

# How power relations (National Power Systems) obstruct sustainable construction

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## Comparing Germany and the Netherlands

### Working Paper

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Contributing to the Euregional Sustainability Center ESC, the team of the Chair of Economic Geography, RWTH Aachen University, is involved in WP1, engaging in cross-national comparative research on the influence of power relations on sustainability in the construction sector.

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# 1. Introduction

Climate change and other crises urgently necessitate a Great Transformation (GT) towards more sustainable practices. To achieve the GT, the crucial role of power relations deserves more emphasis, employing geographical perspectives on international distinctions that matter for policy learning and recommendations. A comparison of nation-specific power relations can contribute to identifying barriers to sustainability. Therefore, this paper introduces the concept of National Power Systems (NaPS) and then applies it to a comparative view on conditions in Germany and the Netherlands (for the full study, see Fahl 2024). NaPS conceptually frames how power relations at the national level influence sustainability, here especially referring to the construction sector. This involves examining power and certain spatial dimension, including concrete power relations such as lobbying.

The regarded process field needs immediate action: human-induced climate change, under scenarios of continued high greenhouse gas emissions, is projected to result in a warming of 3.6 to 4.4°C by the end of the century (IPCC 2021:18). Should nations adhere to their pledged climate targets, however, the temperature increase is anticipated to range between 2 to 4°C (Ou et al. 2021:694), with a probable increase of 2.7°C (Climate Action Tracker 2021, Armstrong McKay et al. 2022). Against this backdrop, the construction sector produces around 12% of greenhouse gas emissions based on massive resource consumption (IEA 2008, Bajželj et al. 2013, Tukker et al. 2014). Cement production alone releases about 3% of global GHG emissions through chemical processes, in addition to emissions from energy usage (Bajželj et al. 2013:8066, IPCC 2014, Andrew 2018). Building technology determines for decades how much GHG will be emitted during the life cycle of a building. This study focuses on the construction sector, as it is not only responsible for significant environmental effects, as depicted above, but is also connected with particularly influential power relations due to the persistence of buildings, the multitude of actors involved, and the generally conservative sector structure.

Considerable knowledge has already been produced on possibilities to reduce raw material and energy consumption in the construction sector (Allwood/Cullen 2009). For example, CO<sub>2</sub>-efficient cement or wood can be utilized (Khatib 2016). Additionally, wood has the capacity to store carbon over a long time (Churkina et al. 2020, WBGU 2020). Nevertheless, the transformation of the construction sector appears to be particularly challenging, even as urgency mounts. But there are reasons why potential measures are not more widely implemented: “The nastiest question usually is not what should be done but how to do it” (Sotarauta 2005:56). Our proposition is that major foundations for these obstacles lie in existing power relations.

Our ESC contribution outlined in the following combines conceptual considerations, coining the NaPS notion, with in-depth cross-border comparative empirical research. The juxtaposition

of NaPS characteristics of Germany and the Netherlands enables us to systematically characterize crucial differences and provide explanations for varying degrees of sustainability. This offers to derive recommendations for the emergence and accelerated implementation of green innovations in construction. An international comparative analysis of NaPS not only sheds light on nation-specific qualities of sector-specific power relations, but also facilitates to transfer insights between nations, which helps develop policy guidelines. For instance, the regulation of lobbying activities may vary between states, hence permits or prohibits differing forms of influence that, consequently, bear an impact on legislative processes and accepted practices.

A comparative view on these two nations seems viable as similar laws apply to them as EU members. They are economical well developed neighbouring countries. Still, significant differences mark their construction sectors. Most notably, sustainable construction practices are much more widespread in the Netherlands than in Germany, where they may not be legal or only under certain conditions. Therefore, comparing these two countries offers a particularly meaningful setting for applying the NaPS concept: nation-specific features can quite easily be identified, allowing to derive conclusions regarding power relations. This comparison also takes into account cultural, political and sustainability-related differences (Hellemans 2020, TU München 2021, Rijksoverheid 2023, Wiarda et al. 2023). The conducted social empirical research comprises a total of 28 semi-standardized guided expert interviews, which systematically capture power-related practices according to NaPS aspects. Interviews in Germany took place in 2021 and were complemented by interviews with Dutch experts in 2024.

In the following, we first outline the concept of NaPS (section 2) and depict general features of the construction sector (3). Then the German and Dutch NaPS are each characterized, based on insights from the interviews and literature (4-5), before significant international differences are pointed out (6). The conclusions finally highlight policy recommendations of the study (7).

## **2. National Power Systems (NaPS)**

The notion of NaPS conceptualises how nation-specific power relations are represented, in our case referring to a certain industry sector. In this framework, the actor constellation plays a particularly crucial role. To introduce the concept as guideline for the comparative empirical study, we first highlight different kinds of power relations (section 2.1) and concrete forms of power relations like lobbying (2.2). Then the core concept is presented (2.3).

## 2.1 Power Relations

The concept of NaPS inheres an examination of fundamental and concrete power relations. Power manifests itself in various facets, often shrouded in silence or negated, described perhaps as force, capability or potential (Luhmann 1975). Yet, power relations persist in societies, perpetuated through social interactions. Power structures social situations and influences actions. Power is made (Holcombe 2018), it remains susceptible to change. Power relations hinge upon perpetuating relationship of dependency and superiority, entailing the ability of those in power to enforce their objectives without consent, against the will, or despite resistance from others.

Power resides in those who are heard and assert themselves. It manifests in two ways: the power *over* and the power *to do* something (Luhmann 1975, Weber 1978, Luhmann 1995, Avelino 2017, Grillitsch/Sotarauta 2020) – whether open or covered (Sotarauta 2015), either enforcing or preventing personal interests (Lukes 2005). Structural power, i.e. the capacity to prevail over others and obstruct their objectives, shows from the *concrete* acts of actors, as social interactions constitute and reinforce power. Consequently, this study addresses concrete power relations such as lobbying and corruption (outlined in the next section).

Sector-specific sets of actors who exert concrete power may encompass individuals and institutions. They comprise, for instance, politicians and parties wielding power either on a national or local scale, users of cutting-edge technology within a given sector, as well as scientists generating novel insights. All powerful actors share the commonality of shaping processes, executing power over others. Especially in GT fields, pioneers of change often encounter resistance from powerful actors and consequently fail against existing power relations (Geels 2014).

