RESEARCH PAPER

THE BELT AND ROAD INITIATIVE (BRI) IN NORTH EURASIA: CHANGING GEOGRAPHIES AND THE UNECE MULTILATERAL ENVIRONMENTAL AGREEMENTS

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ABSTRACT. The Belt and Road Initiative (BRI), launched by China in 2013 to increase economic and transport connectivity along the Eurasian continent and beyond, has posed unprecedented environmental and social risks, many of which are transboundary in nature. International legal tools contained in Multilateral Environmental Agreements (MEAs) can play an important role in mitigating such transboundary risks across space and time, as well as reduce the negative impacts of large infrastructure projects, such as are being developed under the auspices of the BRI. However, the adoption of MEA policy tools has been very uneven across the continent. Three conventions in particular, the 1991 Espoo Convention on Environmental Impact Assessment, the 1998 Aarhus Convention, and the 1992 Helsinki Water Convention (the UNECE MEAs) – have the least amount of ratifications by BRI countries. In this paper we discuss these three conventions and demonstrate their relevance in addressing the transboundary risks of large infrastructure projects which require complex coordination and long-term planning.

Extended ratification of these UNECE MEAs by nations along the BRI corridors should significantly assist in positively changing geographies by minimizing BRI environmental risks and threats on a transboundary and national dimension, but simultaneously (i) create a more unified approach towards sustainability across the BRI, (ii) raise involvement (and likely subsequent) support within communities for BRI projects, (iii) help to reduce related economic risks throughout Eurasia.

KEYWORDS: Belt and Road Initiative; Eurasia; UNECE; Multilateral Environmental Agreements; sustainable development; international environmental governance

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INTRODUCTION[1]

Since its launch in 2013 by China, the Belt and Road Initiative (BRI) has witnessed vast investments, which continue to significantly impact and change many geographical aspects of the Eurasian continent (see Kolosov et al 2017; Bird et al 2020). By mid 2018, the estimated investments figure rose to US$ 8 trillion (Flores 2018; World Bank 2019a) and is likely to be higher by 2021. Although the BRI promises to provide huge opportunities to alleviate poverty (World Bank 2019b), as it continues to develop at unprecedented scale and speed over space and time, this inevitably will result in equally unprecedented transformation, accompanied by associated, and also unprecedented, environmental risks.

The BRI focuses heavily on large-scale infrastructure development (E&Y 2015; Grimsditch 2015; IDI 2016; World Bank 2019a; and Teo et al 2019) and sharing industrial capacity (by 2018, China had concluded 25+ formal bilateral agreements aimed at moving industries from China to other BRI countries)[2], but its official objectives are far wider (Simonov & Withanage 2019). The BRI has been designed with economic and geopolitical objectives at its core and it will shape China's foreign policy and impact BRI countries, their socio-economic and geopolitical circumstances and environments, for decades to come. The largest BRI investments are in the energy and electric power sector, followed by transport and chemical engineering (World Bank 2019a; Bandiera & Tsiropoulos 2019; Teo et al 2019). The fast-paced growth of these large-scale (infrastructure) BRI projects makes the greening of the BRI one of the largest sustainable development challenges in Eurasia (and Africa) today.

With approximately 90 countries (plus the EU)[3] falling within the ambit of the BRI, the role of international environmental law and, in particular, specific MEAs in mitigating the BRI's environmental risks, enabling sustainable development and, thereby, positively impacting and changing geographies, is pivotal.

International law is a key tool to promote sustainable development as it not merely establishes internationally agreed (and consistent) regulatory structures, but also facilitates international cooperation and equity, and can positively influence domestic law and policy – as well as provide the basis for a paradigm shift within nations towards, for example, a 'low-carbon development strategy [which] is indispensable to sustainable development' (Halvorssen 2010; Schrijver & Weiss 2004; Boyle & Freestone 1999; Kim & Bosselman 2015; and Bosselmann 2017) and integrated biodiversity conservation strategies (Gillespie 2011; Bowman & Redgwell 1996; Bowman et al 2016; Morgera & Razzaque 2017; Robinson 2017; and Azizi et al 2019).

The concept and principle of sustainable development within international (environmental) law is well established (Sands 1993; Sands 1999, Schrijver & Weiss 2004; French 2005; and Schrijver 2007; Sands et al 2015; and Dupuy & Vinuales 2018) and provides a foundation for nations to balance environmental protection with economic growth on the transboundary, as well as national level.

Greening the BRI

Since the announcement of the BRI in 2013, the Chinese government has demonstrated many examples of its willingness to tackle the greening of the BRI and environmental risks associated with BRI projects, internationally and domestically, continuing to project the image of a new Green China it actively promotes (Li and Shapiro 2020).

Various key policy documents have been issued by China in connection with the BRI in 2015 (Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road, the '2015 BRI Vision') and April 2017 (Guidance on Promoting the Green Belt and Road, the '2017 Green BRI Guidance')[4] which set out the official scope, objectives and priorities of the BRI (see 2015 BRI Vision), a comprehensive list of policies and mechanisms to be applied in order to achieve sustainable development (see 2017 Green BRI Guidance), as well as mentioning the need for adherence to 'international norms' (see 2015 BRI Vision, section II).

In May 2017, China's Ministry of Environment issued the 2017 Belt and Road Ecological and Environmental Cooperation Plan (the '2017 BRI Green Plan')[5], which is one of its core BRI policy document and states that China will assist BRI countries «to fulfill [their] commitments under multilateral environmental agreements … such as Convention on Biological Diversity and Stockholm Convention on Persistent Organic Pollutants, by building up cooperation mechanisms for MEA implementation and enabling technological exchange and South-South cooperation.» (Part VII, Point (1), paragraph 5).

Although the 2017 Green BRI Plan mentions that'guidance will be provided on environmental impact assessment' (Part IV(1), para 2) and refers to the need to facilitate environmental information, it does not specifically list the MEAs which are most relevant to addressing the risk of large transboundary infrastructure projects, such as the BRI projects, namely the following three MEAs (and their respective protocols) (collectively referred to as the UNECE MEAs):

- the 1991 UNECE Espoo Convention on Environmental Impact Assessment in a Transboundary Context (Espoo EIA Convention) and the 2003 Kyiv Protocol on Strategic Environmental Assessment (SEA Protocol);
- the 1998 UNECE Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in

[1]This paper follows on from a presentation by the authors, the abstract of which is published in the proceedings of the conference (see Shvarts et al, 2018).

[2]List of Deliverables of the Belt and Road Forum for International Cooperation, Xinhuanet, May 15, 2017, see http://news.xinhuanet.com/english/2017-05/15/c_136286376.htm, and State Council Information Office of the People's Republic of China (2017) China's industrial capacity cooperation aims to rebalance global economy, January 16, 2017, see http://www.scio.gov.cn/32618/Document/1540095/1540095.htm

[3]Wang, 2015 lists approximately 65 countries as BRI participating countries, whereas this paper refers to 90 countries as it includes the following additional countries (not listed in Wang, 2015): Members of the EU, countries within the European space and Kenya (although not in Eurasia, included due to its geographical location along the BRI maritime routes). As at 2020, China signed 200 cooperation agreements with 138 countries in Eurasia, Latin America, Africa, and with the Pacific nations (Tracy, 2021): Many of these countries are not located along the BRI corridors—some, for example, are in Latin America or in non-coastal parts of Africa. Whilst, some countries situated along the BRI corridors have not signed collaboration agreements with China (World Bank, 2019a).

[4]NDRC, 2017 Guidance on Promoting the Green Belt and Road, May 8, 2017, jointly issued by NDRC, MofCom, Foreign Ministry, and MEP, see <https://eng.yidaiyilu.gov.cn/zchj/qwfb/12479.htm>

[5]Ministry of Environmental Protection, Belt and Road Ecological and Environmental Cooperation Plan, published on May 14, 2017, see <https://eng.yidaiyilu.gov.cn/zchj/qwfb/13392.htm>

Environmental Matters (Aarhus Convention) and 2003 Kyiv Protocol on Pollutant Release and Transfer Registers (Kyiv Protocol); and
• the 1992 UNECE Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) and its 2000 Protocol on Water and Health (Water and Health Protocol).

These UNECE MEAs, which were all concluded under the auspices of the United Nations Economic Commission for Europe (UNECE), are particularly important to enabling the further development of a green BRI on the following basis: They (a) provide for the putting in place of principles of international environmental law across the categories of environmental protection; and (b) provide key techniques to implement these principles, such as through environmental impact assessment (EIA), Strategic Environmental Assessment (SEA), access to environmental information (and environmental justice), and public participation (see Dupuy & Vinuales 2018), based upon internationally agreed standards. Consequently, these techniques are not just about environmental protection, but also about governance in general, government accountability, transparency and responsiveness. Indeed, it has been stated that «clear EIAs with international oversight and standards vastly improve the conservation in the [BRI] region» (Hughes 2019), whilst EIAs are known to promote sustainability and have been adopted worldwide (Morgan 2012; Aung & Fischer 2020).

