COMTRADE DATA FAIR, SEPTEMBER 2017

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THINK BLUE DATA, CO., LTD.



- We are a software solutions company
 - > Specializing in custom web-based interactive data visualization platforms
 - Established in Thailand in 2012
- Our Process: Agile, User Centered
- Some of the technologies we use:
 - Front-end: JavaScript, D3.js, AngularJS
 - Back-end: Node.js, Apache Spark, Google Cloud Platform

ASIA PACIFIC ENERGY





ASIA PACIFIC ENERGY PORTAL















200+ data sets

2,800+
policy and programme documents processed and uploaded

6,100+
power plants
mapped

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Policy

Country

China

InfraMap

Stacked Column

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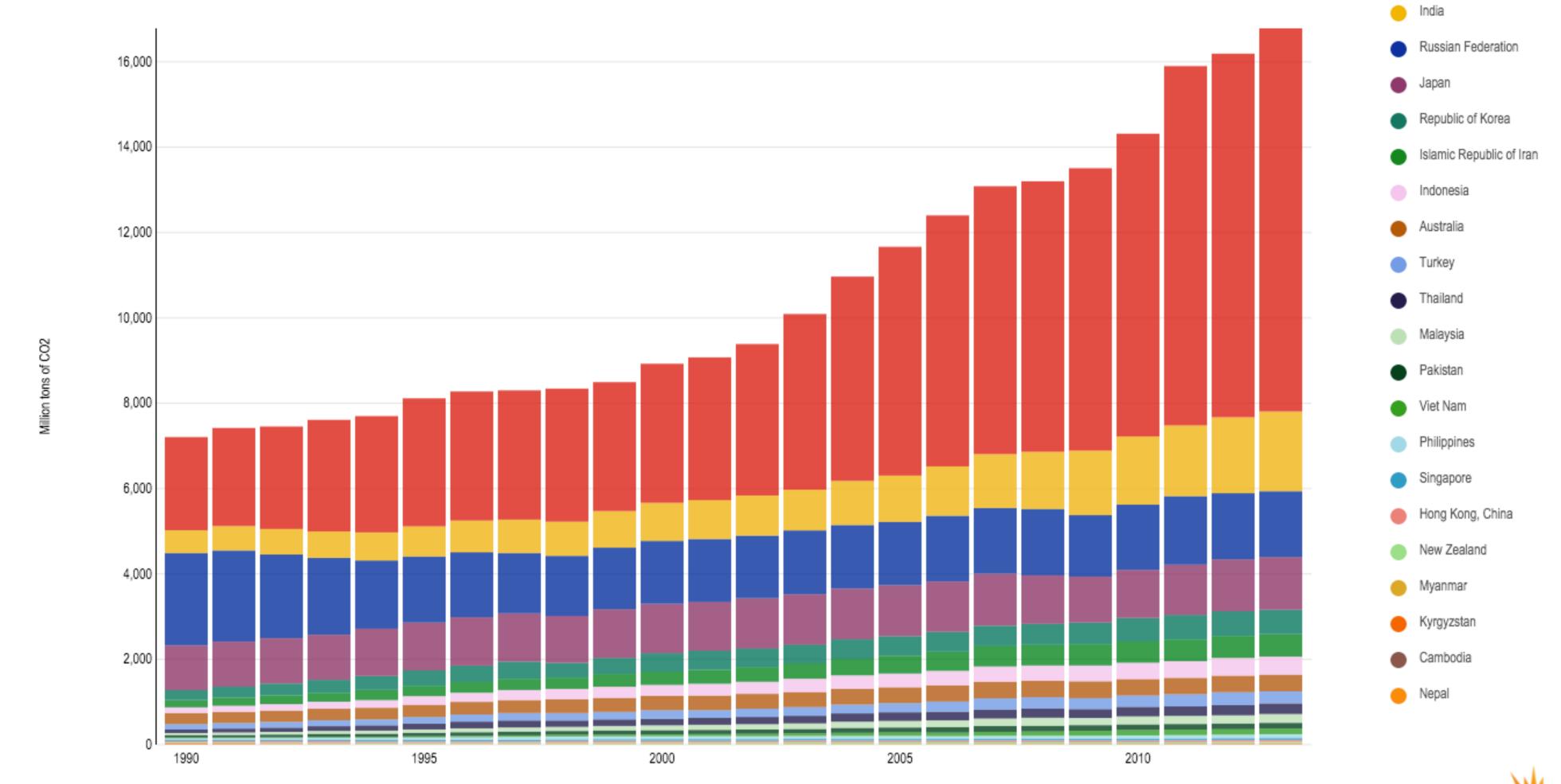
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Q Geography

ASIA PACIFIC ENERGY PORTAL







Source: International Energy Agency (IEA). CO2 Emissions from Fuel Combustion Statistics