Fundamental power relations are closely linked to the economic system, since economics represents a peaceful exercise form of power (Weber 1978). It is mainly associated with capitalism in terms of an economic and societal order geared towards free markets and the pursuit of profit (Polanyi 2001), private ownership, the market-based regulation of production and consumption, and labour exploitation (Weber 1978, Schneidewind 2018). Consequently, actors can best pursue their interests when adhering to this hegemonic logic – neglecting sustainability issues.

Concerning politics, power also shapes political relations (Turnhout et al. 2020). Politics serves as the negotiation platform that socially regulates power relations. It drafts laws that intend to ensure harmonious coexistence. Accordingly, many actors demand a more active role of policies for GT related change (Geels 2019). Positioned at various spatial scales, politics exercises, shapes and distributes power. It thus inherently involves power relations, in fact *is* power execution. The direct connection between politics and power, however, is surprisingly rarely established (Arts/Van Tatenhove 2004).

Likewise, politics as a negotiation platform deals with sustainability issues. And, due to varying interests, particularly actors whose established business models are not sustainable sustain power relations between economy and politics that impede sustainability. Showing the hegemony of capitalism, green growth remains growth and is therefore not truly green (Bina 2013, Caprotti/Bailey 2014). In terms of greenwashing, *non*-sustainable economic practices are portrayed as sustainable (Pimonenko et al. 2020). Furthermore, negative environmental impacts are deeply embedded in societal structures (Geels 2006), such as free CO<sub>2</sub> emissions.

## 2.2 Concrete Power Relations

At the interface of the systems of politics and economy, and within public administration, concrete power relations can be identified. They are particularly important for international comparison. Five relevant relations are examined, based on available data: Lobbying, corruption, party financing, the revolving-door effect (i.e. job changes between politics and economy), and side jobs of legislators.

*Lobbying* is organized interest representation, encompassing any form of communication with politicians and officials aimed at influencing decisions (Mayer 2007). A narrower definition concerns influencing the government (Speth 2006), even in early stages of political decision-making processes (Spohr 2023). Lobbyists and associations often have a negative image. However, they contribute to democracy by clarifying the interests of various groups and providing expert knowledge on impact details expected in practice, for instance, on changes in building legislation which politicians and public servants may lack (Halpin/Lotric 2024). The interest in lobbying is mutual (Speth 2006). Moreover, expert discussions on (construction) standards in political consulting are initially beneficial, contributing to quality assurance. But the effectiveness of lobbying depends on resources and power, resulting in unequal outcomes (Spohr 2023), despite claiming to pursue a balance of interests.

*Corruption* must essentially be defined in a value-neutral manner: The principal (for example, the inhabitants of a city) appoints an agent (a government official) to take over the task to implement the principal's wishes (e.g. a building permit application). The client is involved in the implementation process (such as a construction company seeking a building permit). Corruption occurs when the agent, in collusion with the client, exploits or exceeds the discretionary power in favour of the client and receives personal benefits in return. The principal is disfavoured, but not directly involved in this process and does not directly feel the disadvantage (de Graaf et al. 2010). Yet, society mostly perceives corruption as morally reprehensible, and corruption destroys legal certainty in all areas of economic activity. In cases of corruption, the

parties directly involved have little interest in being exposed, which is why little reliable information is available on corruption (Bannenberg 2002). Despite lacking data, corruption can be compared between states (TI 2020, TI 2021, EU 2023). The Corruption Perceptions Index (TI 2019) depicts perceived corruption across all nations and is recognized in academia and politics (Rohwer 2009, Budsaratragoon/Jitmaneroj 2020). Corruption both hinders and prevents sustainability (Sinha et al. 2019). Simply put, if a municipality consistently selects the same construction company for public projects due to decades of corruption, innovative and more sustainable construction actors and methods will not come into play.

*Political party financing* is another studied concrete power relation. Actors endowed with the power resource of money can influence policymaking through major donations. The starting point is that parties depend on contributions from society to organize election campaigns, pay staff and fulfill everyday tasks. The legality and transparency of party donations especially from companies vary significantly between nations.

The so-called *revolving door effect* (LaPira/Thomas 2014) signifies how politicians move into the corporate sector along their career, and sometimes vice versa. For companies, the knowledge and networks held by these ‘corporate politicians’ are of great value, providing insights into internal governmental processes and especially personal networks that can continuously be exploited. Professional positions for politicians can serve as rewards for work in favour of the (construction) sector, where the job is provided. There may be conflicts of interest. Thus, societal power relations persist (LobbyControl 2015, LobbyControl 2017b). Even when collusion between political decisions and job transitions only appears to exist, this undermines trust in democracy. Cooling-off periods can mitigate this tension (Maskell 2012, LaPira/Thomas 2014, LobbyControl 2015).