An in-depth study of key MEAs relevant to the BRI projects (Cheremeteff & Broekhoven 2018; also see Appendix A hereto) demonstrates that these UNECE MEAs, while being most relevant to addressing the risks of large transboundary infrastructure projects, have the least amount of ratifications by, the BRI countries. It is beyond the scope of this paper to review the current political aspects and negotiations relating to the extension of the UNECE MEAs, as well as why and how states adopt MEAs, such as the UNECE MEAs, and present an interesting opportunity for further research in separate papers.

In order to address how international legal tools, such as provided under the UNECE MEAs, can positively affect and change geographies in Eurasia, in particular, by way of mitigating and preventing environmental risks posed by BRI projects, this paper will proceed in four steps. We will first elaborate the environmental and social risks arising from implementing the BRI, especially those risks posed by infrastructure projects transecting intact and sensitive ecosystems. Secondly, we will examine in more detail the UNECE MEAs designed to address the risks of large transboundary infrastructure projects. Thirdly, the environmental laws and policies currently applicable to BRI environmental risks will be discussed. Lastly, we will propose several considerations why the UNECE MEAs should be seen as forward-looking, comprehensive instruments that provide long-terms policy solutions to complex environmental and social problems – and, as a result, promise to positively affect and change the geographies along the BRI corridors in Eurasia.

THE BELT AND ROAD CHALLENGE: POLITICAL GEOGRAPHY AND ENVIRONMENTAL RISKS

The geographical reach of the BRI is over the territories of approximately 90 countries on the Eurasian continent. The initial design of the BRI (designed to resemble the ancient Silk Road) aimed for BRI projects to traverse Central Asia, Russia, India, Pakistan and Europe (terrestrial route) and to run along the coast of Asia, East Africa, the Arctic and Europe (maritime route) (see Fig. 1 below).

More than 20 United Nations agencies, funds and programmes are involved in the BRI[2]. In December 2016, UN Environment Programme (UNEP) and the China's Ministry of Ecology and Environment (MEE) signed a MoU according to which UNEP and MEE agree to work together to promote international cooperation for the sustainable development of the BRI[7]. The BRI International Green Development Coalition

The BRI: China's Eurasian ambitions

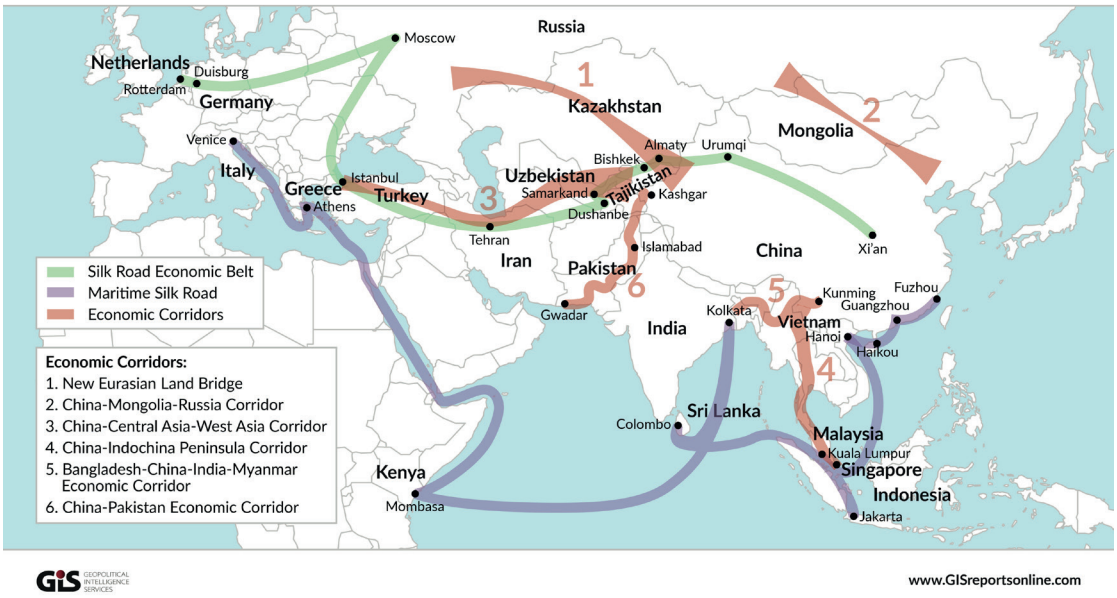

Fig. 1. BRI routes

(Source: www.GISreportsonline.com)[8]

[6]Remarks at the Plenary Session of the BRI International Green Development Coalition (BRIGC) by Mr. Nicholas Rosellini, UN Resident Coordinator, April 25, 2019, see <http://ww.un.org.cn/info/7/966.html>

[7]Memorandum of Understanding between the United Nations Environment Programme and Ministry of Environmental Protection of the People's Republic of China on Building a Green "Belt and Road", found at <https://wedocs.unep.org/bitstream/handle/20.500.11822/25336/MOU%20-%20Belt%20and%20Road%20Strategy%20-Dec%202016.pdf?sequence=20&isAllowed=y>

[8]From Chaudhuri, 2019 (this map is derived from third parties reflecting their views of national borders and do not represent any position or opinion of the authors or the GES editorial board).

(BRIGC), an international coalition working towards the sustainable development of the BRI, was established in 2017 and launched in April 2019, involves 134 partners, including the UNECE (status: 2019)[9] (Hardiman 2020).

Since 2015, the EU and China have been collaborating through the Connectivity Platform, which aims to explore opportunities for further cooperation in the area of transport, with a view to enhance synergies between the EU's approach to connectivity (including the Trans-European Transport Network, TEN-T) and the BRI[10]. In 2018, the European Commission launched an *EU Strategy on Connecting Europe and Asia* to strengthen the connectivity between Europe and Asia (including through interoperable transport, energy and digital networks) (Broer 2018), and China and the EU are cooperating in the development of a harmonised taxonomy of green economic activities (Albuquerque 2021). However, the EU does not appear to have a common position relating to the BRI and it has been proposed that China and the EU should set up a comprehensive international framework through which both the BRI and the EU-Asia Connectivity Strategy may be accomplished (Verhoeven 2020).

Unavoidably, such a large-scale developmental scheme, while promising the benefits of greater connectivity and reduced transportation and energy costs, carries significant environmental and social risks.

Environmental and Social Risks of the BRI

Due to the unprecedented scale and speed of BRI-related large infrastructure projects, such as pipelines, dams, highways, and ports, the associated environmental and social risks are particularly high (Shvarts, Simonov & Progunova 2012; Tracy et al 2017; Losos et al 2019; World Bank 2019a; Hardiman 2020; Hughes 2019; Hughes et al 2020)[11]. Many (including grandfathered) BRI projects will inevitably have significant, extensive, and irreversible environmental and social impacts, for example, relating to pollution, climate change, deforestation and environmental degradation, loss of wildlife, affecting habitats and biodiversity (by fragmenting and altering species' habitats and by preventing animal movement (World Bank 2019a; Hughes 2019), including tigers (Carter et al 2020; Ascensao et al 2018)), as already evidenced in projects such as the Amazar Pulp and Saw Mill in Russia's Eastern Siberian region (Simonov 2018), Primorsky 1 and 2 transportation corridors in the Russian Far East (ITE 2017), including some greenfield projects in the Arctic (FoE 2017). A 2019 World Bank policy paper (Losos et al 2019) identifies many direct and indirect environmental risks connected to BRI investments in transportation infrastructure and World Bank authors, furthermore, state that 'there have been serious concerns raised that the promotion of BRI fossil fuel investments (especially coal plants) could lock host countries into fossil fuel dependency for the coming decades and hamper them from reaching their nationally determined contribution carbon targets as established under the Paris Agreement on Climate Change' (Losos et al 2019).

The environmental risks are clearly demonstrated in a 2017 WWF spatial mapping exercise and analysis (WWF 2017) utilizing IUCN Red list data, relating to the BRI territorial corridors (see Fig. 2). WWF examined distribution data for all Critically Endangered, Endangered and Vulnerable terrestrial mammals, inland aquatic mammals, birds and reptiles on the IUCN Redlist of species (bird data are from Birdlife International). The BRI corridors overlap with many environmentally important areas such as Protected Areas, key landscapes, Global 200 Ecoregions, and biodiversity hotspots that cover the distribution range areas of 265 threatened species, including 39 critically endangered species and 81 endangered species (including the saiga antelopes, tigers, snow leopard, giant pandas, and river dolphins), as well as areas that are important for delivering ecosystem services that provide social and economic benefits to people. Furthermore, it was found that (i) BRI corridors overlap with 1,739 Important Bird Areas or Key Biodiversity Areas and 46 biodiversity hotspots or Global 200 Ecoregions; (ii) all protected areas in the BRI corridors were potentially impacted; and (iii) new activities (e.g., a road through previously remote, inaccessible frontier landscape areas) in areas with the greatest wilderness characteristics can cause more serious long-term impacts than an extra road in an accessible area.