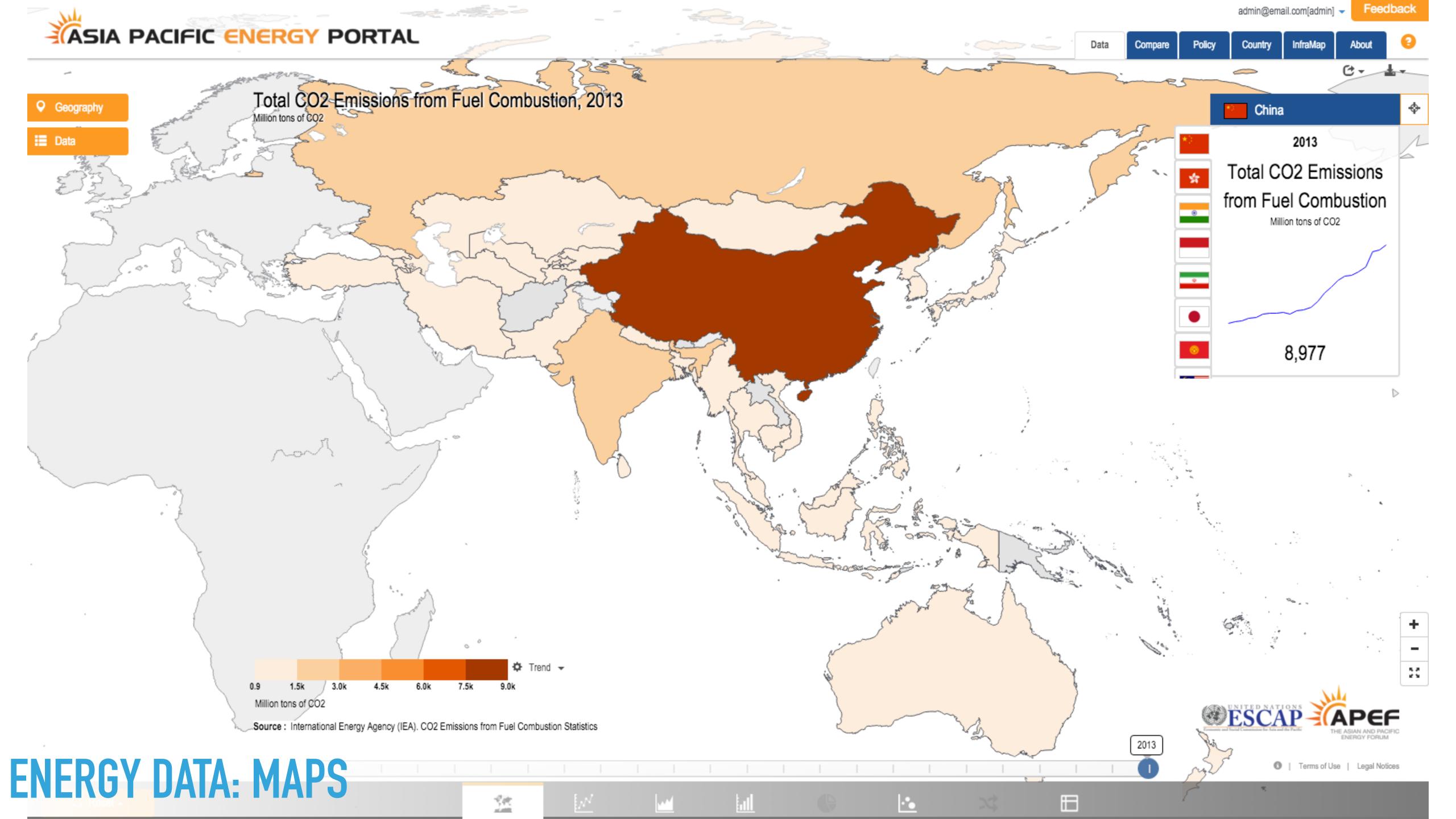












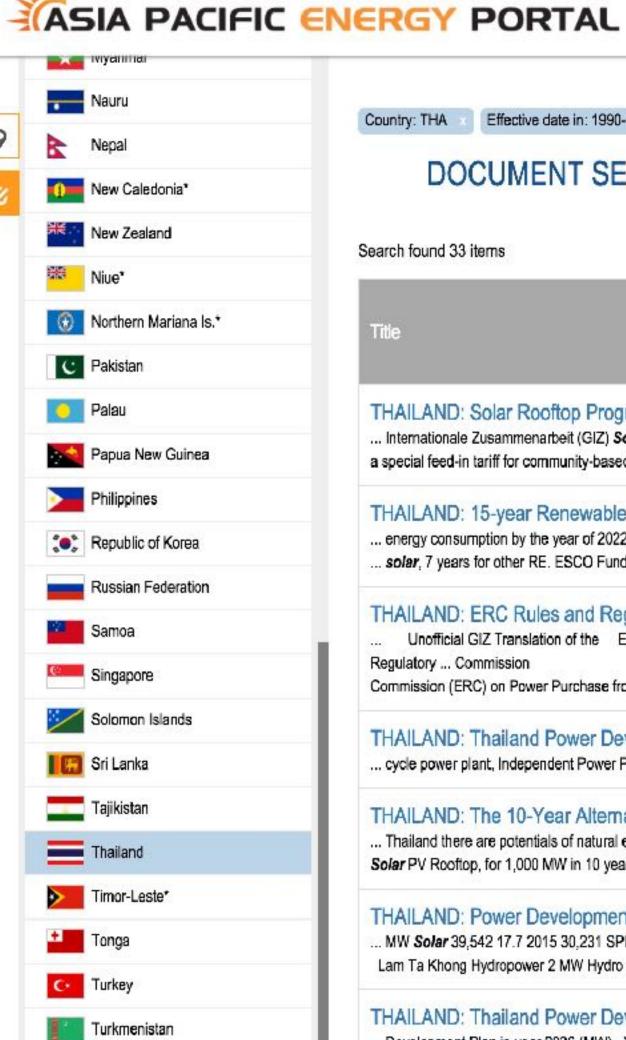
Data

Compare

Policy

About 🕣 InfraMap





X Tuvalu

Uzbekistan

Country: THA Effective date in: 1990-2016 Search title content DOCUMENT SEARCH solar

Search found 33 items

Title	Effective Start Year	Effective End Year	Agency
THAILAND: Solar Rooftop Programme Internationale Zusammenarbeit (GIZ) Solar Rooftop Programme The first package announced is a policy scheme to tariff. Applicants who wish to install solar systems will have to hand in applications with PEA or MEA a special feed-in tariff for community-based ground-mounted solar systems with a quota/target of 800 MW shall be foreseen for solar projects. Since the financial means one village receives from the fund are	2013		Ministry of Energy- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
THAILAND: 15-year Renewable Energy Development Plan (2008-2022) energy consumption by the year of 2022. It includes various renewable energy types: solar, wind, hydro are as follows: Solar 500 MW; Wind 800 MW; Hydro 324 MW; Biomass 3700 MW; Biogas 120 MW; MSW 160 MW; solar, 7 years for other RE. ESCO Fund- venture capital for ESCOs to jointly invest with private	2008	2022	Department of Alternative Energy Development and Efficiency, Ministry of Energy
THAILAND: ERC Rules and Regulation on Thailand's Solar Rooftop Programme Unofficial GIZ Translation of the ERC Rules and Regulation on Thailand's Solar Rooftop Programme (ERC) Regulatory Commission 7 on Power Purchase from Solar PV Rooftop 3. ANNEXES 1 on Power Purchase from Solar PV Rooftop 2013 2. Notification of the Energy Regulatory 15 Regulation of the Energy Regulatory Commission (ERC) on Power Purchase from Solar PV Rooftop	2013		Energy Regulatory Commission (ERC), Department of Alternative Energy Development and Efficiency, Ministry of Energy
THAILAND: Thailand Power Development Plan 2007-2021 (PDP 2007: Revision2) cycle power plant, Independent Power Producer (IPP) projects, small hydro/solar/wind projects, power	2008	2021	Electricity Generating Authority of Thailand, National Energy Policy Council
THAILAND: The 10-Year Alternative Energy Development Plan (2012-2021) Thailand there are potentials of natural energy resources, as ex: solar energy with its solar radiation 4.1 Renewable energy for power generation 4.1.1 Solar energy: target in 2021 is 2,000 MW with including Solar PV Rooftop, for 1,000 MW in 10 years. Consideration may cover the system installed in or any sectors concerning to gain knowledge in using solar power generation system by various types.	2012	2021	Ministry of Energy, Department of Alternative Energy Development and Efficiency
THAILAND: Power Development Plan 2012-2030 (PDP2010: Revision3) MW Solar 39,542 17.7 2015 30,231 SPP-Renewables 369 MW- SPP-Cogeneration 540 MW Gas 3 MW Hydro Kiew Kohma Hydropower 6 MW Hydro Mae Karm Solar Cell 0.1 MW Solar 1 MW Hydro Lam Ta Khong Hydropower 2 MW Hydro Bhumubol Dam Solar Cell 0.1 MW Solar Turbine 3 MW Wind Rajjaprabha Dam Solar Cell 0.1 MW Solar Pha Chuk Hydropower 20 MW Hydro	2012	2030	Electricity Generating Authority of Thailand
THAILAND: Thailand Power Development Plan 2015-2036 (PDP2015) Development Plan in year 2036 (MW) Year Solar Wind Hydro Waste Biomass Biogas Energy crops Total 2014 potential of the region. 7.3) Solar and wind energy will be promoted as soon as they become Plant Factor (%) Target 1/ Solar- Ground Mount- Rooftop 16 15 6,000.0 Wind 18 3,002.0 Hydro accumulated installed capacity of renewable energy (VSPPs/DEDE/PEA) (MW) Year Solar Wind Hydro Waste	2015	2036	Energy Policy and Planning Office
BRUNEI DARUSSALAM, INDONESIA, MALAYSIA, PHILIPPINES, SINGAPORE, THAILAND, VIET NAM: ASEAN Medium-Term Programme of Action on Energy Cooperation (1995 – 1999) manufactured NPSE products, namely solar photo voltaic systems, solar thermal water heaters and wind-energy promotion of intra-ASEAN trade of ASEAN manufactured NRSE products, namely solar photo voltaic	1995	1999	The Governments the ASEAN Member States (5) Terms of Use Legal Notices

ENERGY POLICY: SEARCH

Compare Policy

InfraMap Profile

About

Year: 2017 Showing 1353 / 1775 Results Indicates policy previews available for indicators within the corresponding policy category. Indicates policy preview(s) available for the corresponding policy indicator and country. **POLICY MAP** Click here to Expand All > Access > Efficiency > Renewable Energy > Environment → Pricing PR1: Fossil fuel subsidies PR2: Renewable energy subsidies PR3: Energy taxation PR4: Energy pricing PR5: Carbon tax PR6: Cooperation in energy pricing Energy Supply and Infrastructure ▼ Trade TR1: Energy trade priorities TR2: International trade association membership TR3: Bi- and multi-lateral energy agreements TR4: Standard power production and purchasing agreements TR5: Import taxes and fee exemptions TR6: Energy export financial incentives TR7: Advance rulings Investment IN1: Energy sector investment priorities IN2: Financial incentives for energy infrastructure IN3: Tax and duty exemptions for energy equipment IN4: Independent power producers IN5: Local content requirement IN6: Intellectual property rights IN7: Project permitting IN8: Electricity wholesale markets IN9: Investment climate development IN10: Public Private Partnerships IN11: Overseas investment support IN12: Bidding and Tendering

Energy trade priorities

AUSTRALIA, BRUNEI DARUSSALAM, CHINA, HONG KONG, CHINA, INDONESIA, JAPAN, REPUBLIC OF KOREA, MALAYSIA, NEW ZEALAND, PHILIPPINES, PAPUA NEW GUINEA, RUSSIAN FEDERATION, SINGAPORE, THAILAND, VIET NAM: Cebu Declaration

Effective Years: 2015-

We also encourage Members to promote energy supply diversity and energy efficiency and to reduce barriers to energy trade and investment in advancing resilience of the energy sector.

