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JATHIKA JANA BALAWEGAYA (NPP)

ENERGY POLICY
FRAMEWORK
AUGUST 15, 2024

ENERGIZING THE NATIONAL RENAISSANCE



A PEOPLE-CENTRIC
ENERGY TRANSITION



ENERGIZING THE NATIONAL RENAISSANCE

“

Sri Lanka's high energy cost puts us at a disadvantage in competing in the global market. Currently, there are estimates that the world's demand for oil will peak by 2030. There are also estimates that by 2050, up to 75% of the world's energy needs will be met by renewable energy sources. We have a very good potential for renewable energy. We have a potential for some more hydro power. We have potential for solar power. We have the capability to harness over 40 gigawatts of wind power. The future global market is going to be built on renewable energy sources including green hydrogen. We have a good potential for that. Now, we must not confine our discussion about our energy on providing electricity to our industries and consumers at a fair price. We must also think about how we can enter the global energy market, because we have a potential to reap benefits from it...”

Anura Kumara Dissanayake
June 01, 2024
National Summit of NPP Engineering Professionals

A PEOPLE-CENTRIC ENERGY TRANSITION

PANELISTS

Visionary Leadership of NPP

Mr. Anura Kumara Dissanayake

Keynote: A People-centric Energy Transition

Prof. Udayanga Hemapala

Presentation: NPP Energy Policy Framework

Eng. Pubudu Niroshan Hedigallage

Critical shortcomings of the electricity sector, corrective actions required, and strategies for the future

Dr. Tilak Siyambalapitiya

Building the infrastructure to introduce alternative energy sources to the country

Dr. Thushara Rathnayaka

A New Dawn: Energy Trading and Sri Lanka's Economic Renaissance

Dr. Mayura Neththikumarage

Moderator

Mr. Imran Furkan

August 15, 2024

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IN SEARCH OF A LOST CENTURY

BRINGING THE RENAISSANCE WE MISSED...

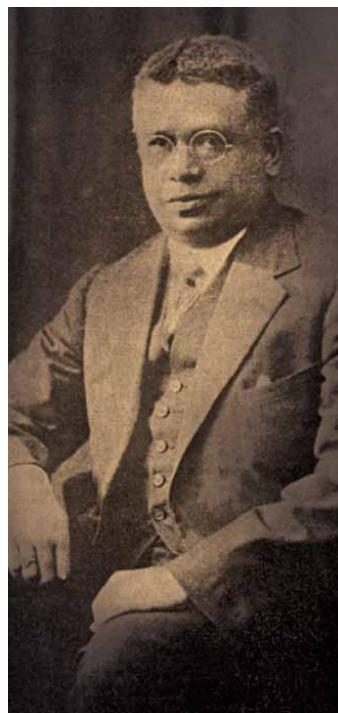
Sri Lanka cultivated a world-class citizenry in the 20th century despite imperial oppression. However, colonial powers and their local descendants hindered true freedom for Sri Lankans, suppressing ideas that could have fostered a nation of backbone and dignity. Exactly a century after the Laxapana scheme was inaugurated by Eng. D. J. Wimalasurendra, the people are finally ready to bring the renaissance we missed in the last century, with the leadership of the National People's Power.

“

The anticipated gigantic business renewal after the war by all nations will no doubt place prohibitive prices on all forms of fuel and countries like ours, depending on imported fuel, will no doubt have to pay much more enhanced prices for perhaps the limited supplies that will be made available to us.

The provision of cheap power, however, is as great a need in Ceylon, as in other parts of the civilized world. “It ranks only second in importance to cheap food, with which modern conditions have indissolubly associated it.” The industrial development of this country has been seriously hampered by the want of cheap power...

The development and utilization therefore of the thousands of horse power now running to waste daily in this country is a national requirement of immense importance and should be dealt with now, when in the industrial lull caused by the great war, every country, is taking stock of its economic position...



Eng. D. J. Wimalasurendra
April 4, 1918
‘Economics of Power Utilization in Ceylon’

EQUITABLE AND SUSTAINABLE ENERGY SYSTEM FOR OUR PRESENT AND FUTURE GENERATIONS

The global energy sector is in the midst of a transformative era, driven by sustainability and innovation. With evolving consumption patterns and regulatory frameworks, the shift toward cleaner energy sources is accelerating. Electricity generation from solar and wind energy, along with advanced energy storage solutions, is growing rapidly, accelerated by global commitments to reduce greenhouse gas emissions and the falling costs of these technologies. Additionally, low emission technologies such as green hydrogen and small modular reactor technologies are gaining significant traction. Decreasing costs of battery production are catalysing the electrification of the global transportation sector. Electrification of all forms of energy consumption is seen as a vital strategy to achieve net-zero emission targets. In response to these trends, there is an urgent need to rapidly transform the electricity grid into a smart grid.