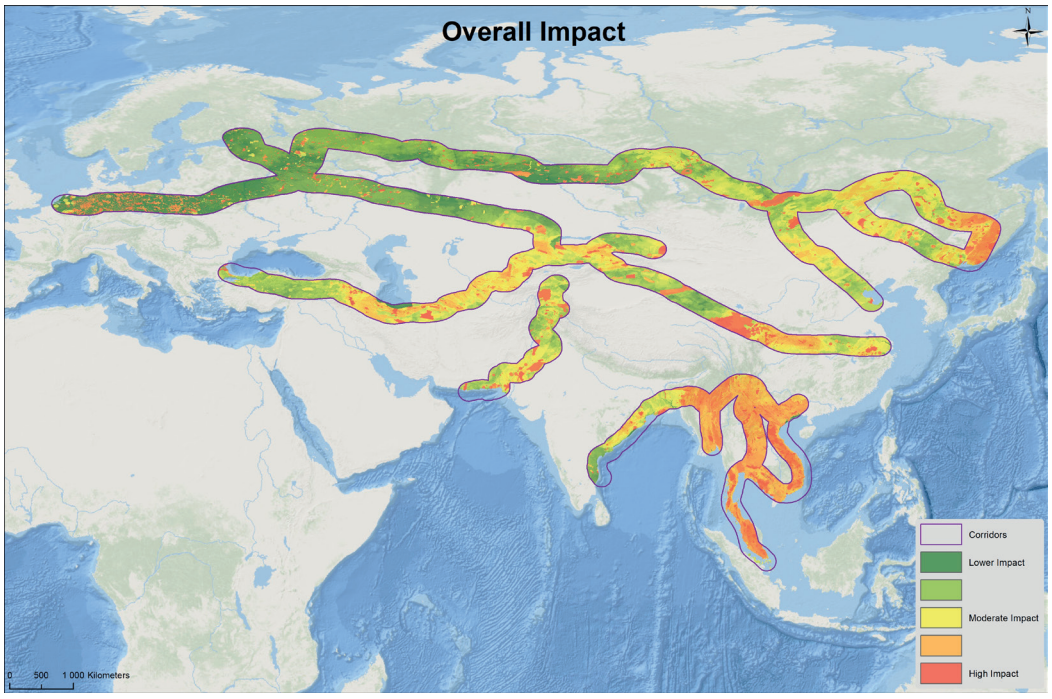

Fig. 2. Spatial analysis of BRI impact

Source: WWF, 2017

[9]UNEP (2020) The Belt and Road Initiative Green International Development Coalition, see <https://www.unenvironment.org/regions/asia-and-pacific/regional-initiatives/belt-and-road-initiative-international-green>

[10]The EU-China Connectivity Platform, EU Mobility and Transport, found at https://ec.europa.eu/transport/themes/international/eu-china-connectivity-platform_en

[11]And see Simonov, E., and Shvarts, E. (2015) "Pure growth vitamins", BRICS Business Magazine, 3 (11), see <http://bricsmagazine.com/en/articles/pure-growth-vitamins>

The 2019 World Bank Report mentions that BRI related topographical and hydrological damage results in related risks, such as landslides, flooding, soil erosion, sedimentation in rivers and interruptions of water courses (World Bank, 2019a). For example, Chinese-backed hydropower projects along the Mekong River pose risks with respect to change in river flow and blocking fish migration, loss of fauna and flora, deforestation, landslides and floods.

The lack of good governance, in particular in relation to transparency (World Bank 2019), stakeholder engagement and enforcement of environmental rules along the BRI are a concern: many BRI development schemes and projects may be planned or implemented with limited transparency and minimal public participation, within an inadequate environmental legal framework and with little respect for environmental rules, and rights of vulnerable local communities and indigenous peoples. It is argued that concerns about the BRI's environmental impacts are legitimate and threaten to thwart China's ambitions, especially since there is little precedent for analyzing and planning for environmental impacts of massive infrastructure development at the scale of the BRI (Teo et al 2019).

Furthermore, the concern that already established environmental policies and standards may decline in the territories between the EU and China is exacerbated by weak governance institutions and the need of BRI countries in Eurasia for infrastructure development and economic growth.

Mitigation of Infrastructure Project Risks

Much (but not all) damage incurred from large infrastructure projects can be mitigated or avoided in the early stages of project planning, with the tool of strategic environmental assessment (SEA) (Tracy 2021; and see Aung & Fischer 2020). It requires inter-sectoral assessment on a regional level, and the engagement of stakeholders and the public, and it considers alternative routes which do not overlap with key biodiversity areas, protected areas and intact ecosystems. Avoiding sensitive ecological areas is arguably the most effective strategy for reducing the negative impacts of transportation projects. SEAs are usually conducted at the regional or national level, or in the transboundary context involving several countries in mutual coordination, planning and project governance (Losos et al 2019).

However, complete avoidance of all key areas for biodiversity along the entire BRI routes will be difficult because of centres of biodiversity and endemism vary significantly across taxa and there are insufficient data for the prioritization of all key regions in advance (Hughes 2019). Thus, appropriate and adequate conservation provisions must be developed on a case-by-case basis but are possible only if comprehensive EIAs are conducted before planning is complete (Hughes 2019).

Therefore, EIAs and SEAs are potentially key tools for China and partner countries for integrating environmental information into decision-making (Aung et al 2020; Aung & Fischer 2020) – however, countries and funding agencies involved in the BRI have different environmental and EIA policies, making the application of consistent EIA standards across projects challenging (Aung & Fischer 2020). Aung & Fischer (2020) also state that, in some countries, authorities might decide to relax EIA requirements in order to attract BRI related investment, and institutional, political and financial constraints may limit the effectiveness of EIA to reduce and mitigate environmental impacts.

ENVIRONMENTAL LAWS AND POLICIES APPLICABLE TO BRI

The main environmental protection guards relating to BRI (infrastructure) projects are: (1) national environmental laws and policies (including provincial and local regulations) of BRI countries; (2) bilateral agreements between BRI countries; and (3) MEAs ratified by BRI countries.

This paper does not review all the applicable national environmental laws of all BRI countries, nor all the bi-lateral agreements, and international environmental laws, due to space constraints. However, it is noted that, although many of the BRI countries receiving investments have in place environmental legislation relating to EIAs, many are weak, and the extent and quality of assessment practices vary substantially between different countries: The results of a comparative evaluation (by Aung & Fischer 2020) indicate that there is great disparity between EIA systems in the 65 BRI countries that they reviewed. Countries with existing challenges, such as poverty, civil war and institutional instability tend to achieve lower EQI (EIA Quality Index) scores (Aung & Fischer 2020). It is noted that China's EIA system comes sixth within BRI countries and comes out on top in Asia, followed by Bhutan (Aung & Fischer 2020).

China has adopted domestic regulations mandating environmental assessment that have the elements of information disclosure and public participation (see Du 2009) in the *1989 Environmental Protection Law* (updated in 2014) (EPL) and *2003 Environmental Assessment Law* (EIA Law). In practice, however, the main tenets of SEA – long planning horizons, a careful consideration of alternatives, extensive public consultations and engagement of local/indigenous communities for their first, prior and informed consent (FPIC) – are not followed in China, and they are downplayed in China-led BRI infrastructure development abroad (Li and Shapiro 2020). There are no explicit Chinese (environmental) laws that would apply in an extraterritorial manner to BRI projects and investments outside China – although the Chinese BRI participants may be guided by the 2017 Green BRI Guidance and the 2017 BRI Green Plan, these policies are voluntary in nature, and all BRI participants are required to follow the project host country's legislation. Thus, the regulatory framework applicable to BRI projects (similar to any infrastructure project) largely depends upon the laws of the territory where such project is being implemented. This means that the strength of domestic environmental laws, as well as domestic monitoring and enforcement mechanisms, in the relevant country receiving BRI financing become very relevant.

Bilateral agreements for cooperation on environmental protection between China, Russia and Mongolia were concluded and the revival of such agreements could profoundly lessen negative impacts of the BRI on biodiversity (Zhang & Zhang 2017; Hughes 2019). Most of China's transboundary water-related treaties have been concluded with its four northern neighbours (Kazakhstan, Mongolia, North Korea and Russia), and cover few of the significant transboundary watercourses in the Southern parts of the country (which includes some of the world's most important basins, such as the Sinquan/Indus River (China, India, Pakistan), the Lancang/Mekong River (China, Myanmar, Thailand, Cambodia, Laos and Vietnam), and the Tsangpo/Brahmaputra River (China, Bangladesh, and India) (Wouters 2015). China's transboundary water-related treaties include a significant number that relate to border issues, with only a small number addressing user-allocation and ecosystem protection – most of the treaties are bilateral and contain general provisions aimed mostly at technical cooperation (Ibid).

Weak domestic regulatory frameworks in many Eurasian countries along the BRI corridors, as well as the array of bilateral agreements, puts international environmental law, including MEAs, into the spot light to address the BRI's environmental and social risks. The role of MEAs is particularly important as

their very role is to protect the environment, but also to enable sustainable development across international borders (Sands et al 2015; and Sands 1994). Once ratified and implemented, MEAs can act as an important catalyst for signatory BRI countries to regulate, manage and potentially avoid the environmental and social risks posed by BRI projects, as well as potentially assist in preventing or reducing friction between BRI countries where given BRI projects cause environmental damage across borders.