AUSTRALIA, BRUNEI DARUSSALAM, CHINA, HONG KONG, CHINA, JAPAN, REPUBLIC OF KOREA, MALAYSIA, NEW ZEALAND, PHILIPPINES, PAPUA NEW GUINEA, SINGAPORE, THAILAND, VIET NAM: Eighth Meeting of APEC Energy Ministers: "Achieving Energy Security and Sustainable Development through Efficiency, Conservation and Diversity"

Effective Years: 2007-

To ensure sufficient investment in refining capacity to meet growing demand, including for cleaner fuels, we encourage APEC economies to: [...] • facilitate freer trade of oil products; [...].

AUSTRALIA, BRUNEI DARUSSALAM, CHINA, HONG KONG, CHINA, INDONESIA, JAPAN, REPUBLIC OF KOREA, MALAYSIA, NEW ZEALAND, PHILIPPINES, PAPUA NEW GUINEA, RUSSIAN FEDERATION, SINGAPORE, THAILAND, VIET NAM: Seventh Meeting of APEC Energy Ministers: "Securing APEC's Energy Future: Responding to Today' Challenges for Energy Supply and Demand"

Effective Years: 2005-

[W]e support APEC efforts to remove barriers to oil trade in the APEC region, for example domestic and regional harmonisation of quality standards for oil products, and direct the EWG to support initiatives regarding the freer trade of oil products.

2017









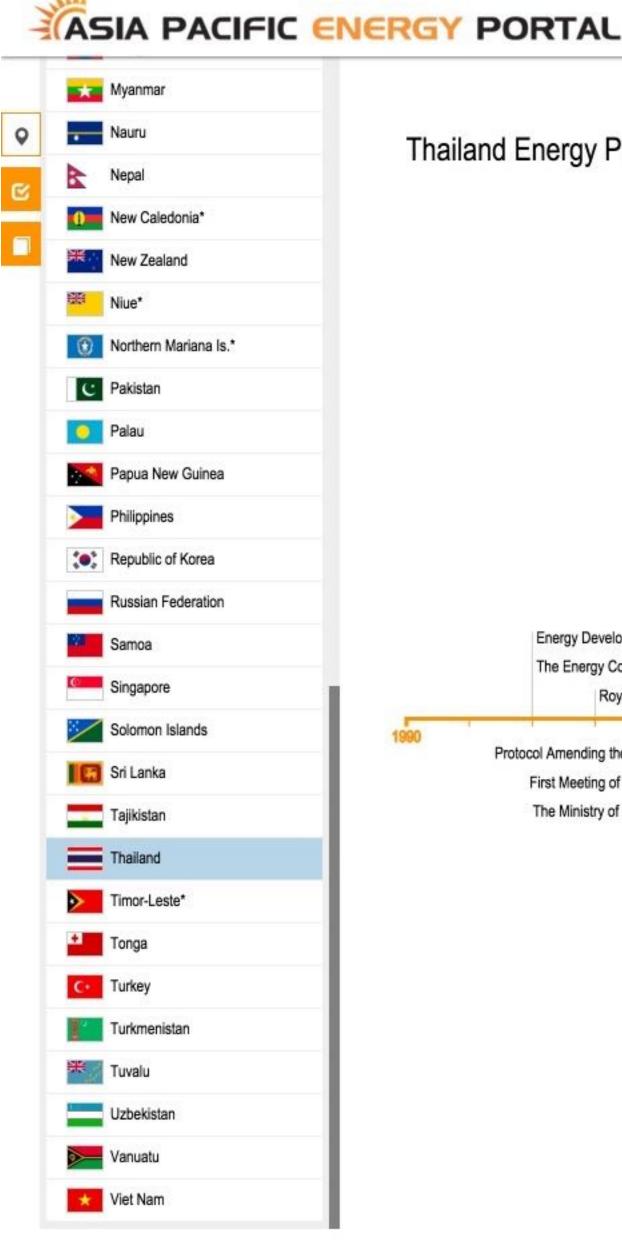


Policy

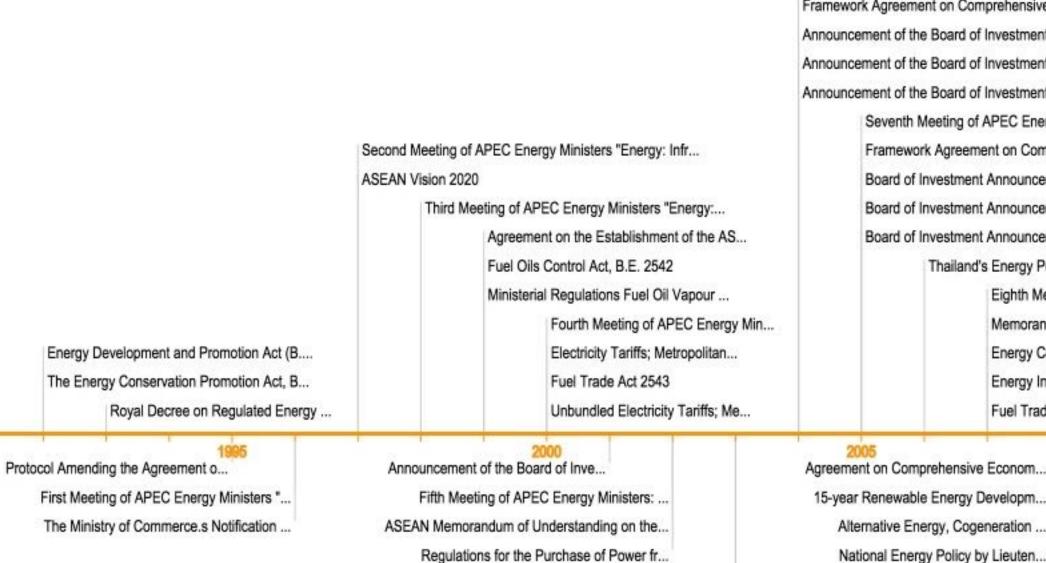
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Thailand Energy Policy and Regulation, 1990-2017



Framework Agreement on Comprehensive Economic Coopera... Announcement of the Board of Investment No. Sor. 10/2... Announcement of the Board of Investment No. Sor. 9/25... Announcement of the Board of Investment No. Sor. 9/25... Seventh Meeting of APEC Energy Ministers: "Secu... Framework Agreement on Comprehensive Economic C... Board of Investment Announcement No. 5/2548 Exe... Board of Investment Announcement No. Sor 4/2548... Board of Investment Announcement No. Sor 5/2548... Thailand's Energy Policy and Development... Eighth Meeting of APEC Energy Min... Memorandum of Understanding of th... Energy Conservation Promotion Act... Energy Industry Act, BE 2550 (200... Fuel Trading Act, (No.2) B.E. 255...

Sixth Meeting of APEC Energy Ministers: "Energy Securi...

Alternative Energy, Cogeneration ...

National Energy Policy by Lieuten...

Agreement Establishing the ASEAN-Austral...

National Energy Policy by Dr. Wannarat C ...

Ninth Meeting of APEC Energy Ministers: "Low Ca...

Masterplan on ASEAN Connectivity

ASEAN Petroleum Security Agremment (APSA...

Thailand Power Development Plan 2...

Policy Statement of the Council of Ministers Delivered by Prime Minister Yingluc... Thailand 20-Year Energy Efficiency Development Plan (2011 - 2030) Tenth Meeting of APEC Energy Ministers: St. Petersburg Declaration - Ener... Power Development Plan 2012-2030 (PDP2010: Revision3) The 10-Year Alternative Energy Development Plan (2012-2021) Third Protocol to Amend the Framework Agreement on Comprehensive E... ASEAN SHINE: A Private-Public Partnership to promote sustainable e... Power Purchase Agreement of Nam Ngiep 1 Project between EGAT and L... ERC Rules and Regulation on Thailand's Solar Rooftop Programme

> Eleventh Meeting of Apec Energy Ministers: Beijing Declarati... Joint Statement of the Lao PDR, Thailand, Malaysia and Singa...

Adoption of the Paris Agreement

Cebu Declaration

Solar Rooftop Programme

Promotion Of Higher Efficiency Ai...

ASEAN Community Vision 2025

ASEAN Economic Community Blueprin.. Alternative Energy Development Pl...

