

## Transborder Environmental Justice in Regional Energy Trade in Mainland South-East Asia

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*Thailand is mainland South-East Asia's largest energy consumer. Since the early 1990s, community and civil society opposition to new domestic large-scale power projects has strengthened within Thailand. Partly in response and facilitated by deepening regional economic integration, Thailand's electricity utility, private sector energy, and construction companies have increasingly looked towards neighbouring Laos and Myanmar to supply Thailand's energy markets. This paper assesses the political economy of Thailand's power sector development through the lens of distributive and procedural environmental justice, including the role of social movements and civil society in Thailand in reforming the country's power planning process. The environmental and social costs of domestic power projects and power import projects are discussed. The author concludes that Thailand's existing energy imports from hydropower projects in Laos and a gas project in Myanmar have exported environmental injustice associated with energy production across borders, exploiting the comparatively weak rule of law, judicial systems, and civil and political freedoms in these neighbouring countries.*

**Keywords:** Energy Trade; Laos; Myanmar; Thailand; Transborder Environmental Justice

*Thailand ist der größte Energieverbraucher in Festland-Südostasien. Seit den frühen 1990-er Jahren hat sich der zivilgesellschaftliche Widerstand gegen neue großflächige Energieprojekte in Thailand verstärkt. Teilweise als Antwort darauf und erleichtert durch sich vertiefende regionale Integration haben thailändische Stromversorgungsunternehmen sowie private Energie- und Bauunternehmen zunehmend in die Nachbarländer Laos und Myanmar geblickt, die den Energiebedarf Thailands decken sollen. Dieser Artikel beurteilt die politische Ökonomie der Entwicklung des thailändischen Energiesektors durch die Brille distributiver und prozeduraler Umweltgerechtigkeit sowie die Rolle von sozialen Bewegungen und Zivilgesellschaft in den Reformprozessen der Energieplanung. Des Weiteren werden Umwelt- und soziale Kosten von Binnen- und Importenergieprojekten diskutiert. Der Autor argumentiert, dass Thailands Energieimporte von Wasserkraftprojekten in Laos und einem Gasprojekt in Myanmar ökologische Ungerechtigkeit in Bezug auf Energieproduktion exportieren und die vergleichsweise schwachen Systeme von Rechtsstaatlichkeit, Justiz sowie Zivilgesellschaft und politischer Freiheit in den beiden Nachbarländern ausnutzen.*

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**Schlagworte:** *Energiehandel; grenzüberschreitende Umweltgerechtigkeit; Laos; Myanmar; Thailand*

## **Introduction**

Since the 1960s, Thailand has undergone a profound transformation from a predominantly agrarian towards an export-orientated industrial society. This transformation has been paralleled by a massive increase in electricity demand. Thailand's total electricity system capacity has grown eleven-fold from 2,838 megawatts in 1982 to 32,395 megawatts as of 2011 (Energy Policy and Planning Office [EPPO], 2012; Greacen & Greacen, 2004). Within Thailand, whilst measures of human development have improved for most, economic inequality has widened and there is a growing political polarisation (United Nations Development Programme [UNDP], 2009, p. 52-61, 78). The construction of large power stations developed with limited public participation and a failure to fully address or compensate for environmental and social harms are part of the legacy of contested injustices carried forward to the present day.

Since the late 1980s, Thai community movements and civil society groups have increasingly resisted new large power plants in Thailand, with high-profile protests against projects such as the Pak Mun hydropower dam and the Mae Moh coal-fired power station. Over the same period, Thailand's power sector has shifted from a state-led to a partially-liberalised model (Wattana, Sharma, & Vaiyavuth, 2008), whilst a process of regional economic integration has deepened Thailand's economic ties with neighbouring countries. This has enabled Thailand's power planners to look towards Laos and Myanmar for power imports from Independent Power Producers (IPPs), where there are relatively abundant water resources that could be harnessed for hydro-electricity, major gas reserves in the case of Myanmar, and where community and civil society opposition is constrained (Simpson, 2007).

Through the lens of environmental justice, this paper examines the evolution of Thailand's power sector and the consequences for affected communities' natural resources, health, and livelihoods in Thailand and neighbouring countries. It argues that whilst many power projects continue to be built and contested in Thailand itself, the projects in neighbouring countries have weaker standards in terms of public participation, environmental protection, and mitigation or compensation for social

impacts than those in present-day Thailand and therefore constitute an exportation of environmental injustice across borders.

The paper first defines environmental injustice. It then reviews the political economy of Thailand's power sector since the 1950s and assesses two contested large power projects in Thailand from the perspective of environmental justice. The paper then turns to power sector planning and reform in Thailand, the implications of regional economic integration and regional power trade, and the role played by Thai private sector energy and construction companies and commercial banks. Three regional energy trade projects, namely the Theun Hinboun and Xayaburi hydropower projects in Laos and the Yadana gas project in Myanmar are then discussed from a transborder environmental justice perspective.