Addressing Transboundary BRI Risks with International Legal Tools

As many BRI infrastructure projects mostly involve more than one country, MEAs become particularly relevant in addressing the transboundary risks arising from these projects. Amongst the BRI countries, many have ratified MEAs which are relevant to enabling sustainable practices along the BRI. The below Table 1 sets out the geographical distribution of ratifications by BRI countries of MEAs relevant to the BRI:

Table 1. Geographical distribution of ratifying BRI countries (MEAs relevant to BRI), Key (number of MEAs ratified): 1 = 5-12, 2 = 13-14, 3 = 15-21, 4 = 22-23

Country	Category number	Country	Category number	Country	Category number
Afghanistan	1	Iran	2	Palestine, State of	1
Albania	4	Iraq	1	Philippines	3
Andorra	1	Ireland	3	Poland	4
Armenia	3	Israel	1	Portugal	4
Austria	4	Italy	3	Qatar	2
Azerbaijan	3	Jordan	3	Republic of Korea	2
Bahrain	2	Kazakhstan	3	Romania	3
Bangladesh	1	Kenya	3	Russia	1
Belarus	3	Kuwait	2	San Marino	1
Belgium	4	Kyrgyzstan	2	Saudi Arabia	3
Bhutan	1	Laos	2	Serbia	3
Bosnia & Herzegovina	3	Latvia	4	Seychelles	2
Brunei	1	Lebanon	2	Singapore	1
Bulgaria	4	Liechtenstein	2	Slovakia	4
Cambodia	2	Lithuania	4	Slovenia	4
China	3	Luxembourg	4	Spain	4
Croatia	3	Macedonia, Rep of	3	Sri Lanka	3
Cyprus	3	Malaysia	2	Sweden	4
Czech Republic	4	Maldives	1	Switzerland	4
Denmark	4	Malta, Rep of	3	Syrian Arab Rep	3
Egypt	3	Moldova, Rep of	4	Tajikistan	1
Estonia	4	Monaco	2	Thailand	2
Finland	4	Mongolia	1	Turkey	1
France	4	Montenegro	3	Turkmenistan	1
Georgia	3	Myanmar	2	UAE	2
Germany	4	Nepal	1	UK	3
Greece	3	Netherlands	4	Ukraine	3
Hungary	4	Norway	4	Uzbekistan	1
India	3	Oman	2	Vietnam	2
Indonesia	3	Pakistan	3	Yemen	2

Source: Cheremeteff & Broekhoven 2018

Many MEAs are relevant to the BRI (see Cheremeteff & Broekhoven 2018, therein at *Appendix 1*) which can help establish enabling conditions for sustainable development and promote the greening of BRI projects in three ways (Cheremeteff & Broekhoven 2018): (1) Minimizing negative environmental impacts; (2) Promoting investment in 'positive' sustainable projects; (3) Pushing the development and adoption of newer, greener planning tools (e.g., EIAs/SEAs), investments mechanisms (e.g., sustainable finance), technologies and standards.

The UNECE MEAs are particularly important with respect to all of these three points. In particular, they can contribute to the greening of the BRI in core governance-related ways, including through techniques to implement international environmental law, such as EIAs and SEAs (Losos et al 2019; Lechner et al 2018 Zhang 2017; Aung & Fischer 2020), access to environmental information (and environmental justice) and public participation. The application of EIAs and, especially, SEAs will be vital to minimize negative environmental impacts and risks of BRI projects (Losos et al 2019, Hughes 2019), including early assessment of impacts at the feasibility stage rather than once investments have been made (Lechner et al 2018) – in addition, relevant financial support should be connected to such EIA requirement in order to create well-performing EIA systems (Aung & Fischer 2020).

Espoo EIA Convention and its SEA Protocol

The Espoo EIA Convention requires parties to assess the environmental impact of certain activities at an early stage of planning and to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries[12]. Parties are required to, either individually or jointly, take all appropriate and effective measure to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities (Article 2). Further, the «party of origin» state is required to ensure that in accordance with the provisions of the Espoo EIA Convention, an EIA is undertaken prior to a decision to authorize or undertake a proposed activity listed in its Appendix I that is likely to cause a significant adverse transboundary impact (Article 2(3)). The assessment procedure must allow public participation in the preparation of documentation, ensure an opportunity to the public living in areas likely to be affected by (BRI) development to participate in procedures, and ensure that the opportunity provided to the public in the affected country is equivalent to that provided to the public of the party of origin (Articles 2(2) and (6)) (Sands et al 2015).

The SEA Protocol supplements the Espoo EIA Convention and requires parties to evaluate the environmental consequences of their official draft plans and programmes, including effects on human health (De Mulder 2011; Sands et al 2015). An SEA differs from a conventional EIA in that it takes place earlier in the decision-making process and has a much broader scope than the single project that is generally the subject of EIA (Sands et al 2015). The SEA Protocol requires parties to undertake a SEA for specified plans and programmes that are likely to have significant environmental, including health, effects (Article 4.1). It also makes provision for public participation in decision-making (Articles 8); consultations with environmental and health authorities and transboundary consultations (Articles 9 and 10); and monitoring (Article 12).

The Espoo EIA Convention and its SEA Protocol both have substantive rules which set out clear obligations and rights for the States parties (Koivurova 2007), and so are a vital tool through which environmental (and social) risks posed by large-scale BRI (infrastructure) projects can be minimized. As it is open to global ratification, the potential for it to become a global agreement on transboundary EIA is significant, despite acknowledged political challenges (Marsden & Brandon, 2015; Knox 2003; Koivurova 2012).

Aarhus Convention and Kyiv Protocol

The Aarhus Convention[13] and its Kyiv Protocol[14] are specifically dedicated to environmental democracy and put Principle 10 of the Rio Declaration into practice: the provisions empower people with the rights to easily access information, to participate effectively in decision-making in environmental matters and to seek justice if their rights are violated (Sands et al 2015)[15]. The Aarhus Convention requires each party to guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters (Article 1). The main obligations are placed upon public authorities, which are, in response to a request, obliged to make available to the public 'environmental information' (Article 2(3)) (subject to certain exceptions), within one month of such request, without an interest having to be stated, generally in the form requested, and without an unreasonable charge being made (Article 4). The Aarhus Convention is not primarily focused on the private sector, but the parties are required to encourage 'operators' whose activities have a significant impact on the environment to inform the public regularly of the environmental impact of their activities and products, where appropriate within the framework of voluntary eco-labelling or eco-auditing schemes or by other means (Article 5(6)). Each party is also required to establish progressively a "coherent, nationwide system of pollution inventories or registers on a structured, computerized and publicly accessible database» (Article 5(9)).

The Kyiv Protocol expands upon this obligation and the nature of the pollutant release and transfer registers from industrial sites and other sources. Its objective is to enhance public access to information through the establishment of coherent, nationwide pollutant release and transfer registers (Article 1) (UNECE, 2020d).

As BRI projects will affect the environment and the communities within which they are developed and operated, the need for public participation, access to information and environmental justice will be key to BRI projects being sustainable, as well as more transparent, inclusive and socially responsible.

As former Secretary-General of the United Nations Kofi Annan stated, the Aarhus Convention is «the most ambitious venture in the area of environmental democracy so far undertaken under the auspices of the United Nation»[16]. Its ultimate aim is to increase the openness and democratic legitimacy of government policies on environmental

[12]UNECE, Espoo Convention, see <http://www.unece.org/environmental-policy/conventions/environmental-assessment/about-us/espoo-convention/enveiaeia/more.html>
[13]See <http://www.unece.org/env/pp/introduction.html>
[14]See <http://www.unece.org/env/pp/prtr.html>
[15]See also <http://www.unece.org/env/pp/welcome.html>
[16]United Nations Secretary General, see <https://www.unece.org/env/pp/statements.05.11.html>

protection, and to develop a sense of responsibility among citizens by giving them the means to obtain information, to assert their interests by participating in the decision-making process, to monitor the decisions of public bodies and to take legal action to protect the environment (Pallermaerts 2011). This, in itself, may be at odds with China's 'coercive environmentalism' (Li and Shapiro 2020) – indeed, combined with adaptive governance practices along Chinese-financed BRI railroad megaprojects (Carrai 2021), this may pose a current obstacle to some BRI countries signing the Aarhus Convention.