Announcement of the Board of Inve...

Oil Plan 2015 - 2036

Thailand Power Development Plan 2...

ASEAN Plan of Action for Energy Cooperat..

Intended Nationally Determined Contribut...

1990:2017



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Framework Agreement on Comprehensive Economic C...

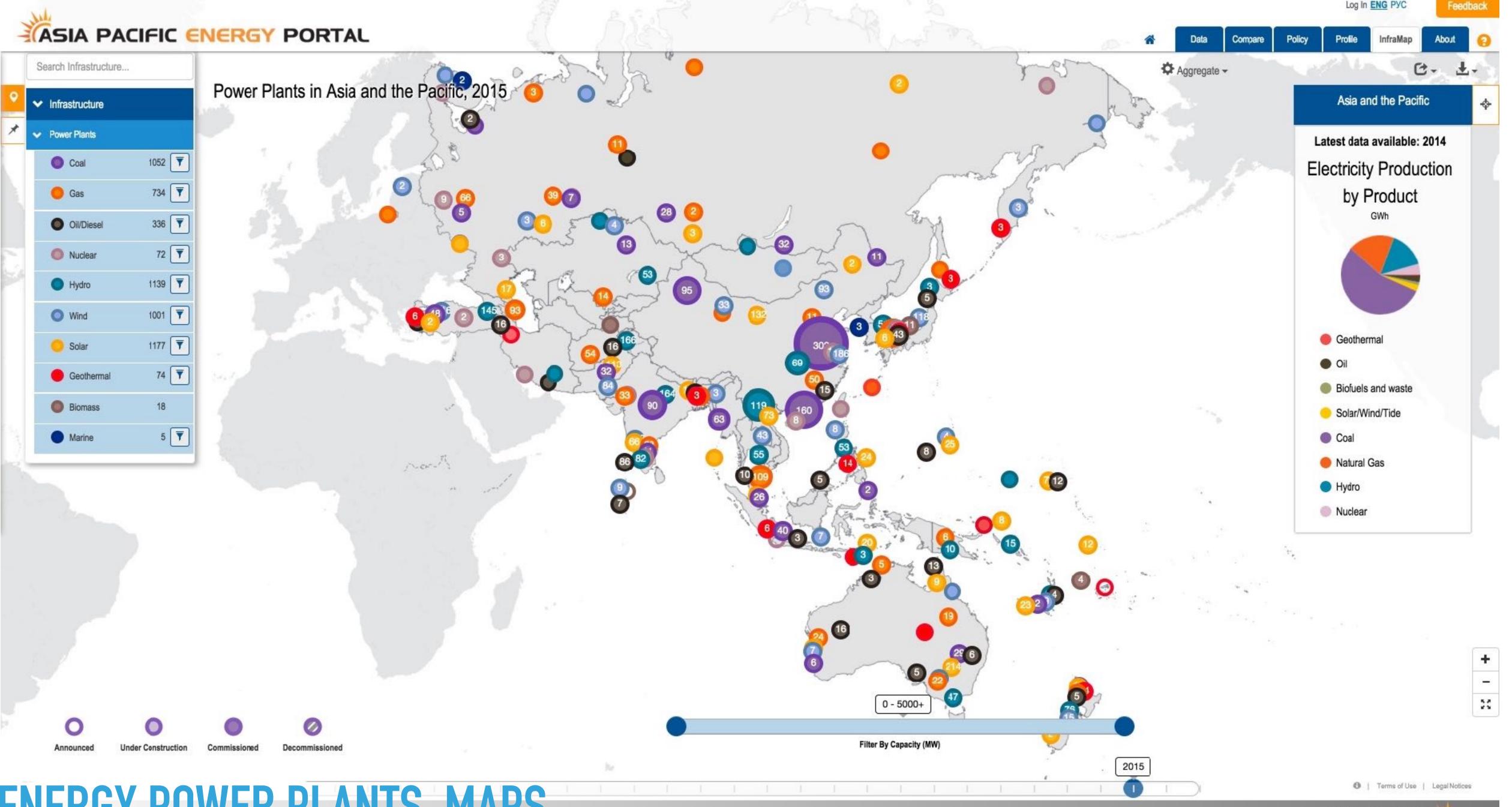
Framework for Comprehensive Economic Partnershi...

Thai ESCO Association Registration Guidelines











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Policy and Programme Highlights

Energy Access

Energy Efficiency

Renewable Energy

Environment

Country

Georgia

€ Guam*

Hong Kong, China*

India

Indonesia

Iran (Islamic Rep. of)

Japan

Energy Access

Percentage Population with Access to Electricity in Myanmar, 2014

52.0 % of total population

Source: World Bank, Sustainable Energy for All (SE4ALL) database

Only 52% of the population had access to electricity in

2014, making energy access one of the most relevant national challenges. In particular, infrastructure constraints caused by obsolete infrastructure and insufficient rehabilitation and investment in maintenance hindered the sustainable economic growth of the country. Also, despite its traditional and modern resource potential, Myanmar's reliance on energy imports along with a fossil-fuel dominated energy mix, are posing an obstacle to energy affordability and security. In particular, these resulted in a high cost of energy production and led to the provision of Government's subsidies.

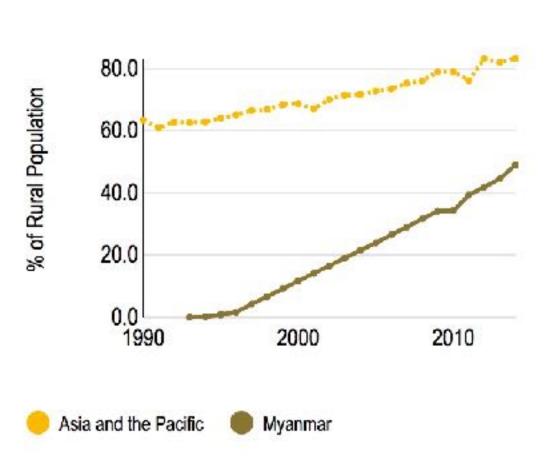
Through the NEP, the Government is committed to ensuring energy security and affordable energy for the sustainable development of the country. The NEP reaffirms the targets set through the Development Reform Program Meeting in June 2012, to expand electricity access from 26% in 2012 to 75% by the end of year 2021-2022. In order to achieve such target, the country will increase its generation capacity by 500 MW to 1,000 MW yearly, reaching a total of about 16,665 MW by 2022. Furthermore, the *Industrial Policy* 2016 reports that the Ministry of Electric Power is targeting 22,720 MW installed capacity increase from 2012-2013 to 2030-2031. A more ambitious target was set under the 2014 National Electrification Programme to achieve 100% rural energy access by 20301.

In order to achieve such targets, the country is looking into opening-up to foreign investors and to the private sector to support electric power development.

Additional measures include the gradual removal of market distorting energy subsidies to increase the efficiency in energy production and distribution. Emphasis is on realizing such transition through a transparent process and public consultations. At the same time, these measures will contribute to the optimization of the energy mix by directing investments towards renewable energy development, including solar, wind, mini-hydro, biomass for power generation. **ENERGY PROFILES: DATA STORIES** Energy efficiency improvements are also prioritized as they are expected to reduce the costs of energy

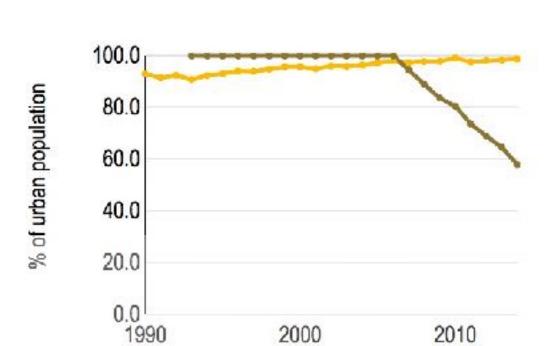
production and therefore to increase affordability

Percentage of Rural Population with Access to Electricity in Myanmar, Asia and the Pacific, 1990-2014



Source: World Bank, Sustainable Energy for All (SE4ALL) database

Percentage of Urban Population with Access to Electricity in Myanmar, Asia and the Pacific, 1990-2014