### ***What is Environmental (In)justice?***

The concept of environmental injustice first emerged in the United States (US) in the late 1970s to name and explain institutionalised discrimination along lines of race and class in the siting of toxic waste facilities and other polluting projects (Bullard, 1990). Now infamous cases, for example the Love Canal in New York State, and broader research revealed that industrial facilities damaging the environment and people's health were systematically being located in low-income predominantly African-American or Hispanic neighbourhoods. These projects, furthermore, were often promoted as affirmative actions to bring employment to previously marginalised communities, and thereby to redress past social injustice. In fact, the project developers were seeking a 'path of least resistance' after opposition by wealthier and more politically represented neighbourhoods against "Locally Unwanted Land Uses" (LULUs), now well-known as the "Not In My Back Yard" (NIMBY) phenomena (Bullard, 1990, p. 4).

In parallel, as the process of globalisation has accelerated since the 1970s and Northern countries have de-industrialised, many polluting and hazardous industrial facilities have been relocated to Southern countries, and the North has exported its toxic wastes for disposal to the South (McMichael, 2004). Many of these polluting industries are nowadays prohibited in Northern countries and thereby take advantage of weaker environmental governance in Southern countries. Analogous to the US,

projects relocated to the South have often been claimed to bring 'development'. As a result, many cases of transborder environmental injustice have emerged (Schroeder, St. Martin, Wilson, & Sen, 2008).

The concept of environmental justice incorporates principles of distributive and procedural justice, including adherence to the rule of law, equal treatment for minority groups, and respect for human rights including the right to protection from environmental degradation. Distributive justice calls for the fair distribution of environmental harms, benefits, and risks (Pedersen, 2010). Procedural justice seeks to instil justice into institutional decision-making processes that may otherwise apportion environmental harms, benefits, and risks inequitably and addresses procedural issues such as public participation, access to information, transparency, and accountability. Procedural justice may be granted through the courts, through formal planning processes, within parallel social forums, or through direct political action (Schroeder et al., 2008).

### ***Political Economy of Thailand's Electricity Sector***

Before the 1960s, Thailand's electrification rate was very low. However, from the 1950s, as the Cold War escalated and the US sought Thailand as an ally, USAID and the World Bank supported the development of several large power generation projects, the early stages of Thailand's electricity transmission network, and the establishment of the state-owned electricity utilities, including the *Electricity Generating Authority of Thailand* (EGAT) in 1968 (Wattana et al., 2008). This support has shaped the centralised power generation and high-voltage transmission system that exists in Thailand today (Chaivongvilan, Sharma, & Suwin, 2008). EGAT emerged as an influential political actor, given the relationship between Thailand's industrialisation and the demand for electricity to fuel this economic growth (Greacen & Greacen, 2004).

Up until 1992, EGAT was Thailand's monopoly generator of electricity and was incentivised to maintain its monopoly and to expand its capacity due to a 'cost-plus' pricing policy, which is a 'rate-of-return' model that allocated returns to EGAT according to the total investment made. Whilst this arrangement achieved rapid electricity industry expansion during the 1980s and 1990s, it also resulted in the downplaying of

environmental and social costs, and as over-investment began to occur since the 1997 Asian financial crisis, it also passed these costs on to electricity consumers (Greacen & Greacen, 2004).

EGAT's growing debts and a series of pro-business governments in Thailand from the early 1980s increased pressure for a privatisation of the Thai energy sector. In 1992, Prime Minister Anand Panyarachun amended the EGAT Act allowing the state enterprise to issue long-term concessions to private sector IPPs under take-or-pay contract arrangements. EGAT established a subsidiary, the *Electricity Generating Company* (EGCO), to operate two of its most profitable plants as IPPs, whilst maintaining a 45 percent share in the company, and began negotiating contracts with other IPPs (Greacen & Greacen, 2004).

During the 1997 Asian financial crisis, declining electricity demand together with EGAT's commitments to long-term take-or-pay contracts left it severely indebted. The International Monetary Fund and World Bank, promoting neoliberal economic policies as conditionality to their recovery packages, sought to further liberalise Thailand's power sector and to create a power-pool electricity market. Whilst the plan for a power pool model was eventually shelved due to EGAT's own resistance (Wattana et al., 2008), the state enterprise was forced to sell assets, including its Ratchaburi power plant as an IPP, which it maintained a 45 percent share in. Furthermore, EGAT was required to allow private companies more access to the energy sector (Greacen & Greacen, 2004). These initial waves of partial liberalisation were conducted in the absence of an effective electricity regulator (Chaivongvilan et al., 2008).

Having first established a Ministry of Energy in 2002, Prime Minister Thaksin Shinawatra's *Thai Rak Thai* (TRT) government sought to reform Thailand's power sector. Thaksin planned to corporatise EGAT as a public company at the *Stock Exchange of Thailand* (SET) that reflected TRT's policy to expand SET and project Thailand's economic influence into neighbouring countries. However, the *Supreme Administrative Court of Thailand* blocked the SET listing in 2006, following opposition by a civil society coalition that included consumer associations, energy policy think tanks, and EGAT's union that were concerned about the absence of an energy regulator. Subsequently, the Energy Industry Act, B.E. 2550 (2007) established the *Energy Regulatory Commission* (ERC) (Wattana et al., 2008).

