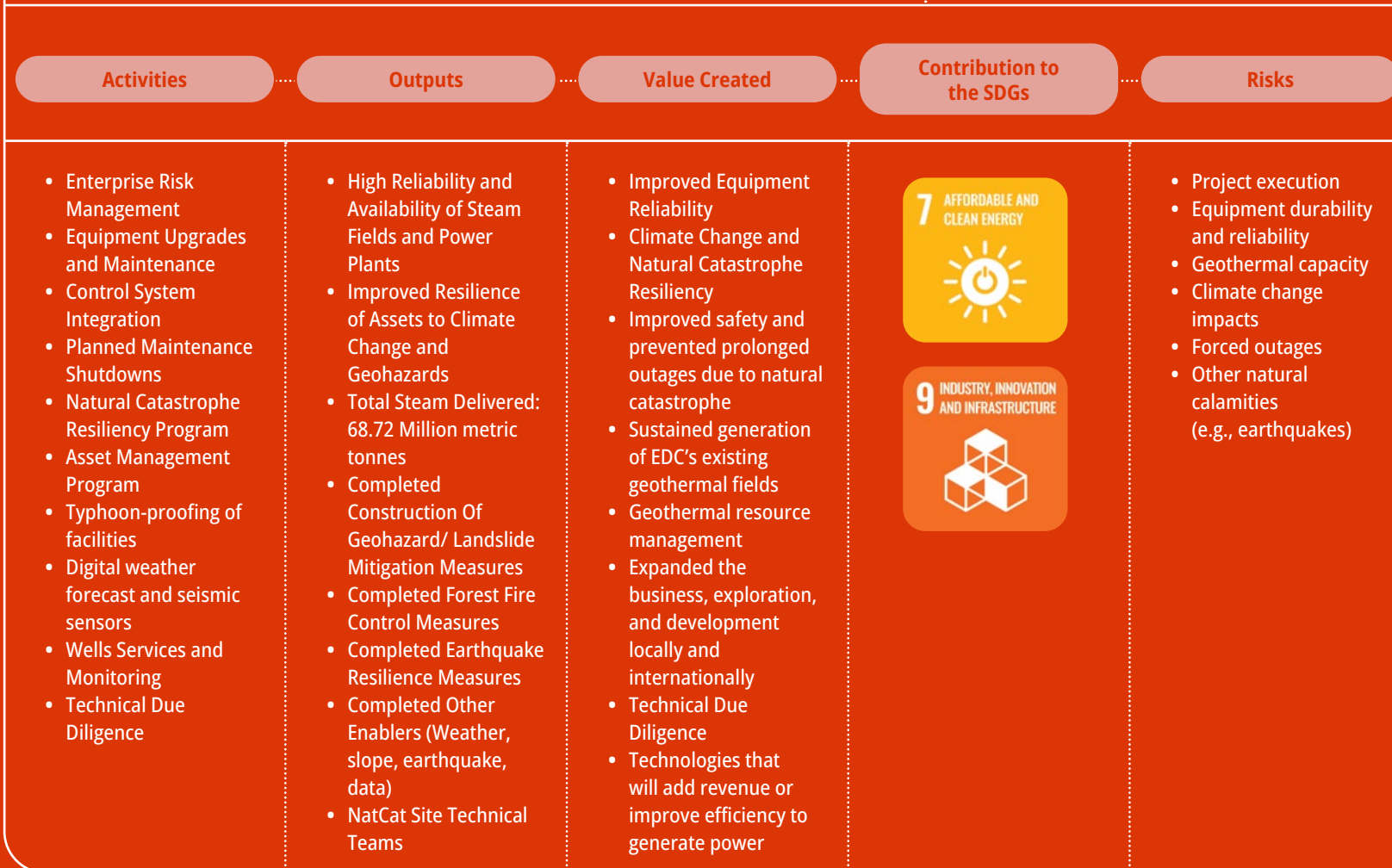


MANUFACTURED CAPITAL

ELEVATING OUR VALUE

EDC recognizes the importance of our manufactured capital, which encompasses the infrastructure, equipment, and technologies required for our operations. To generate renewable energy effectively and reduce our environmental impact, we employ advanced technologies in our geothermal facilities. Moreover, we regularly invest in maintaining and upgrading our facilities to ensure their reliability, safety, and compliance with regulations. We reduce our operational costs and carbon footprint by implementing energy efficiency measures. By prioritizing our manufactured capital, we deliver sustainable energy solutions to our customers while creating long-term value for our stakeholders.