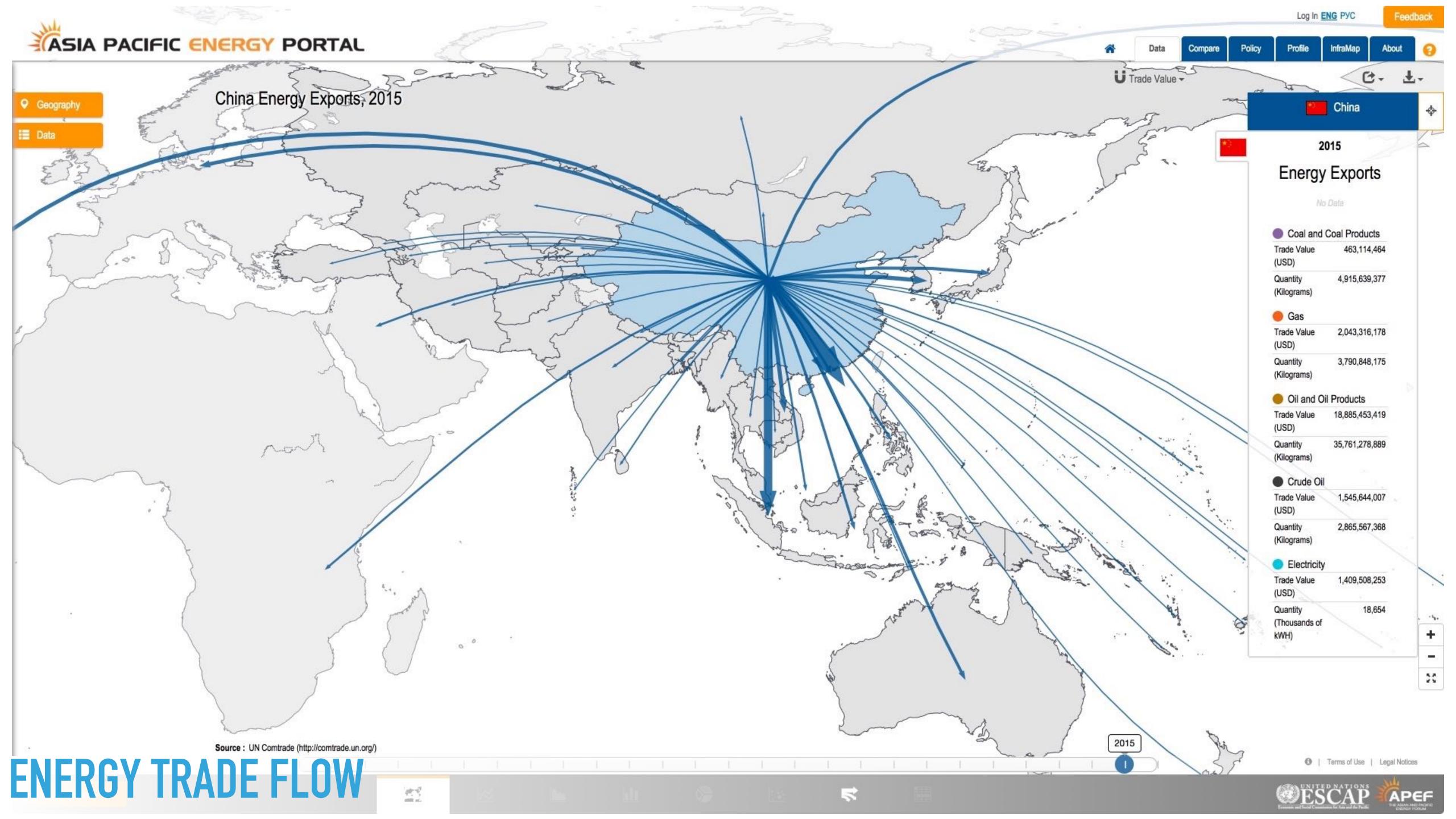


Kazakhstan Kiribati Lao PDR Macao, China* Malaysia Maldives | Marshall Islands Micronesia (F.S.) Mongolia Mongolia Myanmar Myanmar

ASIA PACIFIC ENERGY TRADE DATA







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Data Co

are Policy

Coal and Coal Products

Oil and Oil Products

Crude Oil

Electricity

Profile Infr

raMap

About



Russian Federation Energy Exports, 2015



Source: UN Comtrade (http://comtrade.un.org/)





53,624 (31.4%)

2015

Million USD

Show no data on legend - Asia-Pacific All/Non Asia-Pacific All - U Trade Value -

Policy

Coal and Coal Products

Oil and Oil Products

Crude Oil

Gas

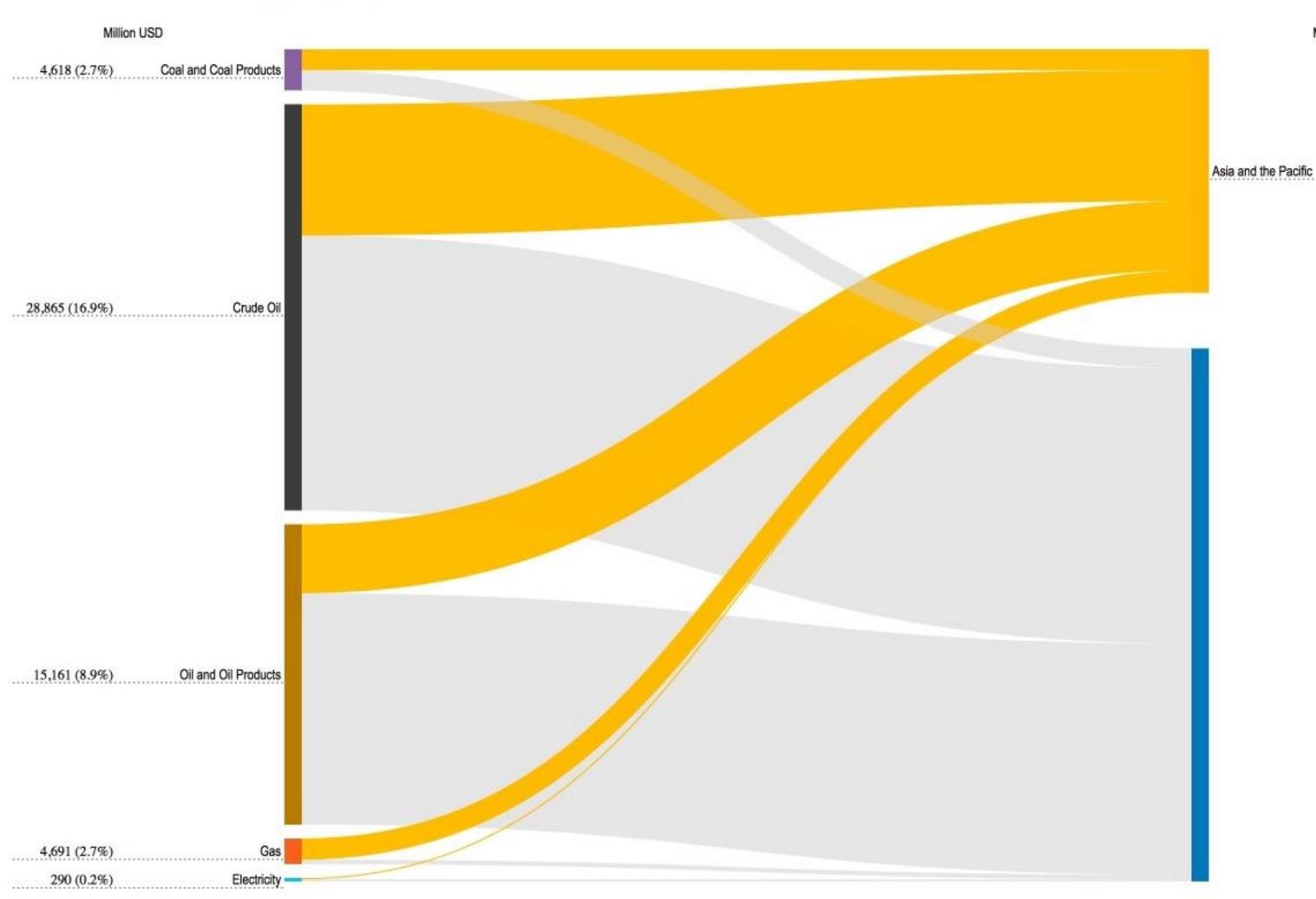
Electricity

Profile





Russian Federation Energy Exports, 2015



Source: UN Comtrade (http://comtrade.un.org/)

