

Forum: ECOSOC

Issue: Promoting regional cooperation for enhanced energy security and the sustainable use of energy in Asia and the Pacific

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Introduction

Energy access is arguably one of the cornerstone factors of economic development and wellbeing. Being crucial for the access to clean water, lighting, cooking, heating, telecommunications, transport, health and many other, energy is an imperative for the fulfilling of basic needs.

In order to achieve a successful promotion of energy access, there are five necessary elements:

- i. selecting appropriate technology
- ii. promoting community participation
- iii. emphasising maintenance and service
- iv. coupling service with incomes
- v. building local capacity

Universal access to modern, reliable, affordable and sustainable energy services is the object of Sustainable Development Goal 7 of the 2030 Agenda for Sustainable Development¹. Moreover, in 2014, the problem was tackled during G20 Leaders' Summit, where the G20 Principles on Energy Collaboration was developed and the Energy Access Action Plan: Voluntary Collaboration on Energy Access was adopted.

In the Asia Pacific region, the highest rates of energy poverty are registered in the subregions of Southeast Asia, South Asia, and in the Pacific Island Countries. Most people without energy access are located in areas with difficult geographic conditions (e.g. rural, remote and islands). The countries in the region with the lowest electricity access are Bangladesh, India, Indonesia, Pakistan, and Myanmar.

This issue requires a high degree of cooperation between both regional and foreign actors to promote technological solutions, develop sustainable business models and increase financing and investment in the domain. Most countries are willing to take the necessary steps, as they signed Nationally Determined Contributions ahead of COP21 which reveal their determination to implement renewable energy and improve

¹ <https://sdgs.un.org/goals/goal7>

access. The signatory countries of the Nationally Determined Contributions ahead of COP21 are: Brunei Darussalam, Solomon Islands, Argentina, Austria, European Union, Rwanda, Uruguay, Benin, Philippines, Ecuador.

The Asia-Pacific region records investment gaps for energy access. Globally, around USD 50 billion in annual investment is estimated to be required up to 2030 to ensure universal access to energy, compared to current investments of approximately USD 13 billion a year. The vast majority of this amount is required for the development of electricity generation, distribution, and infrastructure.

Half of the population in Asia and the Pacific – just under 2 billion people – relies on traditional biomass, coal and kerosene for cooking and heating. Reducing indoor air pollution and improving the health of rural residents are among the main objectives of clean cooking programmes in many countries. With the exception of several countries that have a strong institutional focus on access to clean cooking and fuels, difficulties persist in bringing these technologies – such as liquefied petroleum gas (LPG), biogas, electricity, advanced biomass cook stoves and solar cooking – to consumers in the region.

Underinvestment in the sector will likely cause Asia and the Pacific to fall short of the target for universal access to clean cooking by 2030 set out in the United Nations' Sustainable Development Goal 7.

Term Definitions

Energy access

Although the access to energy has clear definition in the status-quo, across definitions are significant commonalities, including:

- Household access to a minimum level of electricity.
- Household access to safer and more sustainable (i.e. minimum harmful effects on health and the environment as possible) cooking and heating fuels and stoves.
- Access to modern energy that enables productive economic activity, e.g. mechanical power for agriculture, textile and other industries.
- Access to modern energy for public services, e.g. electricity for health facilities, schools and street lighting.

Energy poverty

As defined by the European Commission, energy poverty is a situation in which households are unable to access essential energy services and products.

Energy Ladder

It is a graph developed by the World Health Organisation to show the dominant sources of household energy at different levels of income.

Strategic autonomy

Strategic autonomy refers to the capacity of a certain entity to act autonomously – that is, without being dependent on other countries – in strategically important policy areas.

Capacity-Building

Capacity-building is defined as the process of developing and strengthening the skills, instincts, abilities, processes and resources that organisations and communities need to survive, adapt, and thrive in a fast-changing world. An essential ingredient in capacity-building is transformation that is generated and sustained over time from

within; transformation of this kind goes beyond performing tasks to changing mindsets and attitudes.

