SCG's Vision to Move Forward to BCG Economy

Dr. Suracha Udomsak
Vice President-Chemicals Business and
CTO-Innovation and Technology, SCG

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