28 YEARS AND COUNTING: MY JOURNEY AS HEAD OF RESOURCE MANAGEMENT AT EDC

*Eugene T. Aleman, Resource Management
Operations - Production Optimization*

I am proud to have been part of the company for over 28 years. Over the years, I have witnessed how the company has become the country's largest geothermal energy producer and world's largest vertically integrated geothermal company.

It has been an incredible journey that started when the company was still known as the Philippine National Oil Company – Energy Development Corporation (PNOC-EDC), a government-owned and controlled corporation.

My current position usually starts with checking updates from the previous day through SMS, chats, and emails before attending virtual meetings and coordinating with teammates and relevant personnel. Site visits to BacMan are also part of my schedule, and I always stay on top of issues needing immediate attention.

I choose to work at EDC because of its noble intentions, world-class operations, and commitment to caring for its employees. It is a company that every employee should be proud of, and I plan to stay with it until I eventually retire.

Being regenerative is about elevating and impacting positively on people, the environment, and the community. It's not just about restoration or rejuvenation but something more sublime. A good example is engaging in creative activities that make a positive difference.

As EDC employees, we take pride in our company's promotion: to forge collaborative pathways for a decarbonized and regenerative future. Our mission requires everyone to be regenerative in everything we do. It's a call and challenge to everyone in the company to adopt this mindset, and if we all do our share, we can become fully regenerative.

We continue to dominate the country's renewable power industry with its wide-ranging facilities across the nation, providing a total installed capacity of 1,484.09 MW. We are maintaining ten geothermal contract areas, four of which are operational for commercial purposes. These sites are situated in various locations, including Leyte, Negros Oriental, Albay, and Sorsogon, as well as Mt. Apo-Cotabato, Nueva Ecija for FG Hydro, Burgos Wind Energy, and solar in Ilocos Norte. We have also installed solar rooftops through EDC Siklab Power Corporation in Gaisano malls in Iloilo, Aklan, Leyte, and Sorsogon. We provide a reliable source of electricity to electric cooperatives (ECs) and distribution utilities (DUs) and cater to commercial and industrial customers.

Our dedication to creating value for our stakeholders and ensuring business sustainability is reflected in our flexible contract terms, value-added services, and guidance in transitioning to renewable energy. We regularly evaluate our performance in delivering power to our customers to strengthen and improve our services, ultimately promoting customer satisfaction and retention. We also prioritize local employment in the areas of our operation and provide job security to our employees while benchmarking our compensation packages against industry averages. We also contribute to local economies by collaborating with community organizations and cooperatives to build their capacity for economic participation and working with locally-based suppliers.



OPERATIONAL HIGHLIGHTS AND STRATEGIES

EDC increased its geothermal capacity in local and international projects by optimizing its geothermal reservoirs. We prioritized the efficient operation and development of our assets in the short-term and greenfield projects in the long term through these strategic activities:

1. Geophysical/geochemical surveys
2. Well utilization strategy
3. Smart instrumentation
4. Installations and automation (calcite/silica inhibition)
5. Regular well surveys (CIC, DHV, etc.)
6. More optimized well and field surveillance
7. Use of Corrosion Resistant Alloy pipes for acidic resource
8. Non-rig workover alternatives (e.g., broaching, CTU, BHAC, online dissolution, offline dissolution)
9. Strategic partnerships/joint venture (Technical Due Diligence)

7,481_{GW_H}

GENERATED TOTAL ENERGY 1.7 M
TONNES OF CARBON SEQUESTERED



	Burgos Wind			Burgos Solar			Solar Rooftop		
	2020	2021	2022	2020	2021	2022	2020	2021	2022

Actual Energy Generation (GWh)	367.0	414.8	310.4	10.2	8.4	10.2	5.6	5.2	5.2
Net Capacity Factor (%)	27.9	31.7	23.7	17	17.8	17.1	12.3	11.5	13.7
Availability (%)	97.9*	96.8*	97.5*	PR**=74.9	PR**=74.5	PR**=71.9	N/A	PR**=73.6	PR**=73.6
Reliability (%)	99.9	99.9	99.9	98.5	98.8	97.4	N/A	99.2	99.3
Planned Outage (in hours)	28.8	32.8	34.3	0.0	0.0	33.6	0.0	66.5	0.0
Unplanned Outage (in hours)	13.4	5	6.2	362.8	194.3	459.5	567.7	618.9	530.1