Background Information

Political context

As previously mentioned, the sustainable use of energy and the energy security are goals that cannot be achieved in the absence of international collaboration. Domestic resources alone will not be sufficient to solve the financial gap. Therefore, the diplomatic tension between the states in the Asia Pacific is one of the biggest obstacles. In order to solve the issue, state representatives are highly encouraged to find joint solutions and overcome historic rivalries. An example of an agency that created a favourable space for collaboration between the states in the Asia Pacific region is The International Trade Union Confederation - Asia Pacific².

Apart from the projects that should be elaborated among states, there are international organisations that can be involved as well. Examples of such entities are: International Energy Agency³, World Energy Council⁴, International Energy Foundation⁵ and many others.

In the 2014 G20 Principles on Energy Collaboration political leaders agreed to “Work together to make international energy agencies more representative and inclusive of emerging and developing countries.” Although countries in Asia and the Pacific have made significant progress in connecting their populations – the region is home to three-quarters of the 570 million people worldwide who gained electricity access between 2011 and 2017 – an estimated 350 million people still lack access across developing Asia.

Moreover, harnessing the knowledge of international and regional agencies and organisations in support of the challenges and needs of emerging and developing countries will be crucial in eliminating energy poverty, securing energy supplies to meet demand.

² The International Trade Union Confederation - Asia Pacific's official site <https://www.ituc-ap.org/>

³ The International Energy Agency's official site <https://www.iea.org/>

⁴ World Energy Council's official site <https://www.worldenergy.org/>

⁵ The International Energy Foundation's official site <https://www.devex.com/organizations/ief-international-energy-foundation-48716>

Some of the barriers in achieving high and sustainable energy access are:

- The lack dedicated agencies to promote energy efficiency at national and sub-national levels.
- High cost of imported energy technologies.
- High Energy tariffs
- Geographic challenges (e.g. rural, remote and islands)
- Gaps in investment for energy access
- The lack of appropriate domestic policy, legal and regulatory environment

Historically and increasingly, countries have sought to take advantage of their natural resources. Some countries are already net exporters of electricity (Bhutan, India and the Islamic Republic of Iran), while others are net importers (Pakistan, Bangladesh, Turkey and Nepal). By deepening regional energy cooperation and advancing cross-border electricity connectivity and trade, governments are focusing on the possibilities associated with diversity, highlighting the value of complementarities, rather than focusing on the limitations derived from specific circumstances. Through regional energy/electricity trade, these diversities become strengths, allowing countries to take advantage of low-cost abundant resources across their borders, or to ensure energy security during times of domestic resource scarcity.

A concrete example of a project that brought together the regional leaders is SE4All. Twenty developing member country (DMC) governments have already opted to join the SE4All Partnership, and are committed to implementing country actions to achieve the SE4All targets under the country action process. Bangladesh and Nepal are about to complete all four steps in the process.

Outside the country action process, Bhutan, the PRC, Malaysia, Mongolia, and the Philippines are participating in the Global Energy Efficiency Accelerator Platform, which promotes public-private partnerships in energy efficiency.

Creating an enabling environment through policy actions is the most direct way for governments to realise their commitment to the SE4All Partnership. The Asia and the Pacific DMCs surveyed have shown significant progress in the last 5 years in putting

in place policy measures and programs aimed at increasing energy access, energy efficiency, and renewable energy use. They have set targets in each of these areas, and they continue to introduce and expand plans and measures for achieving the targets. The policy interventions are most comprehensive in the PRC and India, making these countries prime examples of translating commitments into policy intervention designed to promote action.

In what concerns renewable energy, investment trends in the Asia Pacific region are mixed, reflecting the changing economic circumstances and fluctuating policy conditions in the 18 countries being analysed. At the macro level, Asia accounted for 52% of new investment in the renewables sector worldwide in 2018, with the People's Republic of China (PRC), Japan and India among the top 10 destinations of renewable energy investment globally and Vietnam and Republic of Korea also ranking in the top 20.5 Renewable energy investment is driven by a range of circumstances, including a country's economic strength, the existing energy infrastructure, the policy and regulatory environment, political support and the favorability of investment conditions.