Fossil fuels continue to play a significant role in meeting global energy demands. There is an ongoing, profound discussion about minimising the environmental impact of fossil fuel usage. Maintaining a strategic energy mix is crucial to navigating disruptions owing to geopolitical constraints. Natural gas, viewed as a cleaner and transitional energy source, plays a key role in the shift toward renewable energy. International investments in Liquefied Natural Gas (LNG) and the exploration of new natural gas reserves are expanding, in response to its importance in the global energy landscape.





Amidst these global trends, Sri Lanka remains burdened with some of the highest electricity prices in the region. To emerge from the economic abyss caused by decades of mismanagement, the country must transition to a manufacturing economy. However, high electricity prices pose a significant obstacle. The primary reason for the elevated electricity prices is the heavy reliance on oil-based generation. Previous regimes, rather than making timely investments in low-cost energy sources, repeatedly opted for short-term fixes by contracting oil-based power stations.

We present the policy and action plan of the National People's Power, which prioritises transitioning to an energy mix that is the least dependent on oil-based electricity generation, with a significant increase in renewable energy to foster a green economy. This policy includes strategies to revive and enhance the ailing refinery, national storage and distribution infrastructure for oil, ensuring an undisrupted energy supply. While addressing these challenges, Sri Lanka's energy sector will be transformed into a competitive and transparent industry, equipped with modern technology and focused on customer empowerment. This comprehensive policy and action plan aim to drive Sri Lanka towards socio-economic progress and expand its share in the global economy, while safeguarding the environment for future generations.

POLICY FRAMEWORK FUNDAMENTAL PRINCIPLES

Essential National Service

Providing a continuous, reliable, and convenient supply of clean and quality sources of energy at a reasonable and affordable price to the public, industries and commercial entities is a national responsibility crucial to uplift the quality of life of the society and achieve economic prosperity of the nation.

Sustainable Future

By committing to clean and sustainable energy sources, impacts of energy production on the environment will be minimised and the ability of future generations to meet their energy needs will be preserved.

Secure Supply

Proactive mechanisms will be established to assure the continuity of energy supply in the event of any social, economic, financial, geo-political, or technological transition, instability, or conflict.

Source of Foreign Income

Future energy supply and demand will be managed in the most economical and efficient ways. By establishing mechanisms to win opportunities in the international energy market to strengthen the national economy, the current energy economy associated with large foreign expenses will be transformed into a source of foreign income.

STRATEGIC ACTION PLAN

AFFORDABLE & SECURE CLEANER ENERGY SUPPLY

1. Electricity prices will be gradually lowered toward the lowest in the region within five years by implementing competitive procurement practices, prioritising solar and wind energy projects with the goal of reducing dependence on oil-based generation.
2. Existing electricity tariff methodology and the pricing formulae for LPG and oil will be revised, establishing a fairer and fully transparent price revision mechanism. The tax structure will be simplified to avoid tax pyramiding to ensure clarity for consumers.

Current electricity tariff methodology does not adequately take into account the burden of each customer category on the total cost of electricity. New load-research data will be used to update the customer classification, their true cost leading to equitable cost reflective tariff.



- 3.** A rapid national program will be launched to add 2,000 MW of solar PV capacity within the next five (5) years, as a strategic measure to avert the impending energy crisis in the near future.
- 4.** Rooftop solar PV and behind-the-meter battery energy storage systems will be promoted by introducing new business models and tariff structures, aiming to reduce the overall cost of electricity generation.
- 5.** It will be ensured that the benefits of solar power will reach all customers by promoting connected microgrids based on smart grid concepts run by community energy cooperatives and aggregators. This smart grid infrastructure will be utilised to enable greater absorption of renewable energy to the grid.
- 6.** Wind energy is a natural resource Sri Lanka is blessed with owing to its location. It will be ensured that the benefits of wind energy will be fairly distributed to the people of Sri Lanka by implementing competitive procurement practices for wind energy projects.
- 7.** Feasibility studies on pumped hydro storage, battery energy storage systems and hybrid systems will be expeditiously completed, to enhance the absorption of renewable energy. New business models will be developed and implemented to attract investments in these projects and technologies.

