

# HARVEST THE POWER OF THE SUN -

## Harnessing the power of solar technology for sustainable agriculture

In 2050, the world is expected to feed 9.7 billion people, which means there is a need to produce 70% more food. Currently, global statistic shows that up to 40% of fresh harvest goes to waste everyday. Food safety & security and climate change are getting more and more critical. In recent years, climate change has disrupted food quality and availability.

Indonesia is the third-largest agricultural producer in Asia and 50% of tropical produce is lost daily due to mismanagement, lack of training and access to technology [1]. Impack is aware of the challenges and we are committed to creating sustainable impact for a better world and we believe that we can go beyond materials.

### Alignment with UN SDGs



A postharvest ecosystem to achieve sustainable social transformation of underserved communities, aligned with the UN SDGs is created through the program.

### Aim

- Increase food safety and security by reducing postharvest losses and increasing hygienic standards on commodities in Indonesia.
- Increase responsible production in postharvest management by enabling smallholder farmers to have access to green technology, turning food loss & waste into food source & economic value, and promoting reduction on plastic waste compared to the use of polyethylene (PE).
- Increase livelihood by upskilling the processing capability of farmers, enhancing their entrepreneurial skills, and opening an opportunity to empower women and youth in the communities.

### Delivering Off-grid Drying Solutions

**Solar Dryer Dome (SDD):** A drying solution that is suitable for community of farmers that produce huge amount of agri-products.



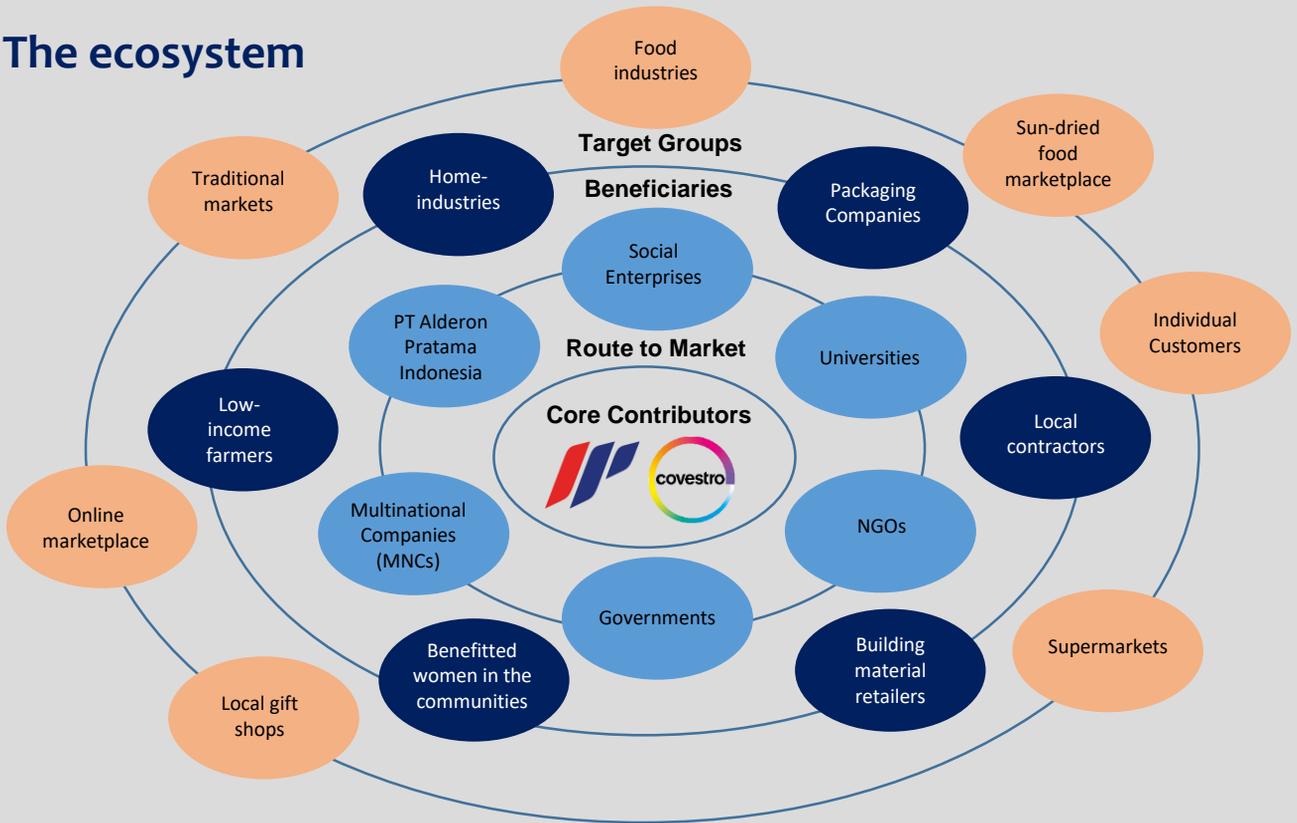
**Solar Table Dryer (STD):** A portable version of SDD that is suitable for smaller community (usually around 4 households).

