namibian primary products, the lease payments for the area and the possibility of a 24% stake in HHP, which would allow the Namibian state to participate continuously in the economic success of the HHP. In addition to the agreements with *Hyphen*, the aspirations and practices of the German government in its partnership with Namibia also speak in favour of this scenario: Germany not only financed Namibia's development of the national hydrogen strategy, but also awards scholarships to young Namibians who are undergoing training in areas relevant to the hydrogen economy. In addition, various pilot projects are being subsidised to test further possible uses for green hydrogen. However, the amount of development funds outside of the HHP is low in relation to the necessary investments. Namibia hopes to realise the promise of development and industrialisation through competitive advantages that arise from the HHP and make investments of private capital in subsequent business areas profitable and therefore attractive. *Derisking Developmentalism* once again formulates a congruent development strategy by the state. However, the inherent logic of *Derisking* prevents sufficient control of the means of production such as the technology for Hydrogen production, as well as an increase of local value addition.

The second scenario is a *failure* of the HHP due to the analysed challenges surrounding the project. Various factors have the potential to make the investment riskier and considerably more expensive than anticipated: The chronic water shortage necessitates the construction of a huge desalination plant, which is intended to provide the considerable amount of water required at a

high energy cost and is therefore essential for the functioning of the production capital cycle. Overall, the scope of the HHP is almost unimaginable in comparison to Namibia's current economic activities. Not only does the investment volume of USD 10 billion almost reach Namibia's GDP, but the planned power generation capacity also exceeds the domestically installed capacity by a factor of ten (5-6 GW compared to 610 MW; Gerrard, Hauser 2021: 10). Equally relevant is an overall lack of infrastructure, which is required both for the actual operation of the HHP and for its construction. There is also an insufficient supply of skilled labour for the hydrogen industry in Namibia. There are also political risk factors: General elections are due in November 2024 and the SWAPO government is in danger of losing significant votes, which could at least jeopardise the smooth continuation of the HHP. Although a complete abandonment of the HHP seems rather unlikely, even if former opposition parties participate in the next Namibian government, the momentum of implementation could decrease, as was already observed by one interviewee after the death of Hage Geingob (INT Journalist: pos. 36). The extent of the German government's commitment also depends to a large extent on the appointment of a politician from the Green Party to the Ministry of Economic Affairs, which is unlikely in the next legislative period given the current state of the German government.

In addition to the risks specific to HHP, the general uncertainties regarding the profitability of green hydrogen are a major factor in HHP's and Namibia's hydrogen strategy. When developing a market that does not yet exist, there is generally a price and volume risk. The main reason for this is the considerable cost disadvantage of green hydrogen compared to grey hydrogen, which is currently around two to three times more expensive to produce. This is compounded by higher transport costs, as fossil hydrogen is predominantly produced directly at the point of use (Alagu et al. 2024: 19).

Perhaps we need to (.) consider where this demand [for green hydrogen, note] comes from? It's not (.) an economic need in the sense that it's not economically viable. It's a need because we have to do it because we're in a climate crisis. And if it were an economic need in the sense of "this is a great market and (.) a gap in the market or something", it's not a gap in the market. We have to switch because otherwise we'll run into a climate catastrophe. That's where the demand comes from (.) and as long as nobody has priced in the climate consequences // (..) So (.) it's just going to be expensive. (INT Hydrogen-expert: pos. 32)

The development of a market for green hydrogen can therefore be understood as a political project, which must be implemented in line with the inherent capitalist compulsion to accumulate capital. Accordingly, the success of this political project depends on the chosen instruments convincing private investors of the profitability of their investments and thus also of the political