As of 2012, Thailand's peak power demand was 26,121 megawatts, whilst Thailand's total generating capacity was 32,395 megawatts (EPPO, 2012). Thailand's most recent *Power Development Plan (PDP)* estimates that electricity demand will almost triple to 70,686 megawatts by 2030 (EPPO, 2012). EGAT and private sector producers each generate approximately half of Thailand's electricity.

### ***Narratives of Environmental Injustice Towards Domestic Power Projects***

From the late 1980s, the dominance of EGAT and perceived lack of accountability in the planning and operation of large-scale power plants caused growing grievance amongst rural communities who experienced the social and environmental consequences. The Pak Mun hydropower dam and the Mae Moh lignite-fired power station are two projects that have seen long periods of contestation and hold symbolic significance in the restructuring of society-state relations and reform of electricity and environmental governance. These cases, summarised below, are representative of a number of other protests against power projects in Thailand.

#### *The Pak Mun Dam*

The Pak Mun dam, located on the Mun River in Ubon Ratchathani province, Northeast Thailand, is a long contested dam project between the project's proponents including EGAT, the Thai state, and the World Bank, and locally affected communities and supportive civil society groups (Foran & Manorum, 2009; Missingham, 2003). The project is a 136 megawatts run-of-the-river project that was completed in 1994. A case study completed by the *World Commission on Dams* found that 1,700 households were relocated, at least 6,200 households suffered a loss of livelihoods, there was a loss of 116 fish species in the river (44 percent of the pre-dam fish biodiversity), and fishery yields upstream of the dam project dropped by up to 80 percent (Amornsakchai et al., 2000).

Through a succession of Thai governments, protestors against the project first sought for compensation and subsequently for the dam to be decommissioned. Opposition to the project was expressed through the occupation of the dam site, a protest camp from 1999 to 2002 next to the dam site, prolonged rallies in Bangkok

and encampments outside government houses, and villager-led *Thai Baan* research.<sup>2</sup> The social movement's challenges to EGAT and the state agencies resulted in notable concessions, including the opening of the dam's gates between 2001 and 2002 and the Thai government's order to keep the gates open for four months of the year. At the same time, the state acted repressively, and there were numerous violent confrontations (Foran & Manorom, 2009).

In opposing the project, local community movements and NGOs created an injustice narrative in a distributive sense regarding the basic rights of Thai citizens as well as in the procedural sense, for example, the entitlement to information and public participation in project planning (Foran & Manorom, 2009). Complex arrays of actors interacted through formal and informal processes such as the *Thai Baan* research and extraordinary politics such as street protests, seeking justice. The politically negotiated opening of the dam gates was an important first in Thailand. Whilst the situation is yet to be finally settled, Pak Mun was the last major hydropower dam built in Thailand and has required the dam building industry to look towards neighbouring countries.

#### *Mae Moh Power Plant*

The 2,625 megawatts Mae Moh lignite-fired power plant is operated by EGAT and located in Lampang province, Northern Thailand. The lignite fuel is sourced from a 135 square kilometres open pit mine nearby which produces 40,000 tons per day. The coal dust from the mine and the emission of sulphur dioxide and toxic chemicals, such as mercury and arsenic, from burning the lignite at the Mae Moh power plant have polluted local water sources, contaminated rice fields, and resulted in serious health problems for local communities. Greenpeace (2005) reports that 30,000 people have been displaced from their homes, more than 200 people died due to exposure to pollutants from the mine and power plant, and over 600 villagers have suffered acute respiratory problems.

To address the problems of the lignite mine and power plant, local communities formed the *Network of Occupational Health Sufferers of Thailand*. A lawsuit was

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<sup>2</sup> Thai Baan is a community-based research methodology in which villagers are the principal researchers. It was developed in response to the scientific research methods used by development experts that can misunderstand or ignore the relationship between local livelihoods, culture, and river-based ecosystems (see [www.livingriversiam.org/work/tb\\_research\\_en.htm](http://www.livingriversiam.org/work/tb_research_en.htm)).

launched in 1998 by villagers in Mae Moh district seeking redress for their respiratory problems. Three subsequent lawsuits were filed claiming damage for health deterioration, physical and mental grievances, compensation for medical expenses, and for damage to crops and land (Greenpeace, 2005). In May 2004, the Thai provincial court awarded THB 5.7 million to villagers for crop damage caused by the power plant. Subsequently, in March 2009, in response to 35 lawsuits filed by residents in 2004, the court required EGAT to compensate 130 villagers who had suffered severe health problems (Boonlong, Farbotko, Parfondry, Graham, & Macer, 2011).

The Mae Moh communities' use of the rule of law and court system to seek redress has contributed towards strengthening the procedural accountability of power plant planning and operation. Numerous other coal-fired power stations have been contested by local communities. Some have been cancelled, for example Bo Nok and the Hin Grud power stations in Prachuab Kirikhan province in the late 1990s (Greenpeace, 2002). However, other projects such as the gas-fired Kang Koi 2 power plant in Saraburi province were built in their place.