Water Convention and its Water and Health Protocol

The 1992 Water Convention (see Tanzi et al 2015) is a framework convention that was developed after the end of the Cold War, following the effects of 40 years of economic development characterized by a focus on heavy industry and on output maximization, rather than sustainability in both industry and agriculture (leading to numerous environmental initiatives in Eastern Europe and Central Asia) (De Chazournes et al 2015). It aims to protect and ensure the quantity, quality and sustainable use of transboundary water resources by facilitating cooperation[17] (Contartese 2017). It provides that parties take all appropriate measures to prevent, control and reduce any transboundary impact with respect to transboundary watercourses and international lakes (Articles 2.1 and 3), in particular (a) to prevent, control and reduce pollution of waters causing or likely to cause transboundary impact; (b) to ensure that transboundary waters are used with the aim of ecologically sound and rational water management, conservation of water resources and environmental protection; (c) to ensure that transboundary waters are used in a reasonable and equitable way, taking into particular account their transboundary character, in the case of activities which cause or are likely to cause transboundary impact; and (d) to ensure conservation and, where necessary, restoration of ecosystems (Article 2.2). It sets out that parties bordering the same transboundary waters have to cooperate by entering into specific agreements and establishing joint bodies (see Part II, and Article 9). As a framework agreement, the Water Convention does not replace bilateral and multilateral agreements for specific basins or aquifers; instead, it fosters their establishment and implementation, as well as further development[18]. There are further provisions for joint monitoring and assessment, common research and development, exchange of information, warning and alarm systems, mutual assistance, and public information.

The Water and Health Protocol aims to attain an adequate supply of safe drinking water and adequate sanitation for everyone, and protects water used as a source of drinking water (Article 6)[19]. It provides that appropriate measures are taken to prevent, control and reduce water-related disease within a framework of integrated water-management systems aimed at sustainable use of water resources, ambient water quality which does not endanger human health, and protection of water ecosystems (Article 4.1). In order to meet these goals, it strongly focuses on: governance, planning and accountability, requesting Parties to set targets throughout the water cycle and the nexus with health (Article 6); access to information and public participation (Article 10); and equity of access to water and sanitation (Article 5(l) amongst others).

As many of the BRI projects are infrastructure-related projects (including water dam projects, oil and gas pipeline constructions), it is likely that freshwater resources will be subject to significant (cross-border) pollution or that there will be impacts on quantity and environmental flows. Furthermore, shipping along rivers is likely to increase with growing trade along the BRI corridors, resulting in potential further freshwater pollution from ships and port activity.

The following five reasons are stated to make this treaty particularly applicable to Asian, as well as other states (Marsden 2015): (a) the presence of the largest amount of transboundary watercourses and international lakes (Marsden & Brandon 2015); (b) there is a need to ensure environmental protection, and equitable and reasonable use of them; (c) the potential for conflict based on sovereignty is high (this treaty is stated to be already well established in the UNECE region, and that it plays a 'major role in bringing states in the Caucasus, central, northern and eastern Asia together to resolve potential disagreements over water resources; other Asian states have also expressed an interest in joining', see Marsden 2013), and cooperation is therefore essential; (d) the Water Convention is the only international water treaty with detailed substantive environmental provisions, and with a primary focus on environmental protection (Wouters & Chen 2013; Marsden 2015); and (e) Asia has growing experience with both this treaty and other agreements for transboundary cooperation, with potential for increased membership. It is noted that the Parties to the Water Convention have extended to a number of African countries, i.e., Senegal (2018), Chad (2018), Ghana (2021) and Guinea Bissau (2021). The Water Convention is becoming increasingly global in its reach and provides encouragement for BRI countries to ratify it in order to assist with reducing and minimizing damage to and contamination of freshwater resources and international lakes by BRI projects. For example, China shares 40 major international waters with 14 neighbours (Wouters 2015; Devlaeminck 2018) and although China voted against the 1987 UN Convention on Non-Navigational Uses of International Watercourses, it is party to 50 treaties for the joint management of its water (Devlaeminck 2018; Wouters & Chen 2013). These are said, however, to be 'often vague and follow a «one-country, one treaty» approach' (Devlaeminck 2018). Thus, if more of these 15 countries were to ratify the Water Convention, it could have farreaching positive effects on their shared waters.

Rates of ratification of UNECE MEAs by BRI countries

The Espoo EIA Convention is ratified by approximately 48% of BRI countries (and one signed it); the Aarhus Convention by around 50% of the 90 BRI countries (and two have acceeded); while the Water Convention has been ratified by approximately 45% of all BRI countries (and one signed it) (Cheremeteff & Broekhoven 2018). In North Eurasia, the UNECE MEAs play a stronger role as can be seen in the below table:

Table 2 illustrates that the UNECE MEAs have been ratified by the majority of North Eurasian BRI countries (even when not taking into account that most EU countries have ratified these MEAs, too), as follows: Espoo EIA Convention (59%), Aarhus Convention (76%) and the Water Convention (65%).

[17]The Water Convention and the Protocol on Water and Health, see <http://www.unece.org/env/water.html>
[18]Introduction, About the UNECE Water Convention, see <http://www.unece.org/env/water/text/text.html>
[19] Introduction, About the Protocol on Water and Health, see <https://www.unece.org/env/water/pwh_text/text_protocol.html>

Table 2. Ratifications of UNECE MEAs by BRI countries in North Eurasia This table does not include EU countries, except for Estonia, Latvia and Lithuania

		Espoo EIA Convention	SEA Protocol	Aarhus Convention	Kiev Protocol	Aarhus Amendment	Water Convention
1	Armenia	Y	Y	Y	S	N	N
2	Azerbaijan	Y	N	Y	N	N	Y
3	Belarus	Y	N	Y	N	N	Y
4	China	N	N	N	N	N	N
5	Estonia	Y	Y	Y	Y	Y	Y
6	Georgia	N	S	Y	S	Y	N
7	Kazakhstan	Y	N	Y	N	N	Y
8	Kyrgyzstan	Y	N	Y	N	N	N
9	Latvia	Y	Y	Y	Y	Y	Y
10	Lithuania	Y	Y	Y	Y	Y	Y
11	Moldova	Y	S	Y	Y	Y	Y
12	Mongolia	N	N	N	N	N	N
13	Russia	S	N	N	N	N	Y
14	Tajikistan	N	N	Y	S	N	N
15	Turkmenistan	N	N	Y	N	N	Y
16	Ukraine	Y	Y	Y	Y	N	Y
17	Uzbekistan	N	N	N	N	N	Y
	Summary:						
	Yes:	**10 (59%)**	5 (29%)	**13 (76%)**	5 (29%)	5 (29%)	**11 (65%)**
	No:	**6 (35%)**	10 (59%)	**4 (24%)**	9 (53%)	12 (71%)	**6 (35%)**
	Signed:	**1 (6%)**	2 (12%)	**0**	3 (18%)	0	**0**

(Y = Yes; N = No; S = Signed, status as at January 2018, see also Appendix A hereto)

However, the formal adoption of the UNECE MEAs' policy tools by way of BRI countries ratifying the UNECE MEAs will not guarantee good environmental performance, nor have positive impacts on geographies along the BRI corridors in Eurasia, unless they are implemented (monitored and enforced) effectively at the national level. Furthermore, the effectiveness of EIA/SEA tools is contingent upon a particular governance process that includes meaningful public participations, stakeholder engagement, government accountability, transparency, and timely information disclosure. The factors related to information transparency and civil society engagement in decision-making are clearly correlated with the principles of democratic governance.

For example, although China has ratified over 50 MEAs and has signed many bi- and multi-lateral agreements with other nations addressing environmental issues (McBeath & Bo 2008), it and Mongolia have not signed or ratified any of the UNECE MEAs. Nevertheless, overall, China stands out as having signed and ratified many key MEAs relevant to the BRI (Cheremeteff & Broekhoven 2018). Indeed, China is seen as increasingly exhibiting a «notable shift from an uncooperative and coercive veto power to a more constructive player in the multilateral environmental negotiations» (Wei & Lei 2018) and is «increasingly active in global environmental governance» (Yixian 2016). The question now is whether it is feasible to envision that more BRI countries in North Eurasia, such as China and Mongolia, will join, and whether countries such as Russia, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan will further ratify, and so extend the applicability of the UNECE MEAs regulatory framework.

CONCLUSION

The following reasons support why the UNECE MEAs should be seen as forward-looking, comprehensive instruments that provide long-term policy solutions to complex environmental and social challenges, and thus, enable positively (and sustainably) changing geographies in Eurasia:

Firstly, these conventions are governance related and create a framework for environmental (and social) impact assessment, strategic assessments, basin management and participatory mechanisms, based upon internationally agreed rules and standards. All this is central for any BRI activity to contribute to sustainable development within countries it touches.

Secondly, the BRI is already causing serious concerns with respect to the use of water resources and preservation of freshwater ecosystems. The terrestrial BRI corridors traverse the most arid areas of Eurasia, known for water-

related catastrophes (e.g., the Aral Sea), conflict and rivalries. In 2017, China listed overseas projects that may affect cross-border water resource development on the *NDRC Catalogue of Sensitive Sectors for Outbound Investment*[20] and restricted their use by special verification and approval procedures (NDRC 2017). All of which indicate the imminent importance of the Water Convention to «de-risk» and smoothen the implementation of BRI project plans. Furthermore, with over 20 years of relatively successful transboundary water cooperation across Europe, the Water Convention offers an important and relevant reference point for China and Asia (including BRI countries) for various reasons (Wouters 2015): (i) it is open for universal endorsement, offering Asian riparian nations, including China, new opportunities for developing nascent transboundary water agreements and practice; (ii) as China 'declares war on pollution'[21], and takes steps to address environmental issues at the domestic level, how it manages this within a transboundary water context might find inspiration from the Water Convention; (iii) as China's engagement with Europe grows as a strategic partnership, a shared understanding and commitment to sharing best practice could help with China's water problems and the Water Convention provides and entry point for such an undertaking.