ENERGY TRADE FLOW



Geography

⊞ Data

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Policy

Coal and Coal Products

Oil and Oil Products

Crude Oil

Electricity

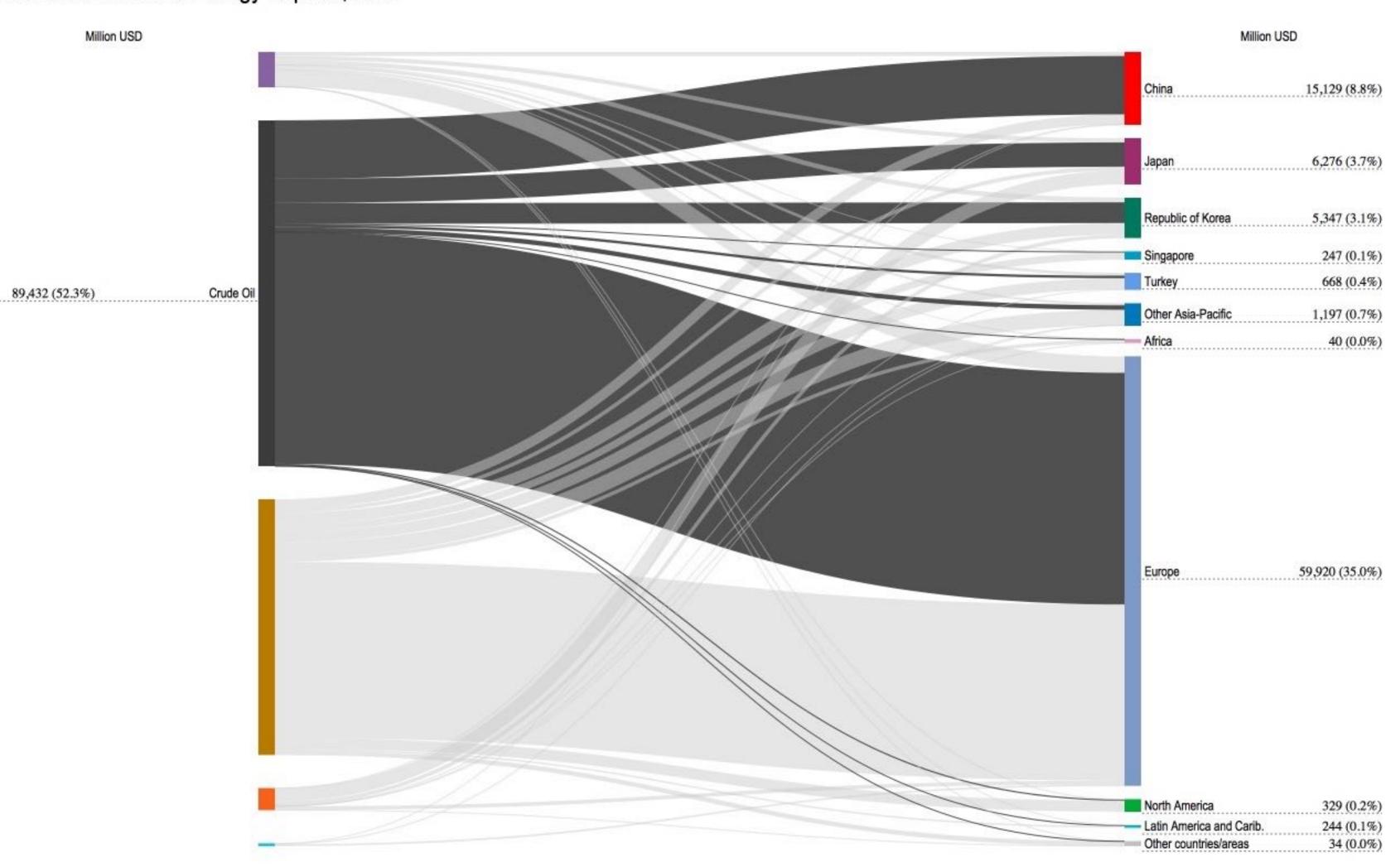
Gas

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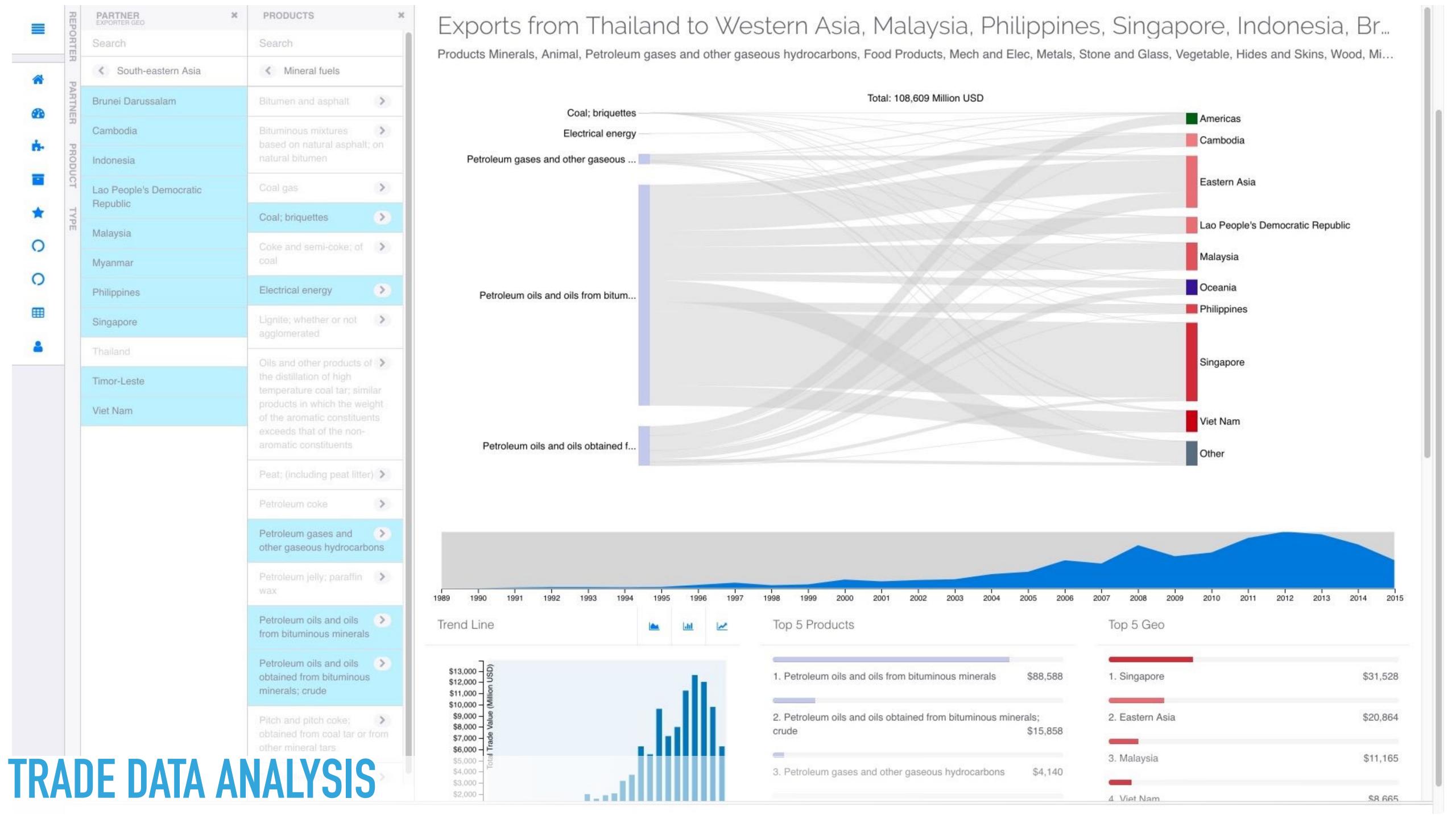
Source: UN Comtrade (http://comtrade.un.org/)

