



### Response to COVID-19: Energy Conservation and Efficiency Survey

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#### **Executive Summary**

- The COVID-19 pandemic has pushed governments across the world to enforce strict lockdown measures that have led to severe economic consequences. Global GDP in 2020 is estimated to fall by 4.4% compared to 2019, the most severe decline since 1960 – exceeding the drop of 0.1% by a large margin which followed the global financial crisis in 2009 (IMF, 2020).
- In 2020, the hit from COVID-19 tipped Southeast Asia's largest economy Indonesia into its first full-year contraction in more than 20 years as its GDP shrank by 2.19% year-toyear. The nation's economy fell into recession last year as it struggled to get its COVID-19 outbreak under control. Indonesia also recorded the highest number of COVID-19 cases and fatalities amongst the Southeast Asian countries.
- The COVID-19 crisis triggered a huge downturn in various sectors of the economy, including the energy sector. In Indonesia, from January to June 2020, electricity consumption fell -7.06% in the industrial and commercial sectors. Although residential electricity demand increased during the same time period, overall energy demand decreased, which has adversely affected facility owners and energy efficiency players.
- Energy efficiency and conservation efforts can play a crucial role in boosting Indonesia's economy and resilience. However, government support is needed to reinvigorate energy efficiency and conservation programs and stimulus plans announced thus far have not adequately addressed the sector's top priorities.



#### **Executive Summary**

- This study, produced in collaboration with the Indonesia Energy Efficiency Society (MASKEEI), aims to measure and understand how COVID-19 has impacted the business of facility owners and energy efficiency service players through a targeted survey.
- The results of the survey indicate that, in general, the pandemic has had a negative impact on the energy efficiency business ecosystem. The decline in facility managers' income has caused a delay in energy efficiency efforts, which could potentially reduce business opportunities of energy efficiency service companies (ESCOs). The survey also shows that facility managers and energy ESCOs still have a conservative view on projected business conditions in 2021 and 2022, indicating a perception of economic uncertainty, and a lack of confidence in how the pandemic will be handled in the future.
- The survey further found that the facility managers and the ESCOs agree on the urgency in improving energy efficiency and advocating it to the public and private sectors. Finally, we found that the respondents acknowledge the need for government support in accelerating energy efficiency efforts during the remainder of the pandemic and post-pandemic recovery.

### Survey Overview

Survey objective and key findings



### **Study objectives**

1. For facility managers (industrial and commercial) Identifying the impact of COVID-19 on the perceptions of energy efficiency and conservation efforts

### 2. For business managers

Understanding the impact of COVID-19 on the business landscape (demand – supply) and understanding the potential for new business opportunities in the post-pandemic business environment



### **Respondent data overview**

#### Total Respondents with Valid Answers: 16 respondents

#### **Respondent Characteristics:**





### Asset value and turnover of facility managers' companies



• The proportion of turnover value to assets varies, the smallest is 1 : 10 and the largest is 2 : 1. However, the average is 1 : 1 or 1 : 2.



### Business managers data overview



 The clients of business Managers are distributed in various sectors, 56% are engaged in factories/manufacturing, hospitality, commercial buildings and shopping centers, and office buildings; 44% are engaged in industrial estates and educational facilities; 33% in warehousing/logistics and health facilities; and 11% in the field of energy generation, energy efficiency, or others.

### Impact of COVID-19

Implications of COVID-19 on the business community



### Most facility managers feel negatively affected by the pandemic

#### **Overall Impact of Covid-19 Pandemic**



Businesses feel negatively impacted by the pandemic on a moderate degree (33%) up to a high degree (67%)

Description: there is data removed from the visualization because the answer is invalid

Businesses feel positively impacted by the pandemic on a low degree (100%)



### According to the facility managers, sales turnover is the most negatively affected aspect of the business, dropping to >50%

Decrease >50% 43% Decrease 20-50% Sales (turnover) 14% 14% 29% Decrease < 20% No changes Increase <20% Increase 20-50% Increase >50% **Operational costs** 29% 29% 29% 14% 14% 57% 14% 14% **Cashflow changes** Others 14% 57% 14% 14% 0% 20% 40% 60% 80% 100%

Business Aspects that are Impacted and the Increase and Decrease Rate in Percentage

Description of other aspects of the business:

- Emergency response costs (PPE, infrastructure, etc.) for crisis mitigation
- Health costs, such as the supply of immunity-enhancing supplements to employees



### Energy costs tend to decline, but other components of operating costs tend to rise



Operational Costs that are Impacted and the Increase or Decrease Rate in Percentage