PRC, the global renewable energy leader, saw renewables investment in 2017 of USD 145.9 billion – its highest level ever – accounting for 45% of the global total. Investment in PRC subsequently dropped to USD 91.5 billion in 2018 (32% of the global total), which is attributed to a mid-year change in the country's feed-in tariff policy, to the rapidly declining capital costs of solar PV as well as to timing differences in investment decisions. Investment in solar power in PRC fell by half, from USD 89 billion in 2017 to USD 40.2 billion in 2018, while investment in wind power declined 6% to USD 50.1 billion.

As a general observation, many of these funds target larger projects and appear to struggle with pipeline development and the transaction costs associated with smaller, disaggregated projects that may be present in the renewables and energy efficiency sectors. This can be a significant barrier for countries across the region that have smaller and less mature investment markets, including in the Pacific and some countries of Central Asia. There is a strong need for investment facilitation services that

allow profitable and beneficial projects to be able to qualify for these funds and thereby to accelerate the uptake of available funding.

The progress realised in the recent period

Energy access

The Asia-Pacific region has made notable progress in achieving universal access to electricity, according to the World Bank's statistics⁶. For example, energy poverty has been effectively eliminated in Central Asia and the Caucasus, with nearly 100 per cent of the population in this subregion having access to electricity. East Asia and South-East Asia are approaching universal access, with more than 98 percent of the population having access to electricity as of 2020. The most significant advances in electrification were Bangladesh and India, which saw annual access growth rates of close to 2 percentage points between 2010 and 2020. The pace of electrification was highest in Timor-Leste, Cambodia and Afghanistan, where access increased by more than 5 percentage points per year during the same period (World Bank, IEA, IRENA, UN and WHO, 2022).

However, overall regional progress in access to electricity rates masks unequal progress across certain subregions. As of 2020, of the world's top 20 countries with access deficits, four were in the Asia Pacific region: Pakistan (54 million), India (14 million), Myanmar (16 million) and the Democratic People's Republic of Korea (12 million).

Renewable energy

Clear improvements can be seen in electricity production. In East Asia and South-East Asia, for example, renewable energy capacity grew from 134 watts to 460 watts per capita from 2010 to 2020, mainly due to additions of wind and solar power. The three countries in the region showing the most growth are the Lao People's Democratic Republic, China and the Republic of Korea.

⁶Access to electricity (% of population) <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=Z4>

Cross border initiatives

Sun Cable

The Australia-Asia Power Link (AAPowerLink) is a proposed intercontinental renewable energy generation and transmission project that will supply green electricity from Australia to Singapore, through Indonesia. It includes what would, if built, be the world's largest solar farm (capacity between 36 GWh and 42 GWh), a 5,000 km-long HVDC transmission system (800 km-long overhead line to Darwin and 4,200 km undersea cable system from Darwin to Singapore), and the largest battery storage facility to deliver zero carbon electricity from Australia to Singapore.

The Sun Cable project requires an estimated investment of A\$ 30 billion (US\$ 22.54billion). This investment is expected to be made by regional actors and international organisations such as but not limited to GCF, the GEF, the Global Climate Partnership Fund and the Global Green Growth Initiative, the PRC and many others.

Anticipating financial closure in late 2023, onshore construction works are planned to start in 2024. Although facing many commercial and technical challenges related to the integration of a range of technologies and construction activities across three jurisdictions as well as a large geographical footprint, the project is planned to reach full capacity in 2028 (Power Technology, 2021). In addition, the project could benefit from the APG allowing Australia to export electricity to a wider part of South-East Asia.

SE4All

The Sustainable Energy for All (SE4All) initiative was launched in 2011 by the United Nations (UN) Secretary General to achieve three interlinked targets by 2030:

- (i) universal access to modern energy services;
- (ii) a twofold increase in the global rate of improvement in energy efficiency;
- (iii) a doubling of the share of renewable energy in the global energy mix.