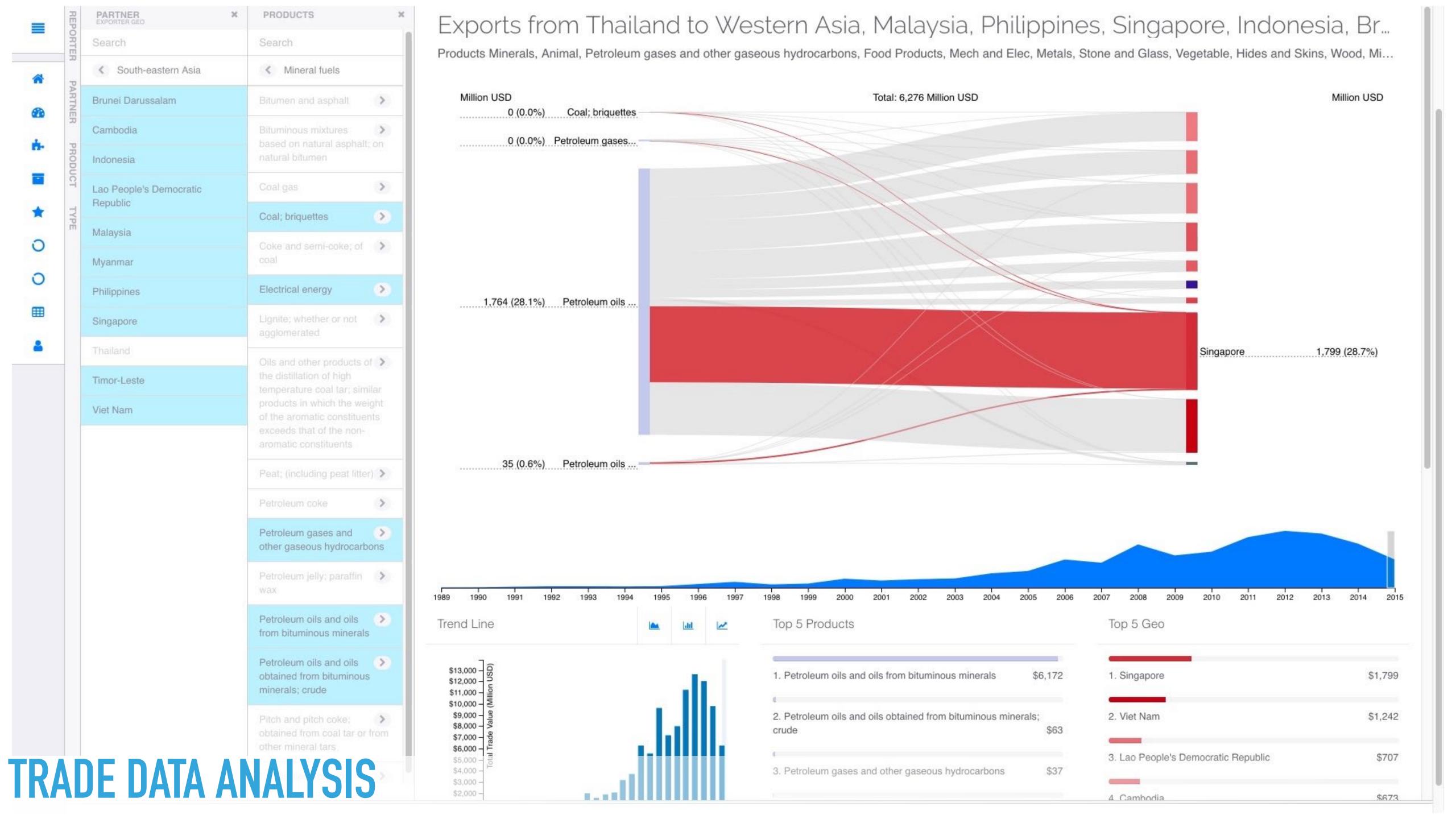
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2015