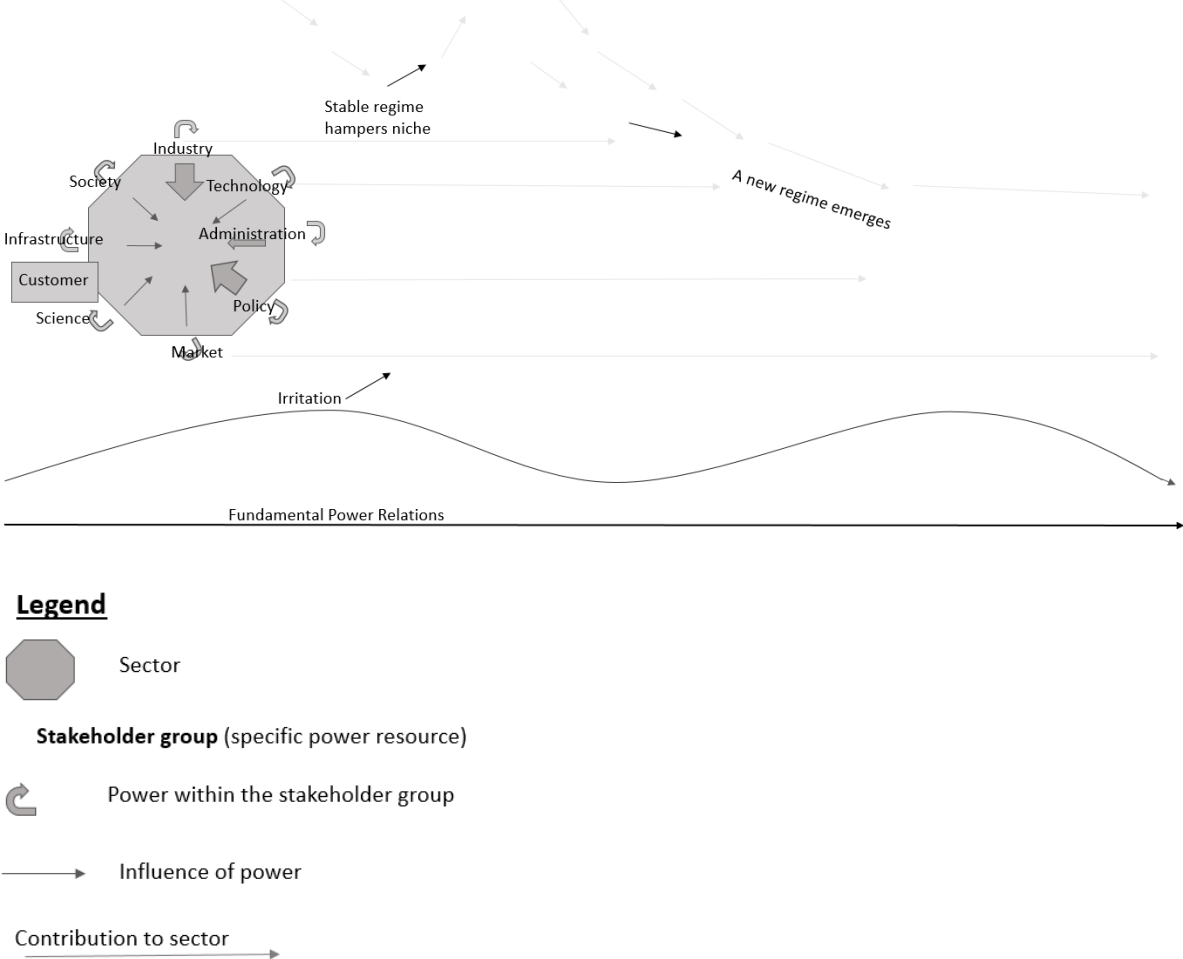
Many members of parliament engage in *secondary activities*, constituting a significant source of power. This may include working as lobbyist. Companies making direct payments to parliamentarians this way foster proximity and dependency between businesses and politicians (TI 2016, Abgeordnetenwatch 2020).

## **2.3 Core Concept**

The NaPS concept proposes that each nation is marked by specific elements that signify crucial power constellations and relationships (Fahl 2024). Accordingly, the setting of an industry sector is shaped by powerful actor groups, each following their own logic and currency of power. Together, they maintain the status quo from which they benefit. Beyond the sector lies the landscape, conceived as the level where basic developments and trends are situated. This includes

the spatial structure of cities, factories and infrastructure, economic growth, oil prices, population movements, cultural values, political structure, and environmental issues (Geels 2002). The landscape serves as the external structure or context for actor interaction. It represents conditions that are hardly influenced by the actor groups and changes only slowly. Examples of such changes include “cultural changes, demographic trends, broad political changes” (Geels 2002:1262). These changes irritate the sectoral structure, for instance, when sustainability trends initiate political action while simultaneously endangering the business model of established actors. Irritations therefore serve as the starting point for changes in sector structure, particularly through the establishment of new business models in niches, such as modern timber construction or reinforced concrete. Other elements include hardly influenceable fundamental power relations, especially capitalism (Feola 2020), and the customer, who exerts power by issuing orders, but can in turn be influenced, for example, by advertising.

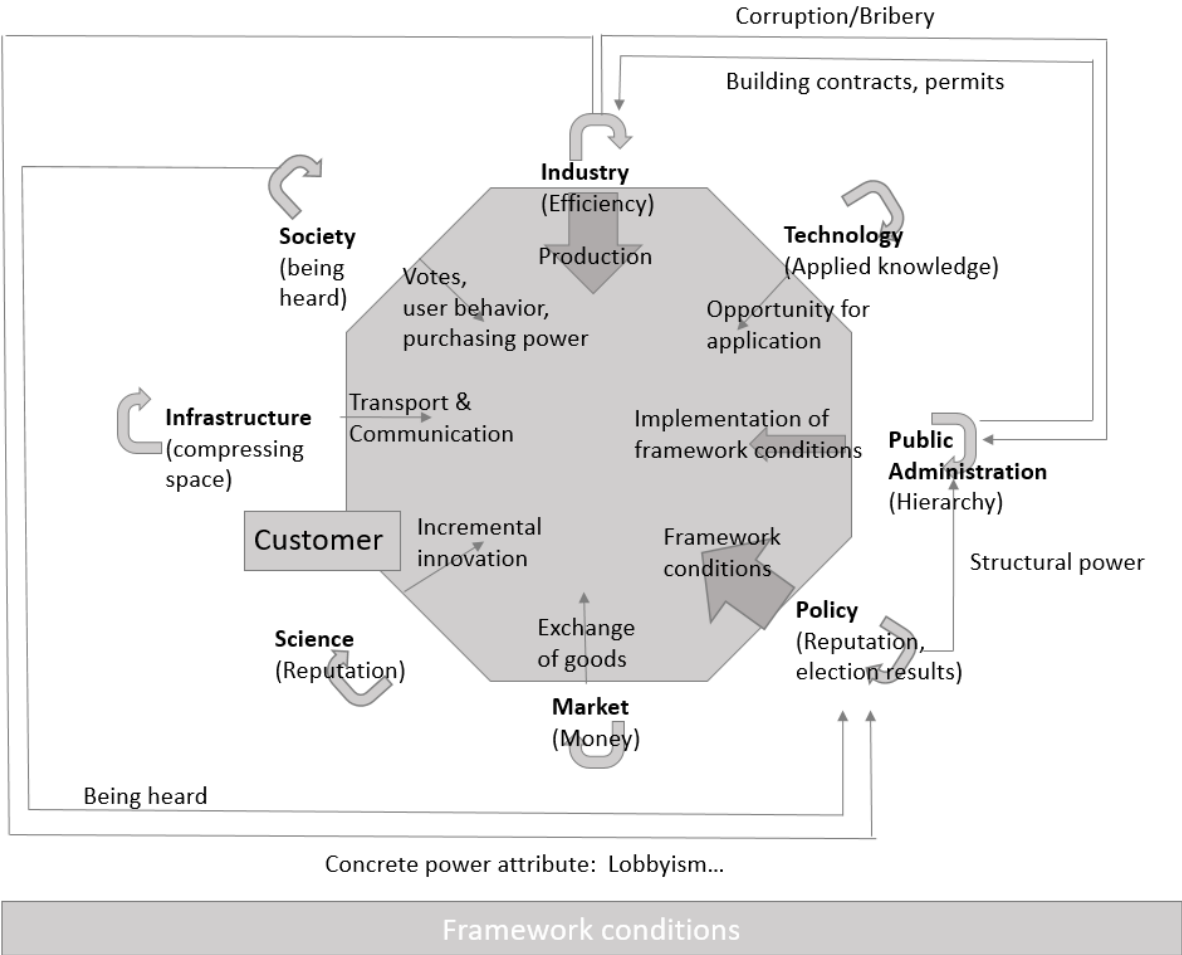
**Figure 1: Power in National Power Systems** (based on Fahl 2024, p. 90).