### ***Power Sector Planning and Reform in Thailand***

Whilst initially affected communities and civil society groups protested individual power projects that epitomised distributive environmental injustices, they were also seeking to influence EGAT's power planning process itself and the respective procedural injustices. Narrative frames of dam-proponents, for example, stating "the dam has already been built so why not use it" had challenged project opponents, revealing the need to participate earlier in the power planning process (Foran & Manorum, 2009). Through official processes and committees, the media, and extra-policy processes and actions, civil society groups such as *Palang Thai*, Greenpeace, *Towards Ecological Recovery and Regional Alliance* (TERRA), *Alternative Energy Project for Sustainability* (AEPS), the *Healthy Public Policy Foundation* (HPPF), and numerous project-affected community movements have critically questioned Thailand's PDP and its decision-making process and criteria.

Thailand's PDP is drafted by EGAT, before being reviewed by the *Energy Policy Planning Office* (EPPO) in the Ministry of Energy. The PDP is then submitted to the *National Energy Planning Council* (NEPC) chaired by the Prime Minister for approval, before

being submitted for final approval by Thailand's cabinet. Civil society groups have argued that EGAT in the PDP heavily promotes the development of large-scale electricity generation plants that generate profit for the state-owned electricity utilities, energy companies, and the construction industry, whilst downplaying the potential for energy efficiency and renewable energy (Greacen & Footner, 2006). Civil society studies have also revealed systematic overestimates of electricity demand forecasts resulting in overinvestment in generation capacity (Greacen & Footner, 2006; Greacen & Greacen, 2012), whilst EGAT has argued that overinvestment is less costly to Thailand's economy than underinvestment (Thabchumpon and Middleton, in press).

In 2004, civil society groups in Thailand prepared an alternative PDP (Permpongsacharoen, 2004). Since then, two expanded studies have been developed by Greenpeace and Palang Thai (Greacen & Greacen, 2012; Greacen & Footner, 2006). Using officially available data of the Thai government, these studies have sought to demonstrate how Thailand could meet its energy needs through repowering existing power stations, and promoting energy efficiency and demand side management as well as renewable energy technologies. In doing so, they sought to incorporate additional environmental and societal objectives into decision-making, make the power planning process more transparent and participatory, and pushed for more ambitious targets and regulatory reform for decentralised and renewable power generation.

Thailand's power sector has seen important reform over the past decade, including new renewable energy regulations, promotion of Combined Heat and Power Plants, and the creation of an Energy Regulatory Commission in 2007 (Greacen & Footner, 2006; Wisuttisak, 2012). In 2002, Thailand was the first developing country to adopt net metering regulations for very small power producers generating beneath one megawatt (Greacen & Footner, 2006). Furthermore, since 2007 a slight but imperfect increase in transparency and public participation has emerged with public hearings now held during the PDP preparation process, together with a commitment to increase the use of renewable energy (Foran, Wong, & Kelley, 2010). Despite these incremental steps, weak transparency and accountability in decision-making that privilege large industry interests remain entrenched in Thailand's power planning (Thongplon, 2008).

More widely, there have also been legislative developments that support environmental justice in Thailand (Nicro, Friend, & Pradubsuk, 2011). Thailand's 1997 *People's*

*Constitution* created a greater commitment to civil liberties and political space, including the creation of the *National Human Rights Commission of Thailand* (Phongpachit & Baker, 2002). The most recent 2007 Constitution contains several important provisions, including Article 56 on the right to access public information, Article 57 on the state's responsibility to hold public hearings on projects that could affect the quality of the environment, and Article 67 on the need for environmental impact assessment and health impact assessments. Unger and Siroros (2011) argue, however, that important institutional weaknesses remain in Thailand's political system that limit implementation of environment-related policies and conflict resolution amongst diverse interest groups, including weak linkages between political parties and groups in society and few alternative representation institutions.

### ***Regional Economic Integration and Power Trade***

Given that EGAT predicts a large growth in power demand in Thailand and faces strong community and civil society resistance to new large power projects domestically, power imports are an important strategy to ensure Thailand's energy security. Furthermore, Thailand is heavily dependent on natural gas and EGAT is keen to diversify its fuel sources with hydropower and coal-fired power stations in Myanmar and Laos. In response, the governments of Myanmar and Laos are keen to develop their relatively unexploited power generation potential for export and domestic demand (Kaisti & Käkönen, 2012).

Regional power trade has been promoted and facilitated by the Asian Development Bank's (ADB) Greater Mekong Subregion (GMS) programme since the early 1990s (Greacen & Palettu, 2007; Hirsch, 2010). The ADB's first regional electricity study envisaged a network of high-voltage transmission lines opening up mountainous regions mostly in Laos, Yunnan province of China, and Myanmar to hydropower development to export electricity to Thailand and Vietnam (Norconsult, 1994). In 2002, a second study filled out the details of this plan, and in 2009, the plan's logic was extended to the wider energy sector, including coal and gas (ADB, 2009). These studies claim that by facilitating access to new and cheaper generation sources and creating a competitive regional power trade market investment requirements and electricity costs can be reduced.