There has been progress toward universal energy access, although the access deficit continues to be a concern. In 2012, all members increased their electrification

rates and 16 economies reached 100% electrification, but about 426 million people had no access to electricity. As for modern cooking and heating solutions, in 2012, only four economies relied fully on nonsolid fuels. Despite progress in most economies, an estimated 2 billion still depended on solid fuels, which could cause serious health problems from indoor air pollution.

High-impact countries in Asia and the Pacific—those that contribute significantly to energy demand in the region and the world—have become more energy efficient and have produced energy savings. Overall, energy intensity declined by 2.4% between 1990 and 2010. The target is to accelerate the decline by 4.8% per year, on average, from 2010 to 2030.

The aggregate share of renewable energy in final energy demand for Asia and the Pacific stood at 24% in 2012, about the same as in 2010 but lower than the 36% estimate in 1990.

A 48% share is targeted for 2030. The significant reliance on traditional biomass—17% of total final energy consumption in 2012—is considered unsustainable. On the other hand, that share has been decreasing since 1990, relative to other renewable energy sources, implying that economies have been making progress toward using energy from more modern and cleaner sources. In particular, there has been an exponential increase recently in the contribution of solar and wind energy to electricity generation. This is a welcome development that inspires optimism about the performance of the region in the coming years.

Countries and Organisations Involved

China

China is the second-largest economy in the world yet it faces serious energy security challenges due to the country's reliance on coal, a fuel with multiple environmental and social problems. Moreover, since 2017 China has become the world's largest crude oil importer, greatly increasing its reliance on imported energy.

China alone contributed more than 54 per cent of the global annual increase in renewable electricity generation. Half of China's growth came from wind and solar PV, while more than 40 per cent came from hydropower. China was also responsible for the largest increase in non-renewable electricity consumption, followed by India, hinting at the challenge that countries face as they try to simultaneously increase the deployment of renewable energy and meet rising demand (World Bank, IEA, IRENA, UN and WHO, 2022).

In June 2022, China released the 14th Five-Year Plan (FYP) on Renewable Energy Development (2021–2025), a comprehensive blueprint for further accelerating China's renewable energy (RE) expansion. The plan targets a 50 percent increase in renewable energy generation, establishes a 2025 renewable electricity consumption share of 33 percent, and directs that 50 percent of China's incremental electricity and energy consumption shall come from renewables over the period 2021–2025. Achieving the targets in the plan will reduce up to 2.6 gigatons of carbon emissions annually (equivalent to almost one-fourth of China's total carbon emissions in 2020).

India

India's energy security is vulnerable to regional and global events, (which are more concerning as the Russia-Ukraine conflict set a precedent in this regard) because it relies on external sources. India's oil dependency on conventional sources of energy is substantial, Oil (80%), Coal (10-20%), Liquefied Natural gas (55%) which reflects the need of at least strategic autonomy in energy security.

They have adopted the four-plank energy security strategy which revolves around:

1. Diversifying Sources of Supplies,
2. A Renewed Focus on Finding and Producing More Oil and Gas Domestically,
3. Switching To Alternate Energy Sources and
4. Using Gas and green hydrogen as a pathway to the energy transition

Indonesia

Energy use in Indonesia has been long dominated by fossil resources. Once a major oil exporter in the world and joined OPEC in 1962, the country has since become a net oil importer despite still joining OPEC until 2016, making it the only net oil importer member in the organisation.

Indonesia is also the fourth-largest coal producer and one of the biggest coal exporters in the world, with 24,910 million tons of proven coal reserves as of 2016, making it the 11th country with the most coal reserves in the world. In addition, Indonesia has abundant renewable energy potential, reaching almost 417,8 gigawatt (GW) which consists of solar, wind, hydro, geothermal energy, ocean current, and bioenergy, although only 2,5% have been utilised. Furthermore, Indonesia along with Malaysia, have two-thirds of ASEAN's gas reserves with total annual gas production of more than 200 billion cubic metres in 2016.

In recent years, Indonesia has made a shift towards using more renewable energy. Although coal is still the biggest energy source for electric power plants at 56% of the total, the government has been putting greater emphasis on clean coal technology to reduce emissions from fossil-fuel powered plants. The power industry in Indonesia experienced a 5.5% annual growth in 2021, and according to the Ministry of Energy and Mineral Resources(MEMR) the electrification rate in Indonesia reached 99.45%. The East Nusa Tenggara and Maluku regions had the lowest electrification ratios, with 88% and 92.4% respectively according to MEMR data.