**Innovative Aspects:** The structure is covered by Impack’s Polycarbonate (PC) sheet to prevent outdoor contamination and layered with UV coating that prevents the commodities from darkening. The PC sheet also has a twin-layer structure with an insulating effect that allows 24-hour drying and it is durable with a lifespan of 10 years.

### Route to Market



# The ecosystem



▲ Women Empowerment in rural areas through the presence of SDD & STD

▲ Through capacity building training, more and more farmers living in rural areas are reached & trained to become agripreneurs.

## “Harvesting the Power of the Sun” Program and Its Relation to Impact’s Circularity



### ESG Value:

- a) Replace the need for single-layer PE with lifespan of <3 years (causing plastic pollution). PC has durability of >10 years.
- b) Reduce the percentage of postharvest losses and turn them to become an additional supply of food.
- c) 100% of renewable energy (solar radiation) and act as better alternatives compared to an electrical dryer.
- d) Farmers are able to provide a nutritious food for their own households with less resources.
- e) Increase domestic production and the nutritional quality of food without any chemical additives.
- f) Increase smallholder farmers’ knowledge of postharvest management and entrepreneurship skills with a route-to-market strategy
- g) Reduce footprint of mobility by connecting farmers with principal, retailers and interested customer digitally.
- h) Replace and recycle PC sheet every 10 years or more by collecting it back.

## Achievement from 2017-2020

Achievement of “Harvest the Power of the Sun” program from 2017 to 2020:

- i. internal resources increased from 4 to 10 employees,
- ii. the incorporation of “Harvest the Power of the Sun” program into our ESG matrix,
- iii. SROI scoring of 8.30,
- iv. CO2 emission reduced by 479 tCO<sub>2</sub>e from the use of SDD and STD which is equal to 22,000 trees planted,
- v. the processing time is more efficient with a decrease of 55%,
- vi. production quantity is increased by 47%,
- vii. farmers' average income is increased by 50% per month,
- viii. the market price of agri-products is increased by 25%,
- ix. food loss is reduced to 77%.

## Monitoring Process



There are monitoring and evaluation process, where the Sustainability Director and/or President Director will randomly visit a community to inspect the installed SDD, to collect feedback from the communities and to provide solutions on how farmers could further improve their productivity. There is also an audit system on our impact numbers, risk assessment and compliance.

## Solar Drying Products across ASEAN



Over the last 4 years, Impack has installed 189 SDD and 178 STD across 29 provinces in Indonesia, reducing 479 tCO<sub>2</sub>e. Together with our business partner, Covestro, its regional installers have installed over 1,000 SDDs regionally, including Thailand, Vietnam, Laos, Cambodia, Malaysia, and Myanmar, using Impack's material, impacting more than 360,000 lives.

## Future Targets

Impack has set tangible and measurable targets to keep track of the progress effectively.

Targets	Unit	Our achievement in 2020	Short-term [Year: 2022]	Mid-term [Year:2025]	Long-term [2030]
Number of Provinces impacted	# of provinces	29	30	33	34 (All Provinces in Indonesia)
Amount of food losses reduced	%	77	78	80	85
Amount of CO <sub>2</sub> saved	Ton CO <sub>2</sub> eq	479	570	750	1,500
Number of lives impacted across Indonesia	# of individuals	30,042	37,000	48,000	73,000

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PT Impack Pratama Industri Tbk (IMPC) is an innovative non-traditional building materials and home-improvement supplier founded in 1981. It is based in Jakarta, Indonesia and is listed in Indonesia Stock Exchange since 2014.