ADB's early proposals for regional power trade were criticised by civil society for not taking account of cumulative social and environmental impacts, and for having been prepared without the participation of diverse stakeholders (International Rivers Network, 2004). Other studies questioned the economic viability and benefits of the plan, finding the predicted costs of hydropower unrealistically cheap, and highlighting significant risks in regulating and coordinating the transmission of electricity regionally, given the political circumstances and level of technical capacity and investment in the region (Garrett, 2004; Ryder, 2004; Yu, 2003).

To expand regional energy trade, Thailand has signed Memoranda of Understanding of 7,000 megawatts and 1,500 megawatts with the governments of Laos and Myanmar respectively. At present, Thailand imports approximately 2,000 megawatts from nine hydropower dams in Laos, with major projects including the Nam Theun 2 (1075 megawatts), Thuen Hinboun (220 megawatts), and Nam Ngum 2 (615 megawatts) dams (EGAT, 2010; Government of Laos, 2012). Table 1 summarises plans for future power imports.

YEAR	PROJECT	PROJECT SIZE	— ANNUAL CAPACITY INCREASE —	
			TOTAL *	FROM POWER IMPORTS
2012	<i>Theun Hinboun Expansion</i> **	220 MW	1871 MW	12%
2013-2014	-	-	6329 MW	0%
2015	<i>Hongsa</i> **	982 MW	4791 MW	20%
2016	<i>Hongsa</i> **	491 MW	3121 MW	16%
2017	-	-	2205 MW	0%
2018	<i>Nam Ngiep 1</i> **	269 MW	1770 MW	37%
	<i>Xe Pian</i> **	390 MW		
2019	<i>Xayaburi</i> **	1220 MW	3241 MW	37%
2021-2030	<i>Unspecified projects</i> ***	300 MW per year from <i>unspecified</i> <i>projects</i>		

\* Not including projects decommissioned \*\* Located in Laos \*\*\* Including some possibly located in Myanmar

Source: Author's own compilation based on EPPO, 2012

### **Regional Expansion of Thai Energy and Construction Companies and Banks**

Alongside companies from Vietnam and China, Thailand's energy and construction companies and commercial banks have figured prominently in building hydropower dams in Laos to date (Table 2) (Government of Laos, 2012; Middleton, Garcia, & Foran, 2009). As Glassman (2010) highlights, these companies are seeking profitable investment opportunities in neighbouring countries under the liberalising investment regime of the GMS. To date, each major power export project in Laos to Thailand has at least one Thai developer involved, suggesting that these projects build on existing business networks and knowledge of Thailand's power sector.

In the past, when major power projects were commissioned by the state, Thai construction companies would compete to secure construction contracts. At present, within the increasingly liberalised power sector, the role of construction companies has changed and they have become active proponents of the projects themselves as constructors and operators. The *Ital-Thai Development Corporation (ITD)*, for example, was originally a 15 percent shareholder in Nam Theun 2 that started commercial operation in March 2010. However, having secured and fulfilled its role as principle civil works contractor (Lawrence, 2009), ITD fully divested its shares in October 2010 (PRLog, 2010). Some Thai project developers, including ITD, are publically listed companies on SET and therefore are incentivised by shareholder expectations. For example, following the government of Lao's announcement in November 2012 that there would be a ground-breaking ceremony for the proposed USD 3.5 billion Xayaburi dam on the Mekong River's mainstream, the share price of *Ch.Karnchang* – the lead project developer and Thailand's second largest construction company – rose 5.7 percent to its highest level since January 2011 (Chemaphun, 2012).

Whilst EGAT's contribution to total generation capacity in Thailand under the partially liberalised industry structure is capped at approximately 50 percent, EGAT is able to increase its share of total generation capacity via IPPs, deepening its monopoly role (Wisuttisak, 2012). As Table 2 indicates, EGAT is a shareholder in two thirds of the power-import projects through its share ownership in EGCO (25 percent), Ratchaburi (45 percent), and EGAT International (100 percent).