WIND AND SOLAR OPERATIONAL HIGHLIGHTS



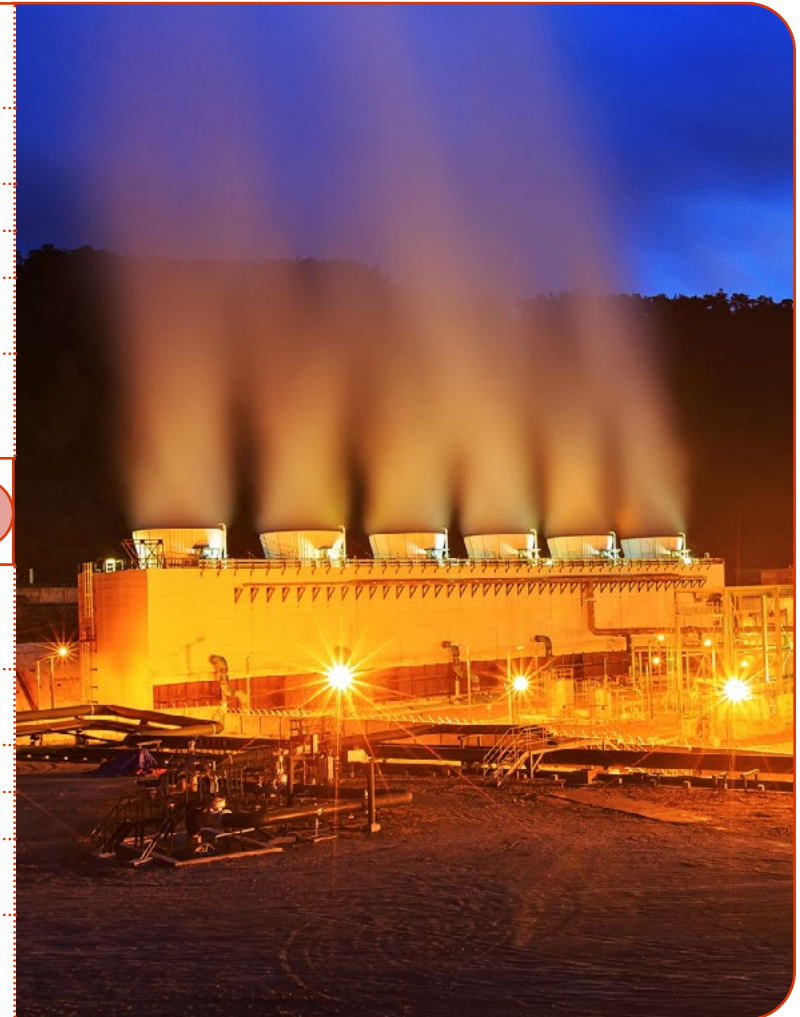
* Energy-based availability

**Performance ratio (PR). Ratio of measured output to expected output for a given period and based on the system name-plate rating.

GEOTHERMAL OPERATIONAL HIGHLIGHTS

	Bacman			Unified Leyte			Tongonan		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Actual Energy Generation (GWh)	1,025.1	1,019.98	1,042.2	3,389.8	2,951.02	2,928.24	929.9	941.50	901.71
Net Capacity Factor (%)	87.6	87.1	87.78	67.6	58.2	57.76	93.8	93.7	88.37
Availability (%)	95.7	94.3	94.13	93.4	88.2	88.93	95.7	95.8	92.81
Reliability (%)	96.4	96.4	97.74	94.2	90.8	91.81	96.4	99.1	97.49
Planned Outage (in hours)	431.9	432.0	584.2	575.8	2,578.8	2,285.1	213.3	904.2	1,241.6
Unplanned Outage (in hours)	963.9	806.1	915.6	12,411.6	19,500.7	14,537.9	1,078.4	224.3	745.3