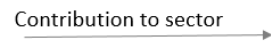

The powerful actor groups show important distinctions. Each group possesses different power resources and contributes to the sector in unique ways, as depicted in Figure 2. Within the actor groups, power resources are a means of communication. A high quantity of these resources

signifies greater power within the group. Specific communication may be limited to this medium, as exemplified by a businessperson who focuses solely on money in the market: those owning the most money yield the most market influence, while moral values do not count as communication mode in this system (inspired by Luhmann 1995). Some groups have more power than others (indicated by the thickness of an arrow).

**Figure 2: Systems logics in National Power Systems** (based on Fahl 2024, p. 83).



**Legend**

-  Sector
- Stakeholder group** (specific power resource)
-  Power within the stakeholder group
-  Influence of power
-  Contribution to sector
-  Power relation inbetween stakeholder groups

The task of *politicians* is to publicly mediate between various interest groups. Politics *is* power relation, where enacted laws are concrete power. Through legislation and regulations, policies establish the overarching framework and determine, for instance, who can build what and where. They establish clear and legally binding conditions for other actor groups. Politics, however, is "vulnerable towards capture by powerful incumbents of the status quo" (Voß et al. 2009:286). The currency of political power consists of election results, reputation and public perception of parties and politicians.

*Public administration*, as the executing body, is responsible for implementing and monitoring regulations etc. Far from being passive, it forms an active group heavily influenced by power relations. Other actor groups engage with administration when it comes to approvals or compliance with regulations. With leeway for decision-making, administration is empowered to act autonomously, hence can be conceived as independent actor group.

The *industrial actor* group comprises various companies of the sector, including multi-nationals (MNC). They produce sector-specific goods and (re)produce corresponding technology. The companies compete against each other and strive for power through market dominance, job creation, influence on politics at various levels, and established networks. Consequently, they can exert influence on policymaking, hence societal processes.

The *market* encompasses all intentions, interactions and framework conditions that shape the distribution or trade of sector-specific technology, embedded in institutional structures and social networks (Fligstein 2018). Actors here focus on trading, such as wholesalers and estate agents. Possessing money for trading or pursuing interest is the main power resource here.

*Technology* only exerts power through application. This group includes actors who create applicable incremental innovations. Additional actors actually implement technologies, such as craftsmen, or set related norms. Overall, this actor group is fairly passive, gains power and societal relevance only through interaction with other actor groups (Geels 2002).

*Infrastructure* basically includes roads, availability of water and energy, and depends on amenities like gas stations. More broadly, industry associations also belong to this category, as they perform supportive roles as well, consolidate interests and thus exert power and influence. The purpose of infrastructure is to allow for efficient transportation and communication. Competitive advantages accrue to those who can exchange information and goods faster.

*Science* generates new knowledge and technologies that influence existing systems. Basic research can create incremental innovations, potentially even radical ones that transform entire system settings. Within science, the reputation of individual researchers matters, based on previous successes and newly gained insights.

Finally, *society* refers to individual actors within civil society and is far from passive. As active civil society, comprising self-empowering actors, it can influence any other actor group through instigating interest groups and other societal engagement.

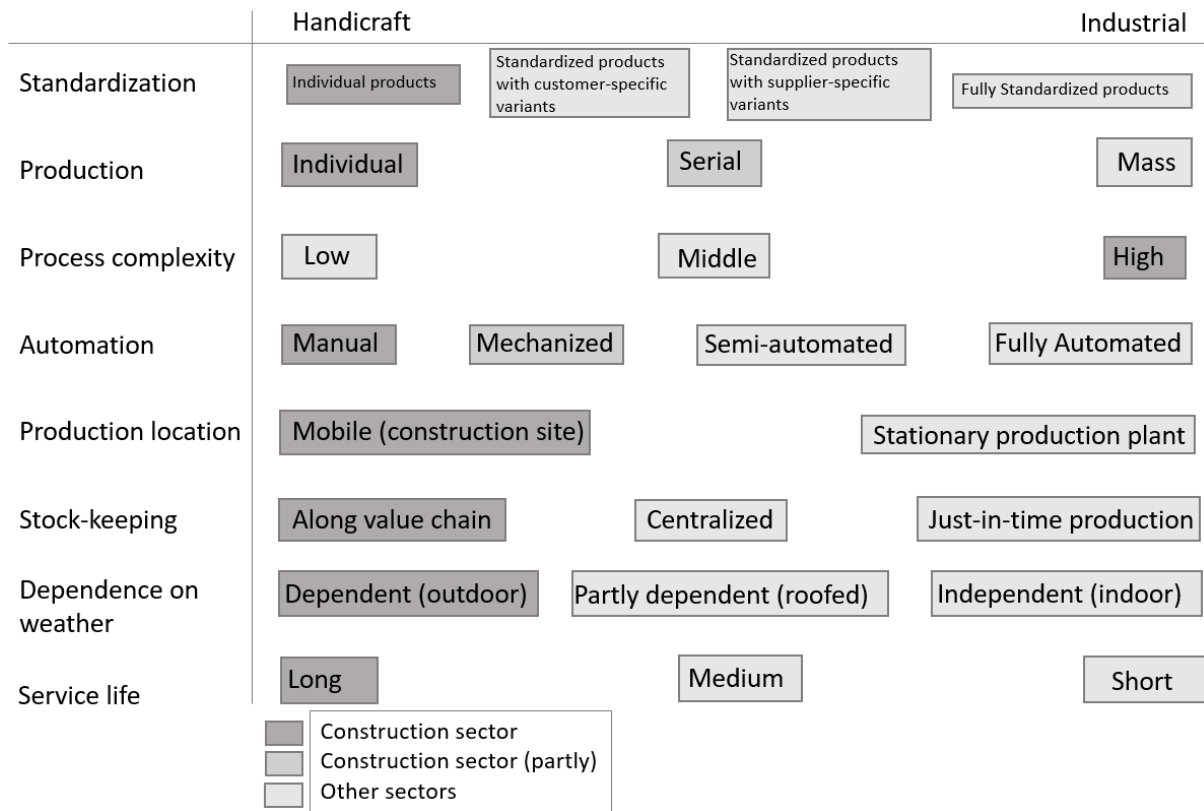
Overall, the framework of NaPS also need to account for the stability and resistance of powerful actor groups, which are not regarded as rigid or inert, but actively resisting change (Elliott 1980, Smith et al. 2005). Actors who benefit from a status quo refuse change as long as deemed necessary. Persistent user behavior impedes the introduction of radical innovations, as users must learn new practices. There are reasons for resistance: for economic actors, path dependencies and lock-ins are essential (Grabher 1993, MacKinnon 2012), as sunk costs and capital lockup bolster inertia (McAfee et al. 2010).