Table 2: Thai Developers and Financiers of Major Power Projects in Laos

PROJECT	THAI DEVELOPERS*	THAI FINANCIERS*
<i>Houay Ho</i> (152 MW; Commissioned 1999)	<i>HHTC</i> (20%)	Unknown
<i>Theun Hinboun</i> (220 MW; Commissioned 1998)	<i>GMS Power</i> (20%)	Refinancing in 2002 by unidentified Thai banks***
<i>Nam Theun 2</i> (1075 MW; Commissioned 2010)	<i>Electricity Generating Company of Thailand (EGCO)</i> (35%)	<i>Bangkok Bank, Bank of Ayudhya, Kasikorn Bank, Krung Thai Bank, Siam City Bank, Siam Commercial Bank, Thai Military Bank</i>
<i>Nam Ngum 2</i> (615 MW; COD** 2012)	<i>Ch. Karnchang</i> (28.5%), <i>Ratchaburi</i> (25%), <i>Bangkok Expressway</i> (12.5%), <i>TEAM Consulting Engineering</i> (1%)	<i>Krung Thai Bank, Siam City Bank, Thai Military Bank</i>
<i>Theun Hinboun Expansion Project</i> (220+60 MW; COD** 2012)	<i>MDX</i> (20%)	<i>Bank of Ayudhya, Kasikorn Bank, Siam City Bank, Thanachart Bank</i>
<i>Hongsa Lignite</i> (1878 MW; COD** 2015)	<i>Ratchaburi</i> (40%), <i>Banpu</i> (40%)	<i>Siam Commercial Bank, Bangkok Bank, Krung Thai Bank, Government Saving Bank, Kasikorn Bank, Bank of Ayudhya, Siam City Bank, Thai Military Bank</i>
<i>Nam Ngiep 1</i> (262 MW; COD** 2018)	<i>EGAT International</i> (30%)	<i>Kasikorn Bank, and unknown others (and ADB)</i>
<i>Xepian-Xenamnoy</i> (390 MW; COD** 2018)	<i>Ratchaburi</i> (25%)	Unknown
<i>Xayaburi Dam</i> (1285 MW; COD** 2019)	<i>Ch. Karnchang</i> (50%), <i>PTT plc</i> (25%), <i>EGCO</i> (12.5%), <i>BKK Expressway</i> (7.5%), <i>PT Construction and Irrigation</i> (5%)	<i>Kasikorn Bank, Bangkok Bank, Siam Commercial Bank, Krung Thai Bank</i>

\* Partners in consortiums    \*\* COD = Commission Operation Date  
\*\*\* International Financing Review Asia, 2 February 2008

Source: Based on Middleton (2009) and www.poweringprogress.org

### ***Transborder Environmental (In)justice***

Within South-East Asia, environmental governance is uneven (Middleton, 2012). In principle, power projects in Laos and Myanmar could stimulate economic growth through investment and its secondary effects, encourage job creation, and generate revenues for the governments to reinvest into development. However, in both countries media freedom is limited, independent civil society organisations are restricted, open community protests are repressed, incomplete or inconsistent laws are often unimplemented, there is weak rule of law, and corruption is a serious challenge (The Burma Environmental Working Group [BEWG], 2011; Stuart-Fox, 2006).

Numerous projects that supply electricity or gas from neighbouring countries to Thailand have been documented as impacting local people and the environment including Nam Theun 2 (Lawrence, 2009; Singh, 2009; Trandem, 2012), Nam Ngum 2 (International Rivers, 2008), Houay Ho (Delang & Toro, 2011; International Rivers, 2008), and Theun Hinboun (see below) in Laos, and gas exports (see below) and the proposed Salween dams (BEWG, 2011; Magee & Kelley, 2009) in Myanmar.

The following sections outline the political context in Laos and Myanmar as relevant to energy project development and two examples of regional energy trade projects as notable examples of transborder distributional environmental injustice. The paper then turns to a discussion on procedural justice for transborder power projects within Thailand's power planning process.

#### ***Laos and the Theun-Hinboun Hydropower Dam***

Laos is predominantly an agrarian society. With the introduction of the New Economic Mechanism policy in 1986 that led the country's single-party communist government towards a market economy, export-orientated agribusiness, hydropower, and mining investment has accelerated. The economic growth was accompanied by a range of environmental and social costs (Lintner, 2008; Middleton et al., 2009; Rutherford, Lazarus, & Kelley, 2008). A reasonably comprehensive – although fragmented – legal and policy framework for power project development exists, prepared with support from the ADB and World Bank amongst others, including measures for community participation, project information disclosure, environmental impact assessment (EIA) preparation, and compensation and resettlement with livelihood restora-

tion for affected communities (Suhardiman, Silva, & Carew-Reid, 2012). Furthermore, the “National Policy for Environmental and Social Sustainability of the Hydropower Sector in Lao PDR” (2005) emphasises economic, social, and ecological dimensions of sustainability. In practice, however, despite some improvement, enforcement is weak. For example, EIA and Resettlement Action Plans have generally not been disclosed to the public and are often of questionable quality (Baird & Shoemaker, 2007; International Rivers, 2008). Furthermore, project site selection and operation is predominantly driven by the priorities of private sector investors rather than integrated water-, land-, and energy planning by the government (Suhardiman et al., 2012).

The 210 megawatts Theun-Hinboun hydropower project, commissioned in 1998, was Laos’ first build–operate–transfer (BOT) hydropower project jointly-owned through the *Theun Hinboun Power Company* (THPC) by *Electricité du Laos* (60 percent), Norway’s *Statkraft* (20 percent) and Thailand’s *GMS Power* (20 percent). The project exports 95 percent of its power to Thailand and was partially funded by the ADB and the *Nordic Development Fund*. The environmental and social performance of the project has been heavily contested between THPC and environmental NGOs (Whittington, 2012). At first, the project was announced to be a success by the ADB (Gill, 1997), but subsequent independent research revealed serious impact on between 25,000 and 30,000 people living along three rivers, including markedly reduced fishery catches, loss of vegetable gardens, fishing nets and other assets, riverbank erosion, and downstream flooding resulting in loss of wet season rice crops (Association for International Water Studies, 2007; Shoemaker, 1998). In response, the THPC established an *Environment Management Division* with a USD 10 million, 10 year budget and initiated a *Mitigation and Compensation Program* in September 2000 (Whittington, 2012). Whilst the programme was able to address some of the material needs of the villagers (e.g. building wells), it has struggled to ensure the long-term recovery of livelihoods, for example, through the production of dry season rice, cash crops, and livestock (Association for International Water Studies, 2007; Barney, 2007). In October 2008, the THPC commenced construction of an expansion dam project, despite having not fully resolved and compensated for existing social and environmental problems caused by the original project. For this reason, and because the expansion project requires the resettlement of 4,186 people and there are concerns that the project will exacerbate existing impacts, the project’s construction has been controversial (see e.g. International Rivers, 2012; THPC, 2012).