	Palinpinon			Nasulo			Mindanao		
	2020	2021	2022	2020	2020	2022	2020	2021	2022
Actual Energy Generation (GWh)	1,110.2	1,183.9	1232.1	320.9	320.9	382.5	693.8	648.2	668.6
Net Capacity Factor (%)	83.0	75.7	86.6	82.6	82.6	98.6	79.0	66.1	70.3
Availability (%)	89.6	90.8	91.3	99.8	99.8	99.7	99.5	97.6	95.3
Reliability (%)	90.3	94.4	98.2	99.8	99.8	99.7	99.5	99.6	98.5
Planned Outage (in hours)	288.6	1,934.1	2,273.8	0.0	0.0	0.0	0.0	339.9	191.9
Unplanned Outage (in hours)	3,999.3	1,270.5	2,483.1	21.5	21.5	21.7	74.5	77.2	3,533.0





We recognize the potential impacts of our facilities on our host communities and the environment. To mitigate adverse effects, we have implemented upgrading programs and retrofitting activities to regenerate our manufactured capital, and impact management measures to minimize our ecological footprint. We manage these activities through our Facilities Management System (FMS), which ensures the operational efficiency of our facilities while mitigating the risk of natural disasters and mismanagement of manufactured capital. Specifically, the Facilities Operations & Maintenance (FOM) group is responsible for managing the steam fields, whereas the Integrated Sub-Surface (ISS) group manages the operation of our wells.

To ensure that the infrastructure is optimal, we conduct an annual preventive maintenance service (PMS). The PMS is designed to achieve its objectives, and internal and external audits are conducted to assess its effectiveness. Additionally, we implement diagnostic surveys to evaluate the condition of our wells. If necessary,

we carry out workovers to repair mechanical casing damages and clear blockages through acidizing. Steam flow measurements and downhole viewer surveys are also utilized to evaluate the success of the workovers.

Risk Management Initiatives

To prevent future outages, EDC developed a Natural Catastrophe Resiliency Framework which includes measures before, during, and after disasters. These measures include identifying potential landslide areas and mitigations, installing sensors for early warning, and creating hazard maps.

In 2022, our NatCat Resiliency Program was designed with two primary objectives. Firstly, we aimed to continue implementing engineering controls, including replacing cooling towers in Leyte and retrofitting projects for buildings. These measures are essential to enhance our infrastructure and minimize the potential risks of natural catastrophes. Secondly, we invested in studies to improve our risk assessment

capabilities and identify necessary risk reduction measures, such as conducting a Building Integrity Assessment of other old power plant buildings. These studies provide valuable insights into the potential impact of natural catastrophes and allow us to implement targeted measures to improve our overall resiliency.

EDC also updates risk assessments quarterly, implements forest fire protection measures, conducts LiDAR surveys, and assesses geohazards. As a result of these efforts, EDC's risk levels for typhoons, geohazards, and forest fires are now at a medium level. EDC plans to prioritize mitigating earthquake risks by replacing cooling towers and retrofitting buildings.

Given the increasing frequency and severity of extreme weather conditions, we are committed to our resilience and preparedness. Thus, we have taken proactive measures to mitigate risks and potential damages by reinforcing our facilities to make them typhoon-proof. This includes installing thicker roofing sheets, roof

purlins, wall studs, and reinforced roll-up doors in our powerhouses. We have also constructed concrete-bunker-type buildings in our control buildings, replaced wooden materials with Fiber-Reinforced Plastic (FRP) in the cooling towers, and reinforced fan decks and stack cylinders.

EDC has also implemented guidelines and protocols to mitigate risks from the pandemic, including providing necessary equipment and hiring additional health experts. To mitigate equipment and project execution risks, EDC implemented an Asset Management System and identified asset-related risks through analysis. EDC faced challenges in steam decline and reservoir processes in geothermal operations but implemented measures such as a drilling program and a project gating process. EDC also introduced a scale-inhibition system and low-temp arc welding, reducing costs and preventing prolonged outages.



EDC'S ELECTRIC DREAMS: PILOTING EVs IN THE PHILIPPINES

Energy Development Corporation (EDC) is piloting electric vehicles (EVs) fueled by steam energy—a first in the Philippines and the Asia-Pacific region. The EVs have a designated charging station within the Tongonan Geothermal Power Plant in Kananga, Leyte.