Timeline of Events

- 2011** The UN resolution tackling the topic of: Promoting regional cooperation for enhanced energy security and the sustainable use of energy in Asia and the Pacific
- 2015** The Sustainable Development Goal 7 (SDG 7 or Global Goal 7) was created by the United Nations General Assembly
- 2015** The Energy Access Action Plan was elaborated
- 2016** The SE4All initiative was created
- 2018** The Sun Cable initiative was created

Relevant Treaties/Resolutions

RES 2011/214

Resolution titled: Promoting regional cooperation for enhanced energy security and the sustainable use of energy in Asia and the Pacific⁷

Through this resolution, the ECOSOC committee recognises the need for action in what concerns the energy situation in Asia Pacific and calls upon the relevant actors to take the necessary steps in order to improve the status-quo, through measures such as but not limited to:

- To collaborate effectively with development partners in order to mobilise financial and technical support to promote regional cooperation for enhanced energy security.
- To assist members and associate members in meeting their energy security challenges through: (i) the collaborative development of energy security scenarios; and (ii) the organisation of meetings and regional networking arrangements aimed at promoting the exchange of experiences and information;
- To ensure effective coordination with other United Nations bodies and agencies, in particular through UN-Energy, and with multilateral agencies and subregional organisations in working towards enhancing the capacity of States members of the Commission;

Sustainable Development Goal 7 (SDG 7)

Ensuring access to affordable, universal, reliable, sustainable and modern energy for all – provides a clear target for energy sector development across three dimensions of access to electricity, renewable energy resources and energy efficiency.

Energy Access Action Plan: Voluntary Collaboration on Energy Access

Within the framework of the G20 Principles on Energy Collaboration agreed at the Brisbane Summit, G20 Leaders committed to work together to “ensure access to affordable and reliable energy for all”, recognising that the lack of access to energy that

⁷ Resolution 2011/14: Promoting regional cooperation for enhanced energy security and the sustainable use of energy in Asia and the Pacific: <https://www.un.org/en/ecosoc/docs/2011/res%202011.14.pdf>

is affordable, reliable, viable sustainable and modern currently acts as a severe obstacle to poverty eradication, economic growth and social development and inclusion, particularly in developing countries. Under the newly agreed UN Sustainable Development Goals, energy access is a core priority, enshrined in Goal 7.

Possible Solutions

Policy and Regulatory Environment

Many countries in the Asia-Pacific region have prepared road-maps and strategies including set quantitative targets for achieving energy access with associated plans and investment pipelines to achieve these targets. Pipelines are one the most important infrastructure components in order to improve energy access. Indicators have been set at the national level such as India's target of 100% electrification in 2019, Indonesia's target to reach 100% electrification in 2020, China's goal of 40 million households adopting clean cook-stoves and fuels by 2020.

Technology Development, Dissemination, and Deployment

Asia Pacific states should work together with relevant parties such as the already mentioned NGOs and international organisations to support the development, dissemination, deployment and scale-up of innovative technologies and business models to increase affordable, reliable, viable sustainable, and modern energy access according to national circumstances and priorities.

Investment and Finance

The states in the Asia Pacific region should work with countries, financiers and other relevant stakeholders as NGOs and international organisations to develop and implement financial approaches to enhance capital flows to energy access investments across the value chain according to national circumstances and priorities.

Capacity Building

States recognize the vital importance of capacity building and undertake to actively support efforts to build the energy sector capacity necessary to underpin energy access efforts according to national circumstances and priorities.

Coordination and Collaboration

The concerned states work together with Sustainable Energy for All and other international organisations to enable the coordination and promotion of programmes

and projects which aim to increase access to affordable, reliable, viable, sustainable, and modern energy services in Asia Pacific. Participating countries undertake to ensure that their respective efforts are supportive of local ownership according to national circumstances and priorities.

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