### **Myanmar and the Yadana Gas Project**

Whilst possessing abundant natural resources, Myanmar ranks poorly by almost every development indicator (Ware, 2011). Myanmar's laws and policies on environment are weakly developed and require the preparation of environmental impact assessment or resettlement plans only since the recently passed Environment Conservation Law (*Pyidaungsu Hluttaw Law No. 9/20120*) in March 2012. This law, however, is not yet effectively implemented, including and because of the absence of necessary by-laws. More broadly, policy on public participation and the release of information to the public still remains unclear (BEWG, 2011). Large foreign investments in Myanmar in the recent past, including hydropower dams and gas pipelines, supported the military junta financially and politically and were linked to extensive corruption, widespread environmental and social impacts, and numerous human rights violations (BEWG, 2011; Magee & Kelley, 2009; Simpson, 2007). Whilst political reform appears to be deepening since late 2010, it remains incomplete and Myanmar's administrative and legal structures are fundamentally weak, the judiciary is not independent from the military, and the practices of existing energy projects leave a legacy in need of redress.

Approximately 70 percent of Thailand's electricity generation is fuelled by natural gas (Laksamakoses, 2006, cited in Greacen & Footner, 2006), and 30 percent of Thailand's total natural gas consumption is sourced from Myanmar (Kate, 2011). Natural gas exports currently account for 12.5 percent of Myanmar's GDP, although large volumes of these revenues do not enter official government revenue streams (Earthrights International, n.d.; Turnell, 2010). Thailand presently is the main purchaser of natural gas from Myanmar, which it imports from the Andaman Sea crossing Mon state and Tenasserim Division in eastern Myanmar to Ratchaburi, Thailand via the Yadana and Yetagun pipelines, completed in 1999 and 2000 respectively. Both pipelines pass through ethnic Karen and Mon areas and have been linked to increased militarisation in project areas and intensified conflicts with ethnic groups, land confiscations, and human rights abuses (EarthRights International, 2010a, 2010b; Simpson, 2007). The Yadana project is operated by the *Myanmar Oil and Gas Enterprise* in partnership with *Total* (France), *Unocal* (US), and *PTT Exploration and Production* (PTTEP Thailand). In 2005, in a landmark case in the US courts, a major out-of-court settlement was

agreed with Unocal, which was subsequently absorbed by *Chevron* and faced lawsuits for complicity in human rights abuses. Despite this, human rights abuses by pipeline security forces are reported to be on-going as of late 2009 (BEWG, 2011).

### ***Transborder Environmental Justice and Power Planning Deficits***

In contrast to the procedure for the selection of domestic IPPs in Thailand, the procedures for the selection of power import IPPs are less defined and more opaque (Greacen & Greacen, 2012). Whereas for domestic projects IPPs must bid competitively for contracts, there is no competitive bidding process between alternative IPPs for power import projects. For many of these projects, therefore, selection is left to the discretion of EGAT. The key criterion for a power import project is that the electricity price is cheaper than power otherwise generated within Thailand. No environmental or social selection criteria are applied. Indeed, respecting the principle of sovereignty, a key principle of the 'ASEAN Way', EGAT does not monitor IPPs' compliance with neighbouring countries' laws, which it considers the responsibility of the IPP and the host government. Furthermore, the ERC does not monitor the environmental and social performance of power import projects as it does not have the authority to issue a license in a neighbouring country (Thabchumpon & Middleton, in press). In Laos, on the other hand, the process of selecting and proposing projects disproportionately reflects the priorities of the private sector investors (Suhardiman et al., 2012).

The Thai state, as the purchaser of electricity via EGAT, arguably holds some degree of responsibility for environmental and social impacts of IPP projects in Laos because without a power-buyer these projects could not operate. Furthermore, as EGAT is a shareholder in EGCO, Ratchaburi, and EGAT International, the Thai state itself is currently a minority shareholder in six IPP projects in Laos (Table 2). In other words, the Thai state's commitment to political non-interference appears contradictory due to its role in approving power purchases and its shareholdings within many of the private sector consortiums, although these projects proceed with little transparency and accountability both to Thai civil society and Thailand's ERC.