The pilot EVs are part of EDC's transport fleet and are powered by Geo 24/7, EDC's brand of geothermal energy that has provided the Philippines with clean, low-carbon power for over 40 years. Using EVs saves costs, reduces carbon emissions, and promotes EDC's mission to forge collaborative pathways for a decarbonized and regenerative future.

The first three Rich6EV 4x2 pickup trucks are currently on the site and will be tested for six months to determine how many units should be added to EDC's rented fleet in all its facilities nationwide. EDC's partnership with Hong Equipment and Development (HEAD) Corporation, its reliable equipment and service vehicle provider for over 30 years, has made EVs a reality.

EDC plans to rent electric buses to shuttle its employees to its project sites and establish EV charging stations in its host city, starting with Ormoc City in Leyte. This move is a step further in promoting the use of renewable energy in transportation and highlights EDC's commitment to reducing its carbon footprint and promoting a sustainable future.

EDC EXPANDS GEOTHERMAL SERVICES AND FACILITIES

EDC inaugurated its 3.6 MW Mindanao 3 (M3) binary geothermal power plant in Mindanao. The binary plant is equipped with Organic Rankine cycle technology that efficiently generates electricity using the natural heat from the earth. This technology also minimizes the plant's environmental impact, making it a sustainable and eco-friendly energy source.

The M3 geothermal binary plant is expected to generate around 31,500 megawatt-hours (MWh) of clean energy annually, enough to power approximately 14,500 homes in the region. The plant will also help reduce carbon dioxide emissions by approximately 20,000 tons per year, equivalent to removing around 4,300 cars from the road.

Moreover, EDC received approval from the Energy Regulatory Commission (ERC) to develop a point-to-point power transmission line that connects its 3.6 MW power plant near Mount Apo to the Mindanao grid.

EDC's M3 binary geothermal power plant will expand its existing Mt. Apo geothermal facility with an additional supply of renewable power in Mindanao. The binary power plant will use existing brine from EDC's 103-MW Mindanao 1 and 2 geothermal power plants to generate energy without additional drilling. The brine's heat is harnessed to generate electricity for the new power plant before it is reinjected into the reservoir. The power plant was synchronized to the Mindanao grid on March

12, 2022, and passed NGCP's compliance testing on March 25.

To strengthen the US-Philippines alliance and cooperation in the energy sector, the US Department of Energy, the US Department of State, and the Philippine Department of Energy are set to establish an "energy policy dialogue" for the development of new energy cooperation, including offshore wind development and grid stability. As part of these efforts, the US Trade and Development Agency (USTDA) will collaborate with EDC to develop the feasibility study for a potential power plant project in Mindanao. This project aims to provide cheaper and cleaner electricity for consumers while diversifying the Philippines' energy mix and reducing emissions.

EDC also aims to invest over P20 billion in two geothermal projects as part of its efforts to decarbonize the country. These are the 100-MW Aya pumped-storage project in Nueva Ecija and the 20-MW Tanawon geothermal power plant in Bicol. The Aya project is expected to become the country's largest battery system supporting the grid for up to 12 hours. The Tanawon plant is part of the expansion of the Bacon-Manito (BacMan) geothermal power plant in the Bicol region.

The company is also working on the Palayan binary plant in Bicol. The project would expand the 130-MW Bacon-Manito (BacMan)

geothermal facility in Bicol. The P7-billion plant would use waste heat from the 110-MW Bacman-1 geothermal power plant to generate additional energy without additional drilling.

Additionally, the Department of Energy has awarded wind power service contracts to various companies to develop projects with a combined potential output of 30 gigawatts. As one of the recipients, EDC is set to develop the Iloilo-Guimaras Offshore Wind Power Project located in the provinces of Iloilo, Negros Occidental, and the 1 Offshore Wind Power Project in Guimaras. This project has a potential capacity of 1,000 MW. With this development, the Philippines is poised to become a major global offshore wind industry player. A report released by the Department of Energy and the World Bank indicates that the Philippines has the potential to install 21 GW of offshore wind power by 2040.

EDC plans to extend its operations by adding binary and other geothermal projects. The company intends to obtain external assurance of Scope 1, 2, and 3 GHG emissions and carbon offsets within the next 2-3 years. This will further reinforce EDC's commitment to achieving Net Zero and maintaining its progress toward this objective.