### **3. Construction Sector**

We now turn to sector-specific factors that shape NaPS constellations. The construction sector, characterized by high degrees of value chain fragmentation, division of labor, outdoor production and dependence on weather conditions (Hasenclever et al. 2011), operates within a low-tech environment (Ibrahim et al. 2022). Consequently, innovations tend to diffuse slowly, also because of the sector's regionalism. Figure 3 provides an overview of sectoral characteristics, which cannot be elaborated in more detail here.

**Figure 3: Characteristics of the Construction Sector**

(depiction by the author, inspired by Hasenclever et al. 2011:209).



Current developments are marked especially by digitalization in the form of Building Information Modeling (BIM) (BMVI 2015, BMVI 2017). This politically supported convergence of sustainability and digital transformation is referred to as twin transition (Ogrea/Herciu 2021). Additionally, there is an operational shift from product-orientation to services, or product-services. For instance, instead of purchasing a facade for office buildings, clients may book the service of a facade, including maintenance and centralized control (Coalition Circular Accounting 2020). The implementation of a Material Passport could complement BIM by providing information on the materials and substances used in the building, which facilitates maintenance after construction (see the example of the material catalog Madaster 2024). Further innovation examples include solar roof tiles that generate photovoltaic energy (Abbas et al. 2022) and the experimental use of CO<sub>2</sub>-binding construction materials (Becker 2022).

The following sections draw on the major NaPS elements to illustrate important characteristics of power-influenced settings for the – hardly sustainable – construction sector in Germany and the Netherlands. Summarizing findings from Fahl (2024), only the most notable features can be depicted here. They draw on insights from documents as well as the 28 research interviews.

## 4. The German NaPS of the Construction Sector

The political system and culture influence power characteristics. The most important elements in this regard in Germany are: Germany is a federal republic with 16 different building codes. It is also a social democracy with a highly export oriented economy. In the past, more political parties were able to establish themselves. The 5% threshold contributes to a stable political landscape.

Fundamental power relations, including hegemony, can be identified in the German NaPS. Solving the issue of insufficient housing for low- and middle-income households in urban areas, a matter of social sustainability, is predominantly reduced to building new housing. This ecologically unsustainable approach is summarized as *build, build, build* (CDUCSU-Fraktion im Deutschen Bundestag 2020, Meyer 2020). However, since land prices are subject to speculation and thus very high in urban areas, economic pressure leads to the creation of more expensive rather than affordable housing. Established actors in the construction sector benefit from this situation: when everybody only wants to 'build more,' issues such as tenant rights, price regulation, participation, new public non-profit housing, and social cohesion in housing construction fall by the wayside (LobbyControl 2018a, LobbyControl 2018b).

Lobbyism significantly influences politics in the construction sector. Particularly powerful are the cement, plastics processing, and mineral wool sectors, as well as the so-called newbuilding lobby and the Zentrale Immobilien Ausschuss (ZIA, *German Property Federation*). Ministers of construction and environment have been guests of the ZIA (Deckwirth 2018b); there have been at least 134 meetings between top federal politicians and representatives of the housing and real estate lobby, including over 60 smaller meetings (Deckwirth 2018a:Abs.2; Deutscher Bundestag 2015, Deutscher Bundestag 2018). Lobbyists were previously given house passes to the German parliament building (Deutscher Bundestag 2020), but since 2022, this practice has been severely restricted (abgeordnetenwatch 2022). Additionally, primary and secondary building material associations have conflicting interests.

Large-scale studies on corruption in the construction sector in Germany are scarce, and due to the large number of unreported cases, further research is needed (Bannenberg 2002). It is evident, though, that due to organizational, economic and political conditions, the construction sector is particularly vulnerable to structural corruption (Bannenberg 2002, Bergmann 2005, Speth 2006, BKA 2022). Superficially compared to that in other countries, the situation in Germany appears positive (TI 2012). Nevertheless, the corruption that does exist can be structural (Van den Heuvel 2005, TI 2012, Sandoval-Ballesteros 2013, Achenbach 2018). Even in the best-ranked countries, corruption still persists (TI 2019). The construction sector has the highest

number of corruption cases (Bannenberg/Schaupensteiner 2007, BKA 2021). This is also reflected in the unveiled cases, as corruption is usually uncovered by exposing structural corruption networks (BKA 2020). Interviewees also report a certain normality of corruption and numerous cases known to them, in which legal steps were never taken. An interview partner notes (translated): "You have to prove something for that. That's a difficult undertaking. You just think of such things." Established networks are common in the construction sector. Subsequent contracts and the allocation of building land are particularly susceptible to corruption. "Corruption, yes, exists. [...] It was said, if you want to get the follow-up contract here, here's an account number, then transfer 2% of the contract sum there" (interview partner, translated). In return, existing regulations are bypassed. There are numerous current examples of structural corruption in the construction sector (Ide/Zawatka-Gerlach 2016, BKA 2020, MAZ Wildau 2020, Stadt Wildau 2020, LobbyControl 2021b).

Political parties receive money especially when elections or important decisions are coming up. This applies, for instance, to funding from the real estate industry when policies for rent freeze (*Mietendeckel*) were discussed in Berlin – almost 80% of the published party donations to *CDU Berlin* came from the construction and real estate sectors (LobbyControl 2021b). Overall, the construction sector ranks among the top donators (LobbyControl 2021b). Giving money in exchange for favours is prohibited, but legislators can receive money *after* a decision has been made (Bundesministerium für Justiz 2018). Nevertheless, donations *are* often tied to conditions, like in the case of the rent freeze (Gröner/Jantschek 2021, TI 2023a, Schönberger 2023). Major donations from individuals and legal entities must be separately disclosed in party financial reports. In particular the CDU, CSU, and FDP parties benefit from (economic) donators (Deutscher Bundestag 2022). Publication in the financial reports can be bypassed by fragmenting amounts below the threshold sum of €10,000 and using straw men. Party sponsorship, e.g. through booths at party conventions, is also part of (covert) party financing. Parties do not disclose three-quarters of corporate donations by name (LobbyControl 2017a, Lobbypedia o.J.).