- Maintenance and prevention costs to mitigate the transmission of Covid-19, such as spraying disinfectants in every shift, fogging all rooms, masks waste management, enforcing health protocols in all production lines, and the provision of vitamins and hand sanitizer, etc.
- Travel expenses



#### In response to the pandemic, more than 80% of facility managers operate on a limited scale with health protocols or implement work-from-home policies, but none temporarily closed offices



Short Term Responses to Covid-19



### A majority of energy efficiency projects that are still in planning stages are postponed, while most of the projects that have been running are still continued by the facility manager





### Facility managers categorize 60% of their energy efficiency projects in the low-scale category, the rest of the projects are categorized as high-scale



Project scale description:

- 1. Low: low-cost projects, e.g., improving SOPs, training employees, inspecting equipment
- 2. Medium: requires third-party services and technology customization
- 3. High: requires investment in the application of new technologies and involves third-party services



#### In contrast to the facility managers, business managers continue to carry out planned projects by making adjustments to both projects in planning and those that are already running



Description of the adjustments made:

- 1. The emergence of new projects related to improving energy efficiency and air quality of the room (equal number between the delayed/cancelled projects and new projects born out of Covid-19)
- 2. Operational activities and certifications are carried out online, with health protocols implementation
- 3. Project budget needs to be adjusted and low occupancy is observed
- 4. Continuation of the project depends on the national economic recovery
- 5. Project is postponed since funding is allocated for more urgent purposes



### Energy consumption in virtually all business managers' clients' companies has decreased significantly

#### 1. Office buildings

Average energy consumption fell by 10% to 30% because of reduced building occupancy (due to WFH and large-scale social distancing/PSBB practices).

#### 2. Hospitality

Because many hotels are closed, the energy consumption decreases drastically by 20% to 50% (energy is only used for standby, emergency, and minimal maintenance operations purposes).

### "PLN electricity bill went down from an average of IDR 60-70 million/month, to IDR 21-25 million/month."

- Business player in energy efficiency in Bali



#### Project implementation by business managers is hampered mainly due to disrupted physical work and uncertain pandemic crisis governance

#### More signific ba

Nore significant	Rank	Project Implementation Barriers During pandemic		
barrier	1	Disrupted physical work		
	2	Uncertain pandemic crisis governance		
	3	Unpredictable material prices		
	4	Reduced mobility and delayed supply chain		
Less significant	5	<ul> <li>Other barriers:</li> <li>Office closures and the need to find a new office</li> <li>Funding issues, especially if not supported by favorable bank interest rates and government policies for small-medium businesses</li> <li>Project budget reallocations</li> <li>The owner of the company chooses to wait and see the government policies related to large-scale social distancing (PSBB) and public transportation</li> <li>Reduced mobility and delays</li> </ul>		
barrier	6	Decision-making is hindered		

### Steps to recovery

An analysis of respondents' view of how business looks like post COVID-19



### No facility manager feels pessimistic about future business projections, more than 50% feel optimistic

Very Optimistic 14% 43% Neutral 43% Quite Optimistic

**Confidence in Business Projections** 



## Similar to the facility managers, business managers also feel optimistic about the increase in business performance post 2020

**Business Performance Projection (2020 – 2022)** 



67% of business Managers forecast that business performance in 2020 will be much lower than in 2019. However, 67% of business managers are also optimistic about the trend of business performance in 2021 which will be better than 2020. Only 56% of business managers feel optimistic about the business performance in 2022, while the rest can not 100% make a prediction yet.



### Although business managers are optimistic, revenue projections for 2021 – 2022 are still considered as conservative



- In general, business managers' perception of projected revenue in 2020 is decreasing, with a maximum value of 80%. Only 2 out of 9 respondents projected an increase in revenue in 2020 compared to 2019.
- In 2021 and 2022, 3 respondents stated that revenue projections will increase, reaching more than 50% compared to the previous year. However, other respondents chose to be conservative regarding their respective revenue projections.



### Facility managers agree that digitalization and automation will most likely be adopted as a business strategy in the new norms era

Most likely to be	Rank	Business Strategy in the New Norms Era
inpremiera	1	<ul> <li>Other strategies:</li> <li>Looking for new breakthroughs in digitalization</li> <li>Automation and technology usage to minimize interpersonnel interactions</li> </ul>
	2	No significant changes in strategy
	3	Business scale adjustments to operate more efficiently (right- sizing)
		Business stream diversification
		Efforts to improve spending efficiency, especially energy costs
	4	Business model adjustments
Possible to be implemented	5	Business scale reduction (re-sizing/down-sizing)



### Facility managers agree that developing a new business model can be a form of business strategy to anticipate a similar crisis in the future