Sri Lanka is blessed with 10-12 hours of sunlight 365 days a year. With solar panel prices going down, Solar is a viable energy source for Sri Lanka. In order to make use of clean solar power at night, energy storage must be utilised. Battery and other energy storage methods make solar power expensive. However, smart technologies can be utilised to bring out the best value of energy storage methods. Promoting customer-owned batteries with smart grid technologies is one of the quickest ways to create the opportunity for the public to invest in this mandatory asset.

8. Many of the early power purchase agreements of mini hydropower and other renewable energy plants are reaching their end of term over the coming years. A mechanism will be established to renew these agreements, striking a balance between ensuring the benefits flow to public to whom the natural resources belong and protecting the capital invested by the project developer by ensuring a fair operating fee.

A National Green Energy Fund will be initiated with creative financial instruments to fund the green energy projects, especially the small scale ones.

9. With the support of relevant ministries, a national programme will be launched to provide electricity supply schemes incorporating self-generation and energy conservation programs for government hospitals, schools and religious premises to minimise their dependence on subsidies provided through public taxes.

10. Sri Lanka's commitment to achieving the 2050 Net Zero Emission Targets will be further strengthened. The nation's honour on the international stage will be reinstated by updating the inadequate short-term commitments made by previous regimes, with the support of both local and expatriate Sri Lankan scientific communities.

11. LNG is recognized as a clean energy source that can aid the transition to a renewable energy future. The importation of LNG will be facilitated through a competitively procured terminal and fuel sources to supply 1,500 MW of existing thermal power plants that are capable of being switched to LNG.

12. A systematic survey will be conducted to update outdated data on the production and use of biomass energy, which is an important renewable energy source used for industries and households. Availability of biomass will be enhanced by setting up planned plantation projects, establishing commercial production of biomass, and biomass fuel products, while promoting efficient, safe and cleaner equipment for utilisation of biomass.

Preserving the forest cover is part of NPP's commitment to protect the environment for the future generations. It is a sensitive aspect for the country's energy supply as well.

- 13.** Steps will be taken to increase the forest cover across all hydropower catchment areas after conducting scientific and economic studies to identify the potential, impacts and feasibility.
- 14.** The transport sector, currently reliant on fossil fuels, will be systematically transitioned to electric mobility, based on clean and green energy. To achieve this, the national transportation plan, national electric mobility plan, and the renewable energy development plan will be integrated. A national e-mobility secretariat will be established to develop a national EV charging network, hub-and-spoke smart city transportation networks, and other infrastructure, along with tax incentive schemes.

Transitioning to electric mobility is crucial as it stands as one of the main strategies against climate change, offering the most efficient use of energy. By leveraging clean and local energy sources, Sri Lanka can reduce reliance on imported fossil fuel, thus saving valuable foreign exchange. To avoid the need for EVs with large battery capacities and to boost public confidence, a widespread, accessible, and affordable EV charging network is essential. While the national economy will be elevated to allow any person to own a personal vehicle if they wish to, government will intervene to enhance public transportation, ensuring economical and efficient mobility, which is vital for developing a manufacturing economy. Priority will be given to electrifying public transportation with the support of international agencies and allies.

- 15.** Customers, including low income households and small and medium enterprises, whose electricity supply remains disconnected due to non-payment of exorbitant bills unjustly imposed over 2022–2024 will be reconnected, with remaining dues charged on a fair instalment plan. Additionally, fees for new connections to small households will also have the option of an instalment plan to expand access to electricity.
- 16.** The hydropower plants, renewable energy plants, the coal power plant, and all other major power plants currently owned by the state will remain under state ownership, while private investments on power generation will be protected and enhanced.
- 17.** The power transmission network, the system control centre, and bulk power purchase and dispatch functions will continue to be operated under state ownership with regular audits. The system control centre will be upgraded with modern tools for renewable energy forecasting to enhance the efficacy of system control functions, ensuring greater penetration of renewable energy.
- 18.** Review of feasibility studies for modernising the existing refinery or building a new refinery, will be expedited. These studies will adopt a holistic, integrated approach, focusing on using refinery by-products to fuel the manufacturing economy and training a competent workforce for the international market.
- 19.** All existing agreements regarding the Trincomalee oil tank farm will be revisited. The 24 tanks owned by CPC and the 61 tanks owned by the joint venture company will be promptly integrated into the economy through new business models to maximise their utility.
- 20.** By modernising the storage network and utilising rail transport, a continuous supply of fuel will be guaranteed, even during crises or periods caused by weather or geopolitical turbulence.
- 21.** The dilapidated pipeline between Colombo Port and the Kolonnawa terminal will be upgraded to a system capable of loading and unloading various petroleum products. This upgrade will be funded by an investment from CPSTL.