First Ministers, state and federal ministers, (parliamentary) undersecretaries of state as well as ministerial staff at times move into top positions in the construction sector, particularly in big construction and housing companies, as well as lobbying associations of the construction sector (Lobbypedia 2020). These cases are relatively few, though. And, transparency obligations and cooling-off periods have been expanded (LobbyControl 2021a, 2021b). Other forms of influence are likely more significant.

Individual members of the Bundestag generate in total over 3 million euros income from secondary activities, however, they typically earn significantly less. While most parliamentarians do not engage in paid secondary employment (abgeordnetenwatch 2020, Deutscher Bundestag 2021), nearly three-quarters of all members hold (often unpaid) secondary roles as functionaries in some interest group (Spohr 2023). No significant secondary activities are reported for the

construction sector (Deutscher Bundestag 2021), maybe due to incomplete disclosures, as violations are not penalized and controls appear to be lacking, or because no significant secondary activities exist.

In summary, it can be stated that only a few revolving door users shift from politics to the construction sector, while lobbying is particularly strong in Germany. Secondary activities of legislators in the construction sector are the exception rather than the norm. There have been numerous large donations from construction and real estate companies to political parties. Legislation allows for various practices, such as secondary activities and the revolving door. Corruption in the construction sector is notoriously structural in the sphere of awarded public contracts, but is not particularly prevalent beyond that. Table 1 summarizes the assessment of the strengths of examined power relations. Regarding the German NaPS it can be concluded that while some strongly pronounced power relations are in place, democratic and market processes are generally functional.

**Table 1: Manifestation of concrete power relations between construction sector and politics and public administration in Germany** (depiction by the author).

Power relation / Shape	Strong	Selectively strong	Weak
Lobbyism	+		
Corruption		+	
Party financing		+	
Secondary activities			+
Revolving door effect			+

For the important issue of how sustainability trends are affected by Germany’s NaPS, we can conclude: identified power relations and mechanisms widely bolster conservative practices in the construction sector. On the one hand, science and technology actors are developing various innovative solutions towards more sustainable materials and building practices, supported by some policy, infrastructure and, above all, societal engagement. On the other hand, rigid legal settings and harsh cost competition obstruct changes in construction practices, decisively influenced by powerful industry actors that shape policies to their favour. Furthermore, standardization has also entailed significant improvements in noise protection and sound insulation which, according to some actors, needs to be defended. Progressive ideas are still confined to niches and will need more time and effort to move forward, instigating new building standards and routines through new coalitions of all NaPS actor groups.

## 5. The Dutch NaPS of the Construction Sector

The administrative system of the Netherlands is characterized by a centralist structure, with a political landscape that could be described as fragmented. On average, around 10 parties, without a threshold, are represented in the parliament. The Dutch Polder Model seems noteworthy, to be defined as a political approach that moderates between all stakeholders, based on shared constructive intentions and bearing the common good in mind. This model is deeply rooted in Dutch culture, where cooperation has historically been crucial, particularly in land reclamation. A key aspect of the Polder Model is municipal self-organization (Voß et al. 2009).

As the interview results reveal, the Dutch construction sector is marked by mutual distrust among companies, which poses challenges in the light of legal changes – it's a fighting business. Furthermore, the Civil Code, *Burgerlijk Wetboek*, has been amended (HabrakenRutten 2024). In the past, in the Netherlands and the United Kingdom, liability for construction defects rested with the buyer. In the rest of Europe, the construction company is liable for serious defects. This has also been applicable in the Netherlands since 2024. Large corporations dominate this sector, which potentially exert significant influence through lobbying and other forms of policy manipulation. However, lobbying activities in the Netherlands appear to be fairly transparent: lobbyists have access only to a few selected spaces of policymaking and must register and list their activities in publicly accessible records (Tweede Kamer 2023). Additionally, there is a registry where legislators must report foreign trips, even those sponsored by third parties (TI-NL 2020, Integritywatch 2022). But since rule violations hardly bear any consequences, lawmakers often do not report externally funded activities, trips and gifts (TI-NL 2020).

In the Netherlands, many power-related practices are allowed that are prohibited elsewhere, including the field of corruption. Evidence of forbidden structural corruption in the strict sense has been scarce in the Netherlands in recent years; it simply was not deemed necessary to indicate that. Nevertheless, occasional cases follow the pattern of structural corruption, particularly in the allocation of building land (Quote 2013, NOS Nieuws 2016, 2023). One case, however, stands out: in the early 2000s, whistleblower Ad Bos exposed a shadow accounting system (*bouwfraude*), which in turn revealed structural corruption in other major public contracts. Corruption was perceived as normal form of transaction within actor networks, and the usual justification patterns were employed. A lack of control was identified as a source of error. Since the tightening of controls, structural corruption in its actual sense has significantly decreased (Van den Heuvel 2005). Yet, awareness of susceptibility to corruption remains weak in municipalities and provinces. Despite the Netherlands' high ranking in corruption indices such as TI (TI 2023b), the country is losing points. Corruption is becoming an increasingly significant issue in the course of its evolution. A matter of concern are less some direct individual benefits, but more the benefits for networks, which pay off at least indirectly: Person A does a favour to B,

B to C, and C to A, with no obvious connection in different projects. Corruption in the Netherlands is shifting away from clear-cut cases toward these more indirect network advantages.

Parties in the Netherlands are only required to disclose external donations when they have over 1,000 members and the donated sum exceeds about €4,500, without revealing the donor's identity. Violating this rule entails no consequences. This setting is particularly noteworthy compared to that of other countries, as Dutch parties receive relatively little funding from the state. However, due to the frequent establishment of new parties, fusions, and the multitude of parties involved in government coalitions, parties have hardly any scope to accommodate donors' wishes, which limits the amount of scandals. Nevertheless, TI-NL (2020) recommends implementing sanctions and establishing an independent supervisory authority.