AND MORE







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Heatmap

Sum

product =

reporter +

value

Export of Mineral fuels within South-eastern Asia, 1989-2016

partner_code = qty = reporter_code = reporter_level = type = value =

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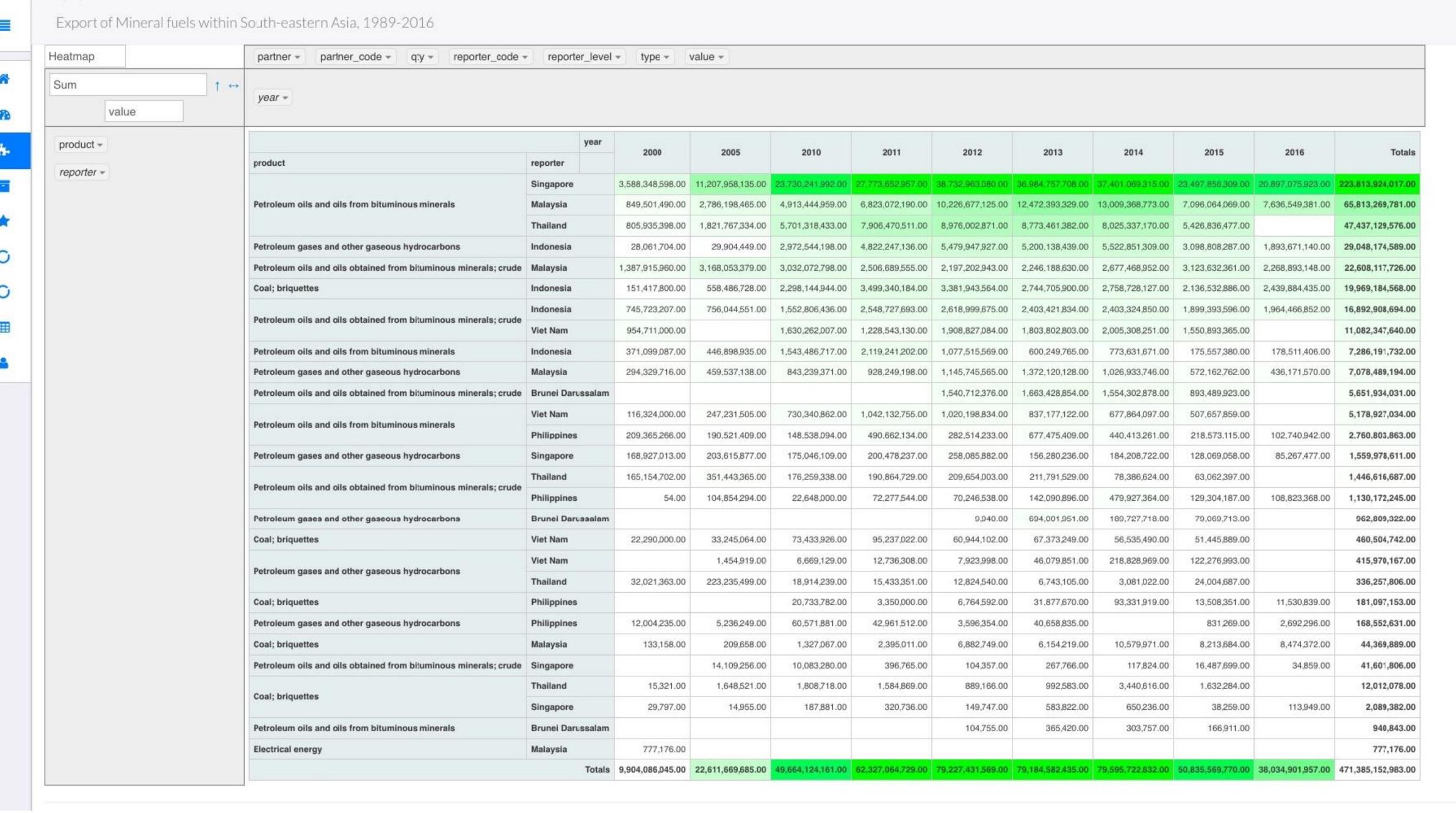
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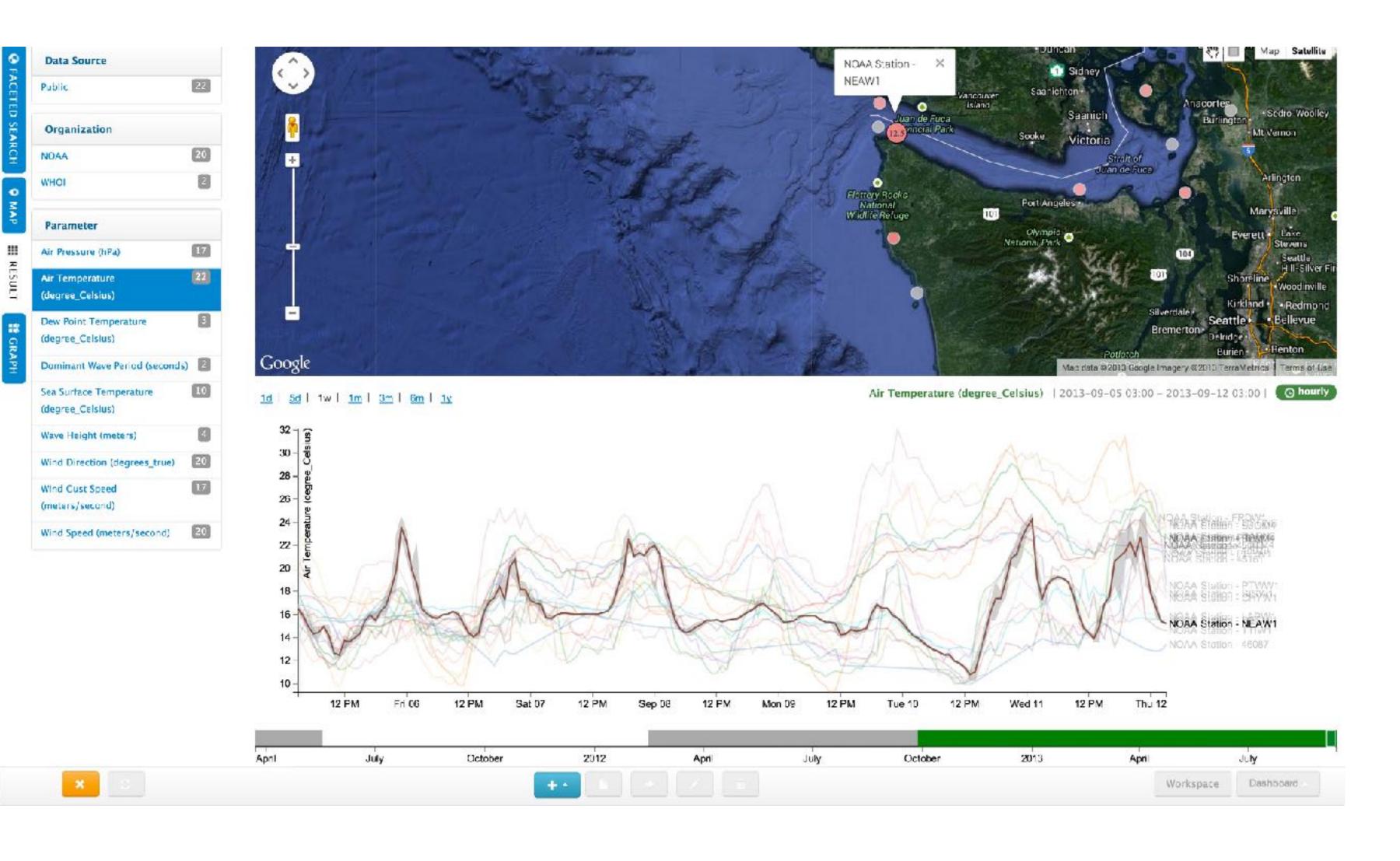
	year		2015									
	partne		Classess	Indonesia	Thelland	West Name		Phillipping	Combodia	Lao People's Democratic	Brunei	Tot
product	reporter	Malaysia	Singapore	Indonesia	Thailand	Viet Nam	Myanmar	Philippines	Cambodia	Republic	Darussalam	
Petroleum oils and oils from bituminous minerals	Singapore	10,681,768,156.00		7,743,003,585.00	610,659,622.00	2,164,261,463.00	1,138,782,960.00	778,814,724.00	270,921,955.00	128,586.00	89,648,738.00	23,477,989,839
	Malaysia		4,465,153,468.00	1,629,026,691.00	108,007,547.00	381,896,008.00	269,483,308.00	178,123,563.00	14,697,282.00	12,421.00	33,691,034.00	7,080,094,352
	Thailand	661,316,947.00	1,764,035,021.00	32,516,978.00		1,216,372,808.00	243,293,755.00	134,479,881.00	670,948,848.00	703,494,246.00	374,799.00	5,426,836,283
Petroleum oils and oils obtained from bituminous minerals; crude	Malaysia		803,923,431.00	371,912,866.00	1 710,854,581.00			227,795,088.00			9,146,395.00	3,123,632,361
Petroleum gases and other gaseous hydrocarbons	Indonesia	286,057,334.00	2,786,173,989.00		26,274,487.00							3,098,505,810
Petroleum oils and oils obtained from bituminous minerals; crude	Indonesia	249,364,519.00	770,007,336.00		875,904,141.00			4,117,600.00				1,899,393,596.0
	Viet Nam	604,034,567.00	759,541,383.00		187,317,415.00							1,550,893,365.0
	Brunei Darussalam	133,011,038.00	92,348,892.00	94,116,788.00	536,789,159.00	37,224,046.00						893,489,923.0
Petroleum gases and other gaseous hydrocarbons	Malaysia		439,655,557.00	70,874,848.00	39,234,166.00	9,984.00	1,716.00	22,318,660.00			67,831.00	572,162,762.0
Petroleum oils and oils from bituminous minerals	Viet Nam	25,286,440.00	31,541,332.00	2,256,984.00	1,855,352.00		817,825.00	908,333.00	376,384,194.00	68,535,489.00	21,910.00	507,657,859.0
	Philippines	108,187,619.00	94,500,235.00	1,300,287.00	2,641,719.00	10,671,425.00			1,151,023.00		120,837.00	218,573,115.0
	Indonesia	63,449,762.00	98,683,498.00		4,406,466.00	3,263,628.00	2,222,153.00	421,438.00	25,830.00		835.00	172,473,610.0
Petroleum oils and oils obtained from bituminous minerals; crude	Philippines	30,904.00	66,904,441.00		62,368,842.00							129,304,187.0
Petroleum gases and other gaseous hydrocarbons	Singapore	101,209,960.00		17,673,895.00	36,697.00	144,093.00	11,669.00	8,976,961.00	2,451.00		13,332.00	128,069,058.0
	Viet Nam	40,581,497.00						33,583,298.00	48,112,198.00			122,276,993.0
	Brunei Darussalam	79,069,276.00	437.00									79,069,713.0
Petroleum oils and oils obtained from bituminous minerals; crude	Thailand	3,183,844.00	34,765,561.00	30.00		25,112,862.00	100.00					63,062,397.0
Petroleum gases and other gaseous hydrocarbons	Thailand	1.00	2,311.00	2,532,833.00		8,533.00	15,407,018.00	2.00	2,368,292.00	3,685,697.00		24,004,687.0
Petroleum oils and oils obtained from bituminous minerals; crude	Singapore	23,690.00		7,544.00		5,862.00		16,450,599.00			4.00	16,487,699.0
Petroleum gases and other gaseous hydrocarbons	Philippines		17,744.00		813,525.00							831,269.0
Petroleum oils and oils from bituminous minerals	Brunei Darussalam	131,390.00	21,692.00	545.00		12,797.00		487.00				166,911.0
	Tota	s 13,036,706,944.00	12,207,276,328.00	9.965.223.874.00	4 167 163 719 00	3 838 983 509 00	1 670 026 504 00	1 405 000 634 00	1 204 612 072 03	775,906,439.00	122 005 755 00	48,584,975,789.0

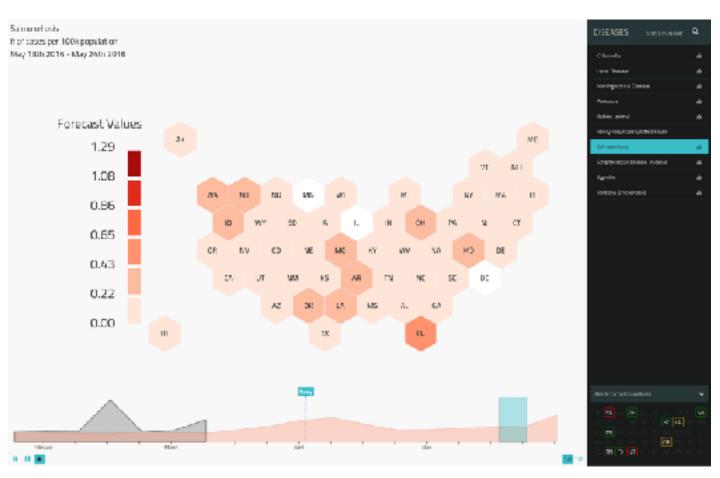
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