SMART & SENSIBLE PEOPLE-CENTRIC ENERGY

The modern energy systems have evolved from a unidirectional flow (from the source to the consumer), into a bidirectional flow between the utilities and the prosumer. The role of the utility of maintaining a reliable energy system is being increasingly shared with the prosumers through demand response mechanisms. All this is made possible by a digital transformation in the energy system. Digital transformation is in the core strategy of the NPP government in reviving the economy. Such digital tools will enable the citizens to take an active role in participating in the new energy economy.

22. The energy sector will be transformed into a consumer-centric and democratic system by empowering consumers to become educated and active participants.

23. The smart grid will be leveraged to enable customers to provide demand response and flexibility services to the grid, ensuring they receive fair compensation for their contributions to manage the grid.

24. The necessary restructuring of the electricity and petroleum sectors will be conducted methodically, following comprehensive stakeholder consultations and evidence-based reform strategies. Additionally, legislation will be passed to bring the domestic petroleum market under the purview of the Public Utilities Commission of Sri Lanka (PUCSL).

The recently passed Sri Lanka Electricity Act was not drafted with adequate participation of the stakeholders.

There were many attempts by different groups to proactively steer the course of this disastrous act towards a more progressive one, but the current government drafted the bill behind closed doors. New legislation of electricity will be passed with proper stakeholder consultation.

- 25.** The power distribution licensees will be restructured into entities with enhanced customer service and engagement. These reforms will be implemented following thorough stakeholder consultations, customer engagement and expert advice.
- 26.** Actions to minimise technical losses and inefficiencies in institutional management of power systems will be enforced via the PUCSL. A mechanism to compensate customers for loss of service will be instituted using industry accepted indices in the long run.
- 27.** A mechanism will be established to communicate with electricity customers via all national mobile service providers as an additional tool to provide customer services, inform emergency breakdowns, and enable customer participation in demand response actions to help manage the grid during emergency situations.

Digital transformation in procurement and e-governance is crucial for enhancing efficiency, transparency, and accountability in government operations. By adopting digital procurement processes, governments can streamline purchasing, reduce costs, and minimize the risk of corruption through better oversight and traceability. However, corrupt governments often slow down digital transformation efforts because these technologies make it more difficult to engage in corrupt practices. E-governance improves public service delivery by making government services more accessible and user-friendly for citizens, facilitating faster decision-making, improved data management, and enhanced communication between various government departments. Ultimately, digital transformation in these areas fosters greater trust in public institutions, promotes economic growth, and supports the development of a more inclusive and responsive governance framework.

- 28.** A secure digital platform will be established to implement a transparent, efficient and competitive tendering and procurement system for the electricity and petroleum sector.
- 29.** A digital platform integrated with the local banking system will be established to capture all energy transactions, from fuel importation and power generation to end-user bill payments. This platform will be used to implement targeted incentive programs for the industrial and commercial sectors, ensure timely payments to suppliers, and provide social safeguards for vulnerable customers.
- 30.** A digital platform for land management dedicated to energy projects will be established, integrating all relevant ministries. The purpose of this platform is to inform investors about available land and facilitate swift and transparent land acquisition for energy projects.
- 31.** An incentive mechanism will be introduced to conduct energy audits to enhance the energy conversion efficiency in power generation and industrial processes.
- 32.** Energy efficiency will be promoted among the public through a national programme. A scheme to encourage consumers to participate in energy conservation efforts will be established.
- 33.** Energy audits of large-scale industrial and commercial consumers will be mandated to enhance the energy efficiency and conservation, while upgrading and enforcing minimum energy performance standards of industrial equipment, buildings and all appliances.
- 34.** Productive R&D collaborations will be promoted among national higher educational institutes and other stakeholders, such as energy utilities, regulators, and the industry, when implementing development projects in the energy sector.
- 35.** Women and youth will be attracted to the energy sector workforce and will be empowered to make a larger contribution towards the mission of transitioning to a new clean and green energy economy.