**Business Strategy to Anticipate a Similar Crisis in the Future** 



### Some business managers feel that the new norms era has a positive impact because it stimulates innovation, but others feel that the impact is negative due to changes in the market



Impact of New Norms Adaptation on Business Continuity



### Business managers agree that the role of digital technology and internet will be more significant, especially in the new norms era

Rank	Change Observed in the New Norms Era	1	Most likely will
1	Increased role of digital technology and internet in every aspect of life		
2	Creation of new business opportunities (startups)		
3	Changes in social aspects/community behavior		
4	Changes in business and economic practices/models/systems		
	Changes in the healthcare system		Possibly will

## Need for Energy Efficiency

The role of energy efficiency and conservation in post COVID-19 recovery



## Facility managers perceive that advanced control system and digitalization of production process are the main technology that will support energy conservation



**Energy Conservation Technology** 



### Facility managers consider that bank loan interest reduction is the most expected support from the government

Strongly needed	Rank	Required Government Support
	1	Bank loan interest reduction
	2	Income tax deduction
		Improved policies and regulations to reach a broader market
	3	Energy (electricity/fuel) cost subsidy
		Financial aid for implementing energy efficiency efforts
	4	Financial aid for adjusting business model without layoffs
		Other support: • Less strict regulation and licensing to adjust in the new norms era • Improved pandemic crisis governance • Low-cost liquidity options
	5	Working capital credit assistance
Moderately needed	6	Partial financial aid for covering labor layoff costs



# According to business managers, the implementation of incentives or disincentives by the government can encourage the achievement of energy efficiency targets

A significant need exists	Rank	Required Government Support
	1	Enforcement of attractive incentives or reasonable disincentives for energy users
	2	Roadmap for achieving national energy efficiency and conservation targets
		Gradual arrangement of energy efficiency mandate
	3	Encouragement of ESCO business establishment that are suitable for Indonesian market
	4	Market expansion through less strict mandatory energy efficiency enforcement
The need exists, but not significant	5	Realization of market potential in the public sector (energy efficiency implementation in state-owned buildings/facilities)



# More than 75% of business managers agree that there is a significant need for activities to raise awareness on energy efficiency and conservation

The engagement form could be:

- 1. The government shall facilitate the public to adopt renewable energy as an energy conservation effort
- 2. The government shall require PLN to utilize renewable energy and energy efficiency in its business operations
- 3. Prohibition of the procurement and usage of inefficient appliances
- 4. Incorporation of energy efficiency and conservation subjects in the formal education curriculum
- 5. Increased public information dissemination on the role of energy efficiency and conservation in climate change mitigation and sustainable development

### New business trends

New energy efficiency business trends post COVID-19



### Nearly 70% of business managers agree that there is a growth opportunity for new energy efficiency business in the new norms era

Perception of Growth Opportunity for New Energy Efficiency Business in the New Norms Era





## More than 50% of business managers agree that the number of new energy efficiency projects during and after the pandemic will increase

Perception of Increasing Number of Energy Efficiency Projects During and Post-Covid-19





# Business managers believe that state-owned commercial buildings/facilities will drive the majority of energy efficiency projects in the



**Business Sectors that Will Drive More Energy Efficiency Projects** 



### Business managers anticipate that the following sectors <u>lack</u> the potential to drive more energy efficiency projects in the new norms era



Note: The tourism and hospitality sector could potentially drive energy efficiency

## Way forward

**Conclusions and recommendations** 



#### Conclusions

- In general, the COVID-19 pandemic has a negative impact upon the energy efficiency business climate
- The decrease in the revenue of facility managers has an impact on the delay of energy efficiency efforts, which will potentially decrease the number of projects for business managers
- Facility managers and business managers have a conservative outlook on business trend in 2021 and 2022, attributing to the perceptions of uncertain economic recovery and COVID-19 governance
- Despite COVID-19 negative impact on energy efficiency projects, facility managers and business managers assert that the effort to raise public and private sector awareness on energy efficiency shall remain as top priority
- Government supports are required to sustain energy efficiency projects during and post-pandemic era



### **Recommendations on Forms of Government Support**

Facility managers and business players are expecting the following forms of government support:

- Bank loan interest reduction and income tax deduction (most expected by the facility managers)
- Business players believe that the implementation of incentives or disincentives measures stipulated by the government can promote the achievement of energy efficiency targets
- The government can play an important role to encourage the use of energyefficient appliances at the community-level and drive the energy efficiency initiatives to be applied in the government buildings, both at the central and local government levels
- The government can boost energy efficiency demand through the implementation of energy efficiency projects in government-owned assets
- The government can optimize the earmarking of National Economic Recovery (PEN) fund to be allocated for energy efficiency, by providing working capital assistance and loan interest reduction

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