Overall, the mechanisms in Thailand for ensuring procedural environmental justice are notably weaker for power import projects, as exemplified by the current

controversy surrounding the 1,260 megawatts Xayaburi dam proposed for the Mekong river's mainstream in Northern Laos (Grumbine, Dore, & Xu, 2012; Matthews, 2012). The lead developer of the predominantly Thai consortium is Ch. Karnchang, Thailand's second largest construction company, the proposed financiers of the USD 3.5 billion project are four Thai commercial banks, and 95 percent of the electricity generated would be exported to Thailand (see Tables 1 and 2). The project could have significant local and transborder impacts (International Centre for Environmental Management [ICEM], 2010). It has drawn criticism for proceeding with preliminary construction work and resettlement activities, including a ground breaking ceremony in October 2012, when not having completed a regional notification and consultation process with neighbouring riparian countries as committed to under the 1995 intergovernmental *Mekong Agreement* (Herbertson, 2012; Latsaphao, 2012; Stone, 2011). In Thailand, the project was incorporated into the PDP with remarkable speed; whilst the Xayaburi dam was not even named in Revision 2 of the PDP issued in April 2011, in Revision 3 issued in June 2012, the project had been included and had already signed its *Power Purchase Agreement* (PPA) on 29 October 2011, legally committing EGAT to purchase power from the project.

The Xayaburi dam has become an important test case for addressing transborder environmental justice through legal procedures within Thailand. In August 2012, riparian communities from the north and northeast of Thailand submitted a case to Thailand's Administrative Court suing EGAT, the Thai Cabinet, and three other state entities over their failure to follow the Thai Constitution before approving the PPA for the project. The raised concerns, deriving from the potential project impacts on Thailand, comprise the lack of a transborder EIA and an incomplete public consultation in Thailand (Thai People's Network in Eight Mekong Provinces, 2012). Furthermore, the National Human Rights Commission of Thailand (NHRCT) has initiated an investigation into the Xayaburi dam on the grounds that the project lacked information disclosure and public participation and could impact marginalised communities in Thailand who are dependent on Mekong river resources (NHRCT, 2012a). This is a significant move given that the NHRCT has initiated investigations into only four transborder cases of Thai investment to date, which also include the Hongsa lignite power plant in Laos and the Hat Gyi hydropower dam in Myanmar (NHRCT, 2012b).

## **Conclusion**

Thailand's power demand, economic growth, and strengthening environment policies compared to neighbouring countries, together with the on-going process of regional economic integration, have been key drivers for the construction of energy projects in Laos and Myanmar. This regional energy trade has exported environmental and social impacts associated with energy production, in the past experienced by affected communities in Thailand, to communities in neighbouring countries. Many of these projects have a track record of undermining the natural resource base upon which rural populations in Laos and Myanmar depend for their livelihoods (Simpson, 2007).

The expert-led PDP preparation process in Thailand by EGAT does not specifically account for and internalise the social and environmental impacts of individual power projects beyond specifying the electricity generation power mix. Instead, for domestic projects, the enforcement of the relevant articles of Thailand's Constitution, the body of environment and social laws, and the role of the ERC in licensing projects, alongside a reasonably independent judiciary, have all contributed towards improvements in environmental governance over the past 15 years, although much remains to be done. The environmental and social impacts of power import projects from countries with weaker environmental governance are not safeguarded by Thailand's power planning process.

Within Laos and Myanmar, the rule of law is weak, the judicial system is relatively underdeveloped and lacks independence, and space for public discussion and protest is constrained. Therefore, communities affected by energy projects have little access to justice through formal judicial procedures. In Laos, shallow public participation processes mask deeper political inequalities in decision making, whilst in Myanmar the notion of public participation is largely absent to date. Furthermore, with many important decisions taken in Thailand, which is the electricity buyer and also the home country of a number of the energy and construction companies and financiers, the possibility of participation in decision-making of locally affected people in Laos and Myanmar becomes even more distanced.

Historically, electricity consumption has created environmental injustice between those who benefit most from electricity generation – including the construction and energy companies who build and operate the projects and energy intensive indus-

tries in Thailand – and those who pay the costs through the deterioration of their livelihoods and health. Often, project proponents legitimise large regional energy trade projects through discourses that frame them as bringing economic cooperation, cheap energy, and energy security. Yet the social, environmental, and economic costs of these projects are comparatively localised. Discourses that legitimise and mask environmental injustice, therefore, reframe and reimagine the use of resources through a politics of scale away from local community use and towards exploitation by energy project developers in line with the development plans of national governments (Lebel, Garden, & Imamura, 2005; Sneddon, 2003).

In *Dumping in Dixie*, Bullard (1990, p. 32) reveals how environmentally harmful projects in the US were sold to poorer communities as bringing jobs and redressing past social injustices. Analogously, it is the communities at the comparative margins of mainland South-East Asia's increasingly liberalised market economy who experience firsthand the negative social and environmental costs of the large energy projects that are now spreading from Thailand into Myanmar and Laos, and to whom these projects are framed to bring development, modernisation, and poverty alleviation. For such projects, however, to be equitable and sustainable, it requires a significantly deeper commitment on the part of governments and project developers to strong and enforced environmental legislation, legally binding commitments to affected communities, and the ability for communities to access information, participation, and justice – including across borders. Otherwise, just as economic, social, and political injustices have created deep cleavages within Thai society, it is conceivable that similar tensions could emerge in neighbouring Laos and Myanmar, and across borders.

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