BUILDING BRIDGES TO GLOBAL ENERGY

Sri Lanka's strategic geographical location positions it as a pivotal player in the global energy trade, offering significant opportunities for economic growth and regional integration. By being part of the global energy economy, Sri Lanka can diversify its energy sources, enhance energy security, and attract international investments and advanced technologies to develop its renewable energy sector. As an energy transit hub along major shipping routes, Sri Lanka can generate substantial revenue. Additionally, participating in the global energy network fosters stronger diplomatic and economic ties with neighbouring countries and key global players, promoting regional stability and cooperation. This involvement is vital for Sri Lanka's economic development, energy security, and contribution to global sustainability efforts.

- 36.** The wind energy potential in Sri Lanka far exceeds the long-term electricity requirement of the country. To capitalise on international energy trade, both local and foreign investments in onshore and offshore wind energy projects will be facilitated.
- 37.** A state agency on green hydrogen will be established, bringing together experts from academia and industry to facilitate and attract global leaders in the sector. This agency will focus on setting up pilot projects and preparing for the technology, enabling green hydrogen to become a significant part of the economy as soon as it achieves price parity.

- 38.** As the technology of Small Modular Reactors (SMR) is rapidly advancing, it is important to prepare to adopt the technology, immediately after becoming feasible for Sri Lanka. With that aim, agreements will be signed with countries and organisations leading in the technology to develop required human resources, physical facilities, standards and regulatory frameworks.
- 39.** Facilities and funds will be provided for research and development to exploit new indigenous energy sources such as geothermal energy and wave energy.
- 40.** To fully capitalise on the commercial value of natural gas resources in Mannar and Kaveri basins, the commercialization and new exploration agreements with international partners will be expedited, ensuring transparency.
- 41.** Modern technology to forecast reservoir and fuel storage levels and risk management tools will be leveraged to ensure a continuous supply of electricity and petroleum fuels to sustain a resilient economy, with government intervention.
- 42.** Connecting to the BIMSTEC Supergrid through a cross-border transmission line will be considered, prioritising strategic national needs. This initiative will be pursued within investment and business models that deliver maximum socio-economic benefits to the country.
- 43.** A special bureau will be established to attract and facilitate public, private, and international investments in the electricity and petroleum sector, in alignment with a methodically developed Long Term Energy Supply Plan. This bureau will also be responsible for reviewing progress and managing risks associated with these investments.

Large scale energy projects need the coordination of multiple institutions and legislation. A one-stop-shop for energy investment is proposed to attract investments in a timely manner.

44. It is becoming essential to disclose and minimise emissions related to products and services when competing in sophisticated international markets. Therefore, an agency will be established to monitor and certify Green Energy usage in the energy portfolio to support local industries that export products to international markets.

45. In the global effort to achieve climate targets, a skilled and competent human resource is crucial. Sri Lanka's workforce, equipped with energy-related skills, will be seen as an opportunity to contribute to these global efforts and as a means to earn foreign income. The training divisions of the Ceylon Electricity Board and Ceylon Petroleum Corporation will be integrated with the local university system and other vocational training institutions to provide skills required for the global energy sector.

46. Environment, Sustainability, and Governance (ESG) best practices will be introduced to the energy sector to attract global investments and technology. This initiative will contribute to global efforts in achieving Net Zero Emission targets while also developing a competent human resource base, skilled in these practices.





- 47.** Barriers to local companies in the electricity and petroleum sector will be removed, and their participation and investments for non-conventional renewable energy projects will be promoted. Local companies will be encouraged to form partnerships with international companies to facilitate technology transfer and attract investments. These companies will be able to leverage the experience and qualifications gained through participation in national energy projects to compete in the international markets. They will be further supported through internal and diplomatic mechanisms.
- 48.** Sri Lanka's strategic location, the deep sea ports, oil tank farms, Kolonnawa and Muthurajawela storage and terminal facilities, and the surrounding sea will be leveraged to enter the global energy trading market.
- 49.** A statutory body will be established to advise the state on investment, trading, and future directions in global energy markets based on international data. This body will also facilitate energy trading businesses.
- 50 .** A national strategy to establish Sri Lanka as an Energy Trading Hub will be prepared and implemented.



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