Thirdly, the BRI's motto and priority is «connectivity». The associated great environmental concern is that the BRI will disrupt and harm the natural connectivity between populations, ecosystems and natural processes. For example, and related to «connectivity» objectives, the 2017 Green BRI Plan explicitly calls for the development of «BRI biodiversity corridors» (at Point VII (1), para 2) and, in 2017, Russia and China declared their *Strategy for Development of Transboundary Protected Areas Network in Amur River Basin* as a model for other BRI regions (Simonov & Egidarev 2017). Spatial planning of the BRI biodiversity corridors should precede, and be harmonized with, the further development of «BRI economic corridors» – and transboundary SEA is the most potent tool for such harmonization (in alignment with the CBD and the CMS Convention provisions). Thus, the SEA Protocol is extremely relevant to the core «connectivity» tasks of the BRI.

Not only would further ratification of the UNECE MEAs be instrumental in supporting the implementation of MEAs already ratified by BRI countries, but also help to create a level playing field (Fulton & Wolfson 2015) across the BRI corridors, whereby a consistent set of internationally accepted rules and standards promoting good governance practices is established, which creates predictability of environmental rules and standards which apply to investments (and thereby facilitate the realization of greener infrastructure) along the BRI corridors.

The ratification of these conventions across Eurasia will be a necessary, but not the sole, condition towards developing a solid transboundary environmental protection framework. The next step, following ratification, is, of course, policy implementation and compliance with the UNECE MEAs. Although virtually all BRI countries have some elements of EIA or SEA policies and regulations (Losos et al 2019; Aung & Fischer 2020; Tracy 2021), the level of implementation of these remains inconsistent. Without proper safeguards in place, such as provided by the UNECE MEAs, the impact of new BRI infrastructure – including stretches of new roads, railways, and pipelines – will accelerate the intrusion of humans into currently still intact ecosystems, causing irreversible damage to and changes in ecosystem functions, and accelerate species loss throughout Eurasia.

The authors acknowledge that the likelihood of some BRI countries ratifying the EU-led UNECE MEAs, especially the Aarhus Convention, is currently diminishing. Although the window of opportunity on extending the UNECE MEAs (as existed in the early 2000-2010s) has been closing due to current geopolitical trends, it is likely that, in future, these UNECE MEAs become more palatable to BRI countries as they contain internationally agreed standards that can empower nations to create and enable sustainable development across and within their borders.

It is feasible that further North Eurasian countries will ratify the UNECE MEAs in future (and in the longer term, extend to the rest of Eurasia). The BRI is considered to be the largest infrastructure project of all time and this requires large-scale solutions, as can be provided by MEAs, especially the UNECE MEAs as they address the core planning and implementation stages of (infrastructure) projects. The time scale of extending membership of these conventions might be more drawn out, but the BRI itself is a long-term venture and the UNECE MEAs contain key instruments through which to address the immense environmental challenges posed by the large-scale BRI infrastructure projects.

Infrastructure development, especially trans-border infrastructure development for economic development of less developed countries, is one of the most important challenges of the first half of the 21st century. In June 2021, the G7 announced its «Build Back Better World» (B3W) plan, as a G7-led alternative to the Chinese-led BRI, in order to help build infrastructure in poorer nations in a 'values-driven, high-standard and transparent' partnership (TRT World 2021). It is stated to involve raising hundreds of billions in public and private money to help close a $40tn infrastructure gap in needy countries by 2035 (Wintour 2021). On this basis, it is feasible to expect a new potential wave of interest in the UNECE MEAs from many BRI countries, especially in Central Asia. Different economic and political competing alternatives require a common legal basis to be most effective. Thus, these competing trans-border infrastructure development projects will increase the international role, significance and importance of the UNECE MEAs, as is already starting to occur with the Water Convention expansion into Africa. The fact that the EU and China are now in constructive negotiations of a common «sustainable finance taxonomy», which is the key pillar of future international development efforts, demonstrates that the EU and China are starting to create and establish common rules for economic and geopolitical purposes.

Taking into account that China's efforts and ambitions to became a global environment and sustainability leader and the ongoing positive changes in China's positions on some challenging issues, including climate change, illegal timber and wildlife/ CITES imports issues during last 5 to 7 years, there exists some degree of optimism that the UNECE MEAs will potentially play a more important role in minimizing environmental and social risks, especially, for local populations and SMEs in different competing economical and geopolitical initiatives.

[20]China updates "Sensitive Sectors" for Outbound Investment', Xinhuanet, February 11, 2018, see <http://www.xinhuanet.com/english/2018-02/11/c_136967702.htm>

[21]Reuters (2014) 'China to 'declare war' on pollution', premier says', Reuters Environment, Beijing, March 5, 2014, see <https://www.reuters.com/article/us-china-parliament-pollution/china-to-declare-war-on-pollution-premier-says-idUSBREA2405W20140305>

REFERENCES

Albuquerque F.W. (2021) China and EU to Harmonise Green Taxonomies, Nordsip , April 2, 2021.

Ascensao L., Fahrig A.P., Corlett R.T., Jaeger J.A.G., Laurance W.F. and Pereira H.M. (2018). 'Environmental Challenges for the Belt and Road Initiative', Nature Sustainability, Vol 1, May 2018, 206-209, DOI: 10.1038/s41893-018-0059-3.

Aung T.S., and Fischer T.B., Shengji L. (2020). Evaluating environmental impact assessment (EIA) in the countries along the belt and road initiative: system effectiveness and the compatibility with the Chinese EIA, Environmental Impact Assessment Review, 81 (January):106361, DOI: 10.1016/j.eiar.2019.106361.

Aung T.S., and Fischer T.B. (2020). Quality of environmental impact assessment systems and economic growth in countries participating in the belt and road initiatives, Impact Assessment and Project Appraisal, DOI: 10.1080/14615517.2020.1818520.

Azizi D., Biermann E. and Kim R.E. (2019). 'Policy Integration for Sustainable Development through Multilateral Environmental Agreements, an Empirical Analysis, 2007-2016', in Global Governance: A Review of Multilateralism and International Organizations, 25(3), 445-475 (Brill Nijhoff).

Bandiera L. and Tsiropoulos V. (2019). 'A Framework to Assess Debt Sustainability and Fiscal Risks under the Belt and Road Initiative', unpublished working paper, World Bank, Washington DC.

Bird J., Lebrand M., Venables A.J. (2020). The Belt and Road Initiative: Reshaping economic geography in Central Asia?, Journal of Development Economics, 144, May 2020, DOI: 10.1016/j.jdeveco.2020.102441.

Bowman M. and Redgwell C. (eds) (1996). International Law and the Conservation of Biological Diversity, International Environmental Law & Policy Series, III (Kluwer Law International).

Bowman M., Davies P. and Goodwin E. (eds) (2016). Research Handbook on Biodiversity and Law, Research Handbooks on Environmental Law (Edward Elgar Publishing)

Bosselmann K. (2017). The Principle of Sustainability: Transforming Law and Governance, 2nd ed. (Routledge)

Boyle A. and Freestone D. (eds) (1999). International Law and Sustainable Development: Past Achievements and Future Challenges, Oxford University Press

Broer B. (2018). The EU's Connectivity Strategy: An Answer to China's Belt and Road Initiative? September 21, 2018, EU-Asia Centre Publications.

Carrai M.A. (2021). 'Adaptive governance along Chinese-financed BRI railroad megaprojects in East Africa', World Development, 141, 105388, DOI: 10.1016/j.worlddev.2020.105388.

Carter N., Killion A., Easter T., Brandt J., and Ford A. (2020). Road Development in Asia: Assessing the range-wide risks to tigers, Science Advances, April 29, 2020, 6(18), eaaz9619, DOI: 10.1126/sciadv.aaz9619.

Chaudhuri P. (2019). Opinion: India Nudges China toward Belt and Road changes, Geopolitical Intelligence Services reports online, January 4, see <https://www.gisreportsonline.com/opinion-india-nudges-china-toward-belt-and-road-changes,politics,2762.html.

Cheremeteff F. and Broekhoven G. (2018). Greening the Belt and Road Initiative: the Role of Multilateral Environmental Agreements, WWF Paper.

Contartese, C. (2017). 'Convention on the Protection and Use of Transboundary Watercourses and International Lakes 1992 (The UNECE Helsinki Convention)', in Multilateral Environmental Treaties, edited by Fitzmaurice, M., Tanzi, A., and Papantoniou, A., Elgar Encyclopedia of Environmental Law, Edward Elgar Publishing Limited, 257-268.

De Chazournes L.B., Leb C. and Tignino M. (2015). The UNECE Water Convention and Multilateral Environmental Agreements», chapter 5, 60-7, in Tanzi et al, DOI: 10.1163/9789004291584_006.

De Mulder J. (2011). 'The Protocol on Strategic Environmental Assessment: A Matter of Good Governance', RECIEL 20(3), 232-247.