In the Netherlands, there is no cooling-off period limiting revolving door procedures. This offers another example of how much is allowed in this country that is regulated elsewhere - although it is under discussion (Open State 2021b). Approximately one-third of all legislators are reported to pursue lobbying activities after leaving policy jobs, indicating widespread practices (Open State 2021a, 2021b, 2021c). This kind of job mobility particularly signifies the local level: The revolving door between municipality, planning offices and construction companies swings not only after, but also during ongoing projects.

Secondary activities among legislators are generally widespread. The Dutch Senate is structurally vulnerable, as its members are only employed for two days a week. Another main source of income is therefore required, which often involves lobbying activities even by party leaders. Additionally, 20% of members of the Second Chamber pursue paid secondary activities, and 83% are engaged in paid and/or unpaid secondary activities (TI-NL 2020:5f, Integritywatch 2022:Nevenfuncties).

Taken together, and summarized in Table 2, lobbying and corruption play a strong role in certain respects in the Dutch NaPS, drawing on influential informal networks prevalent in the country. Under Dutch conditions, corruption can be understood not only as structural, but also as producing network power, which shows a fairly strong degree of influence in the construction sector and beyond. But due to the somehow distinct character of corruption here, it can be assessed as only selectively strong: practices often don't comply with structural corruption in the actual sense and are not necessarily directly targeting to enrich individual firms' profits. Instead, the perpetrators strive for influence through owning network benefits, which allows them to profit later on and in different contexts and projects, too. The revolving door effect is pronounced mainly due to local level practices.

**Table 2: Manifestation of concrete power relations between construction sector and politics and public administration in the Netherlands** (depiction by the author)

Power relation / Shape	Strong	Selectively strong	Weak
Lobbyism		+	
Corruption		+	
Party financing			+
Secondary activities	+		
Revolving door effect	+		

Looking at implications of NaPS features for sustainable construction in the Netherlands, the picture appears to combine both conservative and progressive change facets. On the one hand, significant competition between large companies and strong collusion with policymaking tends to support stable contexts of operation that don’t bear too many transformation risks for industry actors. On the other hand, underlying cultural aspects supported by societal structures and the political system itself decisively drive trends towards new horizons and sustainable solutions, broadly shared by industrial, political and societal actor groups. Science and technology efforts towards developing and implementing sustainable and healthy buildings as well as robust infrastructure receive strong thrusts from policies. There is particularly strong motivation for all actors in the Netherlands to create adequate solutions in times of mounting climate risks, which will severely affect wide parts of the densely inhabited Dutch territory and includes hydraulic engineering. Nationally shared legacies of smart planning and modern and experimental design have guided resource efficient and creative building cultures out of the niche into mainstream already many decades ago. And, well-established powerful networks make continued progress fairly easy – in relation to the German NaPS (as further outlined in the next section) and with local differences. Nevertheless, much remains to be done in the Netherlands as well.

**6. Differences of the compared NaPS and beyond**

This section more systematically characterizes the types of NaPS that can be identified by comparing structural features found in Germany and the Netherlands according to sections 4 and 5. It will be shown that certain crucial aspects of the relationship between power and sustainable construction gain relevance only through international comparison. Only by directly juxtaposing German and Dutch NaPS qualities, certain patterns can be typified. To this end, the differences between the nation-specific characteristics including the political structure are described in order to subsequently identify remarkable power-related differences.

Overall, the comparative view evidences that the Netherlands set higher standards for sustainable construction than Germany and are a “frontrunner” in terms of resource recovery (Wiarda

et al. 2023:4). Climate adaptation and the circular economy have gained more traction in practice than in Germany; new business models are emerging. However, the construction sector in the Netherlands, like in Germany, remains linear instead of circular and conservative, evolving slowly. This results seems to be sector specific, generally qualifying the realm of construction.

The Dutch construction sector, much like the German one, is characterized by rising material and labour costs, as well as high quality and energy-related requirements and standardization. The German sector mainly comprises medium-sized firms (NEN 2023), the Dutch one more bigger companies. Labour force issues prevail, as many jobs remain vacant because of low unemployment rates and a shortage of skilled workers. Changes in nitrogen legislation (CLO 2021), the legal system *burgerlijk wetboek* (Overheid 2024) and environmental legislation (Rijksoverheid 2024) are current developments that are impacting or will increasingly affect the Dutch construction sector in the future.

Healthy building practices and Cradle to Cradle (C2C) principles are more developed in the Netherlands. Here healthy buildings are understood as an advancement of sustainable buildings, pursuing a holistic approach to sustainability. For construction actors the guiding question is how to do things really well, not just less inadequate and harmful. For instance, over-insulating buildings bears the caveat to jeopardize indoor air quality, and the solution must therefore be to build altogether effectively rather than strictly efficiently. The crucial issue is to answer the question what services buildings actually need to be healthy. Merely considering the budget during construction is insufficient. Investments in health and quality can yield returns even in monetary terms, e.g. resulting in a 3% reduction of tenants' sick days per year. Healthy housing, in turn, is more broadly defined and includes the living environment (WBGU 2023). Feeding into that line, C2C in the Netherlands is part of a broader top-down strategy that extends beyond the construction sector and involves various stakeholder groups (Wiarda et al. 2023).

Architecture and design operate differently in the two compared countries (Cousins 2009). They are considered much more significant in the Netherlands than in Germany: modern construction methods are more popular here, and there is much more experimentation in building. Embracing the forefront of technology and materials, Dutch practices integrate cutting-edge techniques into architectural endeavors. In Germany, standardization is obeyed more strictly, but in this framework, building type E (Bayerische Architektenkammer 2023) offers a divergent path.

Notably, the Netherlands have advanced significantly in digitalization through BIM (van Nederveen et al. 2010). Mandated for public construction projects, BIM standards have been established and utilized throughout the project lifecycle, incorporating digital twins and emphasizing training initiatives. Private companies recognize the benefits of BIM, particularly in cost management, precise planning and collaborative efforts. In Germany, BIM has just started to come up and has recently become mandatory for state buildings (but not for federal states or municipalities; Bundesministerium des Innern für Bau und Heimat 2021).

The handling of notaries, architects, the land registry office and real estate agents is more simple and more cost-effective in the Netherlands. Consequently, additional building costs decrease significantly (approximately 4% compared to more than 10% in some German states), facilitating more frequent buying and selling of properties over lifetime. Additionally, these costs can be deducted from taxes, and property transfer tax is waived for individuals under 35 (Hypotheker 2023). Inheritance in the Netherlands benefits from a property exemption threshold. Building authorities must respond to building permit applications within 8 weeks; otherwise the application is considered approved. Accordingly, property construction and acquisition are easier, faster and more economical. In the Netherlands, a general contractor typically assumes responsibility for the construction process, whereas in Germany, detailed planning precedes and the separate division of tasks between architects and engineers is more pronounced.