project in terms of their scope and reliability. Whether the promise regarding the sustainability and profitability of green hydrogen will convince private capital can at least be doubted. There are still no customers for 88% of the planned hydrogen projects within Europe, which is an unusually high figure (Energy voice 2024). Interviewed observers also share the assessment that there is a massive gap between the forecast demand and the actual willingness to invest (INT hydrogen expert: Pos. 28). Although demand-sided derisking instruments such as HINTCO provide a flexible and market-oriented response to price and volume uncertainty, which could in principle also close larger gaps between supply and demand prices, it appears that the market is still in a state of flux. Also, the reduction of grey hydrogens competitiveness by pricing its climate-damaging emissions, has been contested by right wing parties in the global north. The fossil fuel backlash is fuelled in particular by the fear of the social consequences of making fossil fuels more expensive and the doubt that a political response to their socio-economic consequences can be found in order to maintain social peace (Patterson 2023, Gourinchas et al. 2024). Overall, private capital does not seem convinced that the green transition will be implemented with the necessary determination and rigour to ensure the profitability of green hydrogen investments.

However, a complete failure of the HHP does not appear to be conceivable, which is why the scenario of *green extractivism* can be considered likely. The HHP is the central green hydrogen project abroad, especially for Germany, which is also reflected in its classification as a "foreign project in the strategic interest of the Federal Republic of Germany", which enables "more support than usual through our foreign trade promotion instruments" (ENERTRAG 2024). The priority of the project for the German import strategy can also be seen in the visit of the German Minister of Economic Affairs and the appointment of a special representative for German-Namibian climate and energy cooperation (Spiegel Online 2023). In addition, derisking instrument HINTCO is already equipped with considerable financial resources. The importance of green hydrogen as an alternative and green energy carrier is of central importance for the German accumulation model, which is clearly demonstrated by the HHP cooperation. Despite the fossil fuel backlash described above and the last European elections, the HHP and the green transition do not appear to be substantially jeopardised in the European context either. In her political guidelines, Ursula von der Leyen commits to the "Green Deal" adopted in the last legislative period, which, however, is to be increasingly geared towards improving the competitiveness of European industries with the help of a "Clean Deal" (Von der Leyen 2024: 9f.). The HHP could benefit from this, as hydrogen projects are explicitly mentioned in the context of a planned fund

for competitiveness (Von der Leyen 2024: 25), in contrast to climate protection projects, which do not contribute to the competitiveness of the European market. In view of the economic downturn within the EU and in Germany in particular, the "Clean Deal" may indicate how climate protection will be organised in the coming years. A consolidation of ambitions combined with an increased focus on those fields that promise to secure the competitiveness of one's own accumulation model. In combination with a persistently strong ideology of austerity policy, this could also change the structure of HHP cooperation. With a change of government in Germany, the partnership may be focused solely on the central goal of hydrogen exports, or Namibia may be asked to make a larger financial contribution, further limiting Namibia's already limited ability to advocate for its own development goals.

In order to understand the significance of the *green extractivism* scenario for Namibia's dependency relationship in global North-South relations, it helps to take a look at the definition of dependency according to Theotônio dos Santos, a co-founder of dependency theory:

"A situation in which the economy of certain countries is conditioned by the development and expansion of another" (Dos Santos 1970: 231).

This understanding of dependency can largely be applied to Namibia's position within the *green extractivism* scenario. Since green hydrogen is not a competitive and profitable product and private capital will only invest as long as the Global North finances extensive derisking instruments, Namibia is directly dependent on the success of the political project of green transformation. However, there are many indications that this project cannot be realised to the same extent and that green hydrogen will only play a smaller role in the future than planned. This will inevitably reduce the scope for Namibia's development ambitions, meaning that Namibia will at best be able to establish itself as an exporter of green hydrogen. This puts Namibia in a two-fold dependency. On the one hand, industrial production in Germany is a prerequisite for the continued existence of demand for green hydrogen. The quantity of this demand is not within Namibia's sphere of influence and can be jeopardised by various scenarios, such as a relocation of capital and subsequent deindustrialisation of Germany (Hüther 2023). On the other hand, Namibia is becoming dependent on the world market prices of green hydrogen. These are linked to global demand and thus tend to be linked to the needs of the global North in general as well as geopolitical events. As a result, instead of greater independence, Namibia's integration into the international division of labour will increase and Namibia will likely be subject to increasingly stronger restrictions by capital and the countries of the global North.



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