Devlaeminck D. (2018) 'The Legal Principle of Reciprocity and China's Water Treaty Practice' in Chinese Journal of Environmental Law, 12, 2, 195-222.

Du Q. (2009). 'Public Participation and the challenges of environmental justice in China', in Environmental Law and Justice in Context (2009) by Ebbesson, J., & Okowa, P. (eds), 139-157.

Dupuy P.-M., and Vinuales J.E. (2018). International Environmental Law, Second edition, Cambridge University Press

Ernst & Young (2015). Navigating the Belt and Road – Financial sector paves the way for infrastructure (August 2015)

Flores D. (2018). ADB chief warns of Belt and Road debt trap, Nikkei Asian Review, May 3, 2018.

French D. (2005). International Law and policy of sustainable development, Manchester University Press

Friends of the Earth United States (2017). Investing in a Green Belt and Road? Assessing the Implementation of China's Green Credit Guidelines Abroad, Washington DC, December 2017.

Fulton S. and Wolfson S. (2015) 'Strengthening national environmental governance to promote sustainable development', in Global Environmental Law at a Crossroads, edited by Percival, R.V., Stanton, R.F., Lin, J., and Piermattei, W., IUCN Academy of Environmental Law Series (Edward Elgar)

Gillespie A. (2011). Conservation, Biodiversity and International Law, New Horizons in Environmental and Energy Law series (Edward Elgar Publishing).

Grimsditch M. (2015). Financial platforms that may support projects in the «One Belt One Road» route, October 20, Inclusive Development International (IDI), and see IDI (2016) «Making Inroads: Chinese Infrastructure Investment in ASEAN and Beyond».

Halvorssen A. (2010). International Law and Sustainable Development – Tools for Addressing Climate Change», 39 Denver Journal of International Law and Policy 397 (2010-2011) 397.

Hardiman R. (2020). Environmental Considerations of the Belt and Road Initiative», in The Belt and Road Initiative by Leandro, F.B.S.J. and Duarte, P.A.B. (eds) (Palgrave, 2020), 173-201

Hughes A.C., Lechner A.M., Chitov A., Horstmann A., Hinsley A., Tritto A., Chariton A., Li B.V., Ganapin D., Simonov E., Morton K., Toktomushev K., Foggin M., Tan-Mullins M., Orr M.C., Griffiths R., Nash R., Perkin S., Glemet R., Kim M. and Yu D.W. (2020). Horizon Scan of the Belt and Road Initiative, Trends in Ecology and Evolution, March 12, DOI: 10.1016/j.tree.2020.02.005.

Hughes A. (2019). Understanding and minimizing environmental impacts of the Belt and Road Initiative, Conservation Biology, 33(4), 883-394.

IDI (2016). «Making Inroads: Chinese Infrastructure Investment in ASEAN and Beyond»

Kim R.E. and Bosselman K. (2015). 'Operationalizing Sustainable Development: Ecological Integrity as a Grundnorm of International Law', in Review of European, Comparative and International Environmental Law, 24(2), 194-208, Special Issue: Public Participation and Climate Governance, July 2015.

Knox J.H. (2003). Assessing the Candidates for a Global Treaty on Transboundary Environmental Impact Assessment, 12 New York University Environmental Law Journal 153

Koivurova T. (2007). The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention), Chapter 9, in Making Treaties Work: Human Rights, Environment and Arms Control, edited by Ulfstein, G., with Marauhn, T., and Zimmermann, A (Cambridge University Press, September 2007), DOI: 10.1017/CBO9780511494345.

Koivurova T. (2012). 'Could the Espoo Convention become a Global Regime for Environmental Impact Assessment and Strategic Environmental Assessment?' in Warner, R. and Marsden, S. (eds) Transboundary Environmental Governance: Inland, Coastal and Marine Perspectives (Ashgate Publishing, Farnham, 2012)

Kolosov V., Suocheng Dong, Portyakov V.Y, Chubarov I.G., Tarkhov S.A., and Shuper V. (2017). The Chinese initiative «the belt and road»: A geographical perspective, Geography, Environment, Sustainability, 10(1), 5-20, DOI: 10.24057/2071-9388-2017-10-1-5-20

Lechner A.M., Faith Ka Shun Chan and Campos-Arceiz A. (2018). Biodiversity conservation should be a core value of China's Belt and Road Initiative, Nature Ecology & Evolution, January, DOI: 10.1038/s41559-017-0452-8.

Losos E., Pfaff A., Olander L., Mason S. and Morgan S. (2019). Reducing Environmental Risks from Belt and Road Initiative Investments in Transportation Infrastructure, Policy Research Working Paper 8718 (WPS8718), World Bank Group, January 2019

Marsden S. (2015). The Helsinki Water Convention: Implementation and Compliance in Asia, Nordic Environmental Law Journal, (2), 119-129.

Marsden S. and Brandon E. (2015). Transboundary Environmental Governance in Asia: Practice and Prospects with the UNECE Environmental Agreements (Edward Elgar, Cheltenham)

McBeath J, and Bo W. (2008). China's Environmental Diplomacy, American Journal of Chinese Studies, 15(1), 1-16.

Morgan R.K. (2012). Environmental impact assessment: the state of the art, Impact Assessment and Project Appraisal, 30(1), 5-14, DOI: 10.1080/14615517.2012.661557

Morgera, E. and Razzaque, J. (eds) (2017). Biodiversity and Nature Protection Law, Elgar Encyclopaedia of Environmental Law series, Volume III (Edward Elgar Publishing).

NDRC (2017). Measures for the Administration of Overseas Investment of Enterprises, NDRC Order,11, published December 26

Robinson N. (2017). 'Biodiversity in International Environmental Law through the UN Sustainable Development Goals', in Routledge Handbook of Biodiversity and the Law by McManis, C.R., & Ong, B. (eds)

Sands P. (ed) (1993). Greening International Law, Earthscan Publications Ltd

Sands P. (1994). 'International Law in the Field of Sustainable Development', 65 British Year Book of International Law 303.

Sands P. (1999). International Courts and the Application of the Concept of «Sustainable Development», Max Planck UNYB 3, 389, Max Planck Institute

Sands P., & Peel J., with Fabra A. and MacKenzie R. (2015). Principles of International Environmental Law, 3rd edition, 5th printing, Cambridge University Press

Schrijver N. (2007). 'The Evolution of Sustainable Development in International Law', 328 Recueil des cours de l'Academie de droit international de la Haye, 217-412.

Schrijver N. and Weiss F. (eds) (2004). International Law and Sustainable Development: Principles and Practice, Developments in International Law, 51, August 2004, Martinus Nijhoff Publishers.

Shvarts E., Simonov E. and Progunova L. (eds) (2012). Environmental Risks to Sino-Russian Transboundary Cooperation: from «Brown» Plans to a «Green» Strategy (WWF-Russia, Moscow, 2012)

Shvarts E., Simonov E., Mucklow Cheremeteff F., Broekhoven G., Khmeleva E., and Dolinina Y. (2018) Abstract of Presentation «International Environmental Law and China's BRI development: Environmental Challenges, Risks and Opportunities, «Practical Geography and XXI Century Challenges», International Geographical Union (IGU) Thematic Conference to the Centennial of the Institute of Geography of the Russian Academy of Sciences, 2018, Moscow, Russia, June 4-6, 2018, 292-293

Simonov E. (2018).'China's green Belt and Road tested at the Russian border', China Dialogue, May 31, 2018, see <https://chinadialogue.net/article/show/single/en/10650-China-s-green-Belt-and-Road-tested-at-the-Russian-border> and <https://www.transrivers.org/2017/1917/>

Simonov E. and Egidarev E. (2017). Intergovernmental Cooperation on the Amur River Basin Management in the 21st Century, International Journal of Water Resources Development, Special issue «Hydropolitics and Conflict Management in Transboundary River Basins: China and its Neighbors»

Simonov E. and Withanage H. (2019). A Briefing on the Belt and Road Initiative, Friends of the Earth Asia-Pacific, Technical Report

Tanzi A., McIntyre O., Kolliopoulos A., Rien-Clarke A. and Kinna R. (2015). The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation (Brill Nijhoff), DOI: 10.1163/9789004291584.

Teo H.C., Lechner A.M., Walton G.W., Chan F.K.S, Cheshmehzangi A., Tan-Mullins M., Chan H.K., Sternbert T. and Campos-Arceiz A. (2019). «Environmental Impacts of Infrastructure Development under the Belt and Road Initiative», Environments, 6(72), DOI: 10.3390/environments6060072.

TRT World (2021). G7 endorses global infrastructure plan to rival China's Belt and Road, TRT World, June 12, 2021, online at https://www.trtworld.com/business/g7-endorses-global-infrastructure-plan-to-rival-china-s-belt-and-road-47475.

Tracy E.F. (2021). «Road, rail and pipelines and the risks posed for biodiversity» in Griffiths, R.T. and Hughes, A.C. (eds) In the Way of the Road. The Ecological Consequences of Infrastructure (The International Institute of Asian Studies Publishing, The Netherlands).