Cultural and mentality differences are evident. In the Netherlands, people more often dare to try things out, whereas in Germany, strict adherence to regulations is favoured. In more pointed, slightly exaggerating terms, Germans tend to see barriers, while the Dutch see opportunities. In Germany, innovations are thoroughly examined for a while first, whereas in the Netherlands, they are swiftly implemented with a "let's see what happens" approach. Hierarchies in the Netherlands are flatter or at least perceived to be so. Still the quality of buildings in the Netherlands is often, though not always, high, both with respect to architecture and building culture (*bouwcultuur*). A remarkable example of cultural difference is the extremely negative connotation of the notion *corruption* in the Netherlands (Van den Heuvel 2005:146): „The conclusion that the Netherlands are a country of collusion rather than corruption can be seen as significant: ‘collusion’ has connotations of ‘not transparent’, ‘eschewing control’, ‘selective condoning’, ‘furtiveness’, ‘conducive to economic conspiracy and favoritism’.” Hierarchies are much more pronounced in Germany (Uni Münster 2008b), but they also exist in the Netherlands, even when hidden by informal culture. For Germany, indication is provided, among others, by the use of a formal address (*Sie*) and top-down processes. Rules and clearly expressed agreements are more important in Germany than in the Netherlands (Uni Münster 2008a).

Employing the conceptual framework of NaPS, it is now possible to characterize, classify and label nation-specific NaPS features for Germany and the Netherlands. How stringent are the laws regarding lobbying, cooling-off periods, party financing etc. practiced, and how transparent are the actions of the state, administration, and economy? How innovative and flexible can the construction sector (re)act? These and other previously answered questions contribute to the classifying process. The characteristics of particularly effective power relations discerned for the compared countries are crucial for labelling.

The German and Dutch NaPS features for the construction sector bear similarities in some respects. Both are heavily regulated, partly by the same EU legal frameworks. Corruption is structural, but actively tackled by authorities and remains at a (comparatively) low level. The influence of lobbying is significant in both countries, but stronger and more persistent in Germany.

The Netherlands, in contrast, tend to be more experimental, with laws and regulations subject to less literal interpretation. Therefore, the German NaPS can be characterized as **persistent**, while the Dutch NaPS is more sustainable and can be labelled as **agile**. The sector in general is considered as conservative, which qualifies both NaPS variants.

This classification and distinction helps derive insights with respect to sustainability, hence GT perspectives for the construction sector. An agile NaPS like that of the Netherlands creates experimental spaces for both *pioneers of change* and flagship projects. It allows for demonstration projects that test what is technically and regulatorily feasible today, such as the *Stadskantoor Venlo* (Venlo 2024). Addressing GT needs, the question arises how projects and actors like these can rapidly disseminate good ideas across the entire sector. This requires political attention. Especially learning processes on how to facilitate regulatory changes are due.

In persistent NaPS like the German one, there is greater resistance to change. This necessitates the creation of experimental spaces similar to those found in agile NaPS. Pioneers of change must first be enabled to establish flagship projects, and conditions must be turned into support for knowledge transfer at a level comparable to that of agile NaPS. First steps into this direction can already be found in Germany's NaPS, like the planned introduction of building type E (Bayerische Architektenkammer 2023). Learning processes should be supplemented by cross-border learning. The German NaPS can thus learn quite a bit from the Dutch one, accelerating progress by adopting best practices from the Netherlands and hereby avoiding implementation errors. The *Healthy Building Network* gives a good example for this approach (Healthy Building Network 2023).

Finally, it needs highlighting that transparency is key. Only when power relations are truly revealed, stakeholders can be enabled to change them, or use them for a better purpose. This insight applies to both studied NaPS: In the Netherlands, there is a particular need to raise awareness that the power executed through revolving door and unbalanced lobbying practices can be problematic. In Germany, transparency is especially required for unveiling the influence of lobbying on regulatory decisions that prevent more sustainable construction routines.

## 7. Conclusions

Based on the analysis of power relations according to the proposed NaPS concept, it is possible to explore how economic and industrial actors actually influence politics in nation-specific ways. This opens ways to understand how power shapes conditions and practices of sustainable construction. Power relations than can quite clearly be identified include lobbying, corruption, political party financing, the revolving door effect, and side jobs of legislators. These relationships have been thoroughly studied from a comparative angle through document analysis and

empirical social research on Germany and the Netherlands. In addition to concrete power relations, it is also essential to consider fundamental power relations, sectoral structure and nation-specific characteristics, particularly concerning the political system and culture.

Powerful actors in the German NaPS cause significant inertia, which obstructs novel sustainability trends. The analyzed NaPS features show that progress is constrained by (partly self-created) conditions and detained by the fragmentation of the construction sector, resulting in the slow and limited implementation of innovations. Power and hegemony become evident through perceptions that the mantra ‘build, build, build’ – establishing new buildings without limits – seems to be the ultimate solution. Power relations thus strongly impede sustainability efforts. Industry influence is primarily exerted through lobbying, with political party financing also playing a significant role for intentionally steering sector-relevant decisions. At the local level, structural corruption is occasionally present and obstructs sustainability actors and technologies.

Despite some similar context conditions, the Dutch NaPS is notably more open to innovation and sustainability, as particularly evidenced by the focus on healthy buildings. This openness is partially rooted in cultural factors. Actors tend to start project activities immediately, rather than meticulously planning every detail before. And there is a certain flexibility in the enforcement of laws, whereas in Germany, construction regulations tend to be interpreted more rigidly. Network corruption and influence play a crucial role in both NaPS variants. This is highlighted by the significance of side jobs and the revolving door effect mostly in the Netherlands, just as by the prevalence of lobbying mostly in Germany and corruption in both countries, albeit in different forms. Additionally, the limited availability of wood for sustainable buildings, the specialization in hydraulic engineering by major corporations, and current political developments shape in particular the Dutch NaPS. The investigated NaPS variants of Germany and the Netherlands show interesting further differences with regard to power relations, caused by fundamental sectoral and other international distinctions. Most notably, the German NaPS appears to be more persistent, whereas the Dutch NaPS is more agile and can serve as a model for others in terms of a creative, sustainability-focused set of collaborative public and private actors.

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