Tracy E.F., Shvarts E., Simonov E. and Babenko M. (2017). «China's new Eurasian ambitions: the environmental risks of the Silk Road Economic Belt», 56-88, Eurasian Geography and Economics, 58(1), 56-88, DOI: 10/1080/15387216.2017.1295876.

United Nations (1992). Agenda 21, Earth Summit 1992, United Nations Conference on Environment & Development Rio de Janerio, Brazil, June 3-14, 1992.

Verhoeven S.I. (2020). «EU Legal Obstacles to the Belt and Road Initiative: Towards a Chinese-EU Framework on the Belt and Road Initiative», in The Belt and Road Initiative by Leandro, F.B.S.J. and Duarte, P.A.B. (eds) (Palgrave, 2020), 282-316.

Wang Yiwei (2015). One Belt and One Road: Opportunities and Challenges, ISBN: 7010147884, 9787010147888.

Wei Shen and Lei Xie (2018). Can China Lead in Multilateral Environmental Negotiations? Internal Politics, Self-depiction, and China's contribution in Climate Change Regime and Mekong Governance, Eurasian Geography and Economics, 59, Nos. 5-6, 708-732

Williams J., Robinson C., Bouzarovski S. (2019). China's Belt and Road Initiative and the emerging geographies of global urbanisation, The Geographical Journal, 186, 1, March 2020, 128-140, DOI: 10.1111/geoj.12332.

Wintour P. (2021). G7 backs Biden infrastructure plan to rival China's belt and road initiative, The Guardian, June 12

World Bank (2019a). Belt and Road Economics: Opportunities and Risks of Transport Corridors, World Bank Group, June 18, , see < https://www.worldbank.org/en/topic/regional-integration/publication/belt-and-road-economics-opportunities-and-risks-of-transport-corridors>.

World Bank (2019b). Millions Could be Lifted Out of Poverty, But Countries Face Significant Risks, June 18, 2019, Press Release, 201, see <https://www.worldbank.org/en/news/press-release/2019/06/18/success-of-chinas-belt-road-initiative-depends-on-deep-policy-reforms-study-finds>.

Wouters P. (2015). 'Enhancing China's Transboundary Water Cooperation – What Role for the UNECE Water Convention?', chapter 31, 451-465, in Tanzi et al, 2015, DOI: 10.1163/9789004291584_032.

Wouters P. and Chen H. (2013). China's 'Soft-Path' to Transboundary Water Cooperation Examined in the Light of Two UN Global Water Conventions – Exploring the 'Chinese Way', May 25, 2013, 22 Water Law.

WWF (2017). The Belt and Road Initiative: WWF Recommendations and Spatial Analysis, WWF Briefing Paper, May 2017.

Xiaoyi J. (2015). 'China's participation in major international environmental agreements', pp 395-426, in Qin Tianbao (ed) Research Handbook on Chinese Environmental Law (Edward Elgar Publishing, 2015).

Li Y. and Shapiro J. (2020). China Goes Green. Coercive Environmentalism for a Troubled Planet (Polity Press: Cambridge, UK)

Yixian Sun (2016). The Changing Role of China in Global Environmental Governance, Rising Powers Quarterly, 1(1), 43-53.

Zhang K. (2017). Right to information about, and involvement in, environmental decision making along the Silk Road Economic Belt, The Chinese Journal of Comparative Law, 51, 58-78, DOI: 10.1093/cjcl/cxx004.

Zhang X., and Zhang S. (2017). China-Mongolia-Russia economic corridor and environmental protection cooperation, R-Economy, 3,161-166, DOI: 10.15826/recon.2017.3.3.018.

APPENDIX A:
Status of ratifications as at January 2018 (see Cheremeteff & Broekhoven, 2018).

	Espoo Convention*1	SEA Protocol to Espoo Convention	Aarhus Convention*2	2003 Kiev Protocol to Aarhus Convention	2005 Amendment to Aarhus Convention	Water Convention
Afghanistan	N	N	N	N	N	N
Albania	Y	Y	Y	Y	N	Y
Andorra	N	N	N	N	N	N
Armenia	Y	Y	Y	S	N	N
Austria	Y	Y	Y	Y	Y	Y
Azerbaijan	Y	N	Y	N	N	Y
Bahrain	N	N	N	N	N	N
Bangladesh	N	N	N	N	N	N
Belarus	Y	N	Y	N	N	Y
Belgium	Y	S	Y	Y	Y	Y
Bhutan	N	N	N	N	N	N
Bosnia & Herzegovina	Y	S	Y	S	N	Y
Brunei	N	N	N	N	N	N
Bulgaria	Y	Y	Y	Y	Y	Y
Cambodia	N	N	N	N	N	N
China	N	N	N	N	N	N
Croatia	Y	Y	Y	Y	N	Y
Cyprus	Y	Y	Y	Y	Y	N
Czech Republic	Y	Y	Y	Y	Y	Y
Denmark	Y	Y	Y	Y	Y	Y
Egypt	N	N	N	N	N	N
Estonia	Y	Y	Y	Y	Y	Y
European Union	Y	Y	Y	Y	Y	Y
Finland	Y	Y	Y	Y	Y	Y
France	Y	S	Y	Y	Y	Y
Georgia*3	N	S	Y	S	Y	N
Germany	Y	Y	Y	Y	Y	Y
Greece	Y	S	Y	S	N	Y
Hungary	Y	Y	Y	Y	Y	Y
India	N	N	N	N	N	N
Indonesia	N	N	N	N	N	N
Iran	N	N	N	N	N	N
Iraq	N	N	N	N	N	N
Ireland	Y	S	Y	Y	Y	N
Israel	N	N	N	Y	N	N

Italy	Y	Y	Y	S	Y	Y
Jordan	N	N	N	N	N	N
Kazakhstan	Y	N	Y	N	N	Y
Kenya	N	N	N	N	N	N
Kuwait	N	N	N	N	N	N
Kyrgyzstan	Y	N	Y	N	N	N
Laos	N	N	N	N	N	N
Latvia	Y	Y	Y	Y	Y	Y
Lebanon	N	N	N	N	N	N
Liechtenstein	Y	N	S	N	N	Y
Lithuania	Y	Y	Y	Y	Y	Y
Luxembourg	Y	Y	Y	Y	Y	Y
Macedonia	Y	Y	Y	Y	N	Y
Malaysia	N	N	N	N	N	N
Maldives	N	N	N	N	N	N
Malta	Y	Y	Y	Y	Y	N
Moldova, Rep of	Y	S	Y	Y	Y	Y
Monaco	N	N	S	N	N	N
Mongolia	N	N	N	N	N	N
Montenegro	Y	Y	Y	Y	N	Y
Myanmar	N	N	N	N	N	N
Nepal	N	N	N	N	N	N
Netherlands	Y	Y	Y	Y	Y	Y
Norway	Y	Y	Y	Y	Y	Y
Oman	N	N	N	N	N	N
Pakistan	N	N	N	N	N	N
Palestine, State of	N	N	N	N	N	N
Philippines	N	N	N	N	N	N
Poland	Y	Y	Y	Y	Y	Y
Portugal	Y	Y	Y	Y	Y	Y
Qatar	N	N	N	N	N	N
Republic of Korea	N	N	N	N	N	N
Romania	Y	Y	Y	Y	Y	Y
Russia	S	N	N	N	N	Y
San Marino	N	N	N	N	N	N
Saudi Arabia	N	N	N	N	N	N
Serbia	Y	Y	Y	Y	N	Y
Seychelles	N	N	N	N	N	N
Singapore	N	N	N	N	N	N

Slovakia	Y	Y	Y	Y	Y	Y
Slovenia	Y	Y	Y	Y	Y	Y
Spain	Y	Y	Y	Y	Y	Y
Sri Lanka	N	N	N	N	N	N
Sweden	Y	Y	Y	Y	Y	Y
Switzerland	Y	N	Y	Y	Y	Y
Syrian Arab Rep	N	N	N	N	N	N
Tajikistan	N	N	Y	S	N	N
Thailand	N	N	N	N	N	N
Turkey	N	N	N	N	N	N
Turkmenistan	N	N	Y	N	N	Y
UAE	N	N	N	N	N	N
UK	Y	S	Y	Y	Y	S
Ukraine	Y	Y	Y	Y	N	Y
Uzbekistan	N	N	N	N	N	Y
Vietnam	N	N	N	N	N	N
Yemen	N	N	N	N	N	N
Ratifications	**44**	**31**	**46**	**36**	**31**	**41**
Non Ratifications	**46**	**52**	**43**	**49**	**60**	**49**
Signatures	**1**	**8**	**2**	**6**	**0**	**1**
Abstentions	**0**	**0**	**0**	**0**	**0**	**0**
Total Ratifications including non BRI countries	**45**	**31**	**47**	**36**	**31**	**41**

*1 Not displaying 2001 Amendment and 2004 Amendment
*2 not displaying ratifications of 2005 Amendment to Aarhus
*3 Georgia has signed the SEA Protocol but is not a party to the Espoo EIA Convention
Y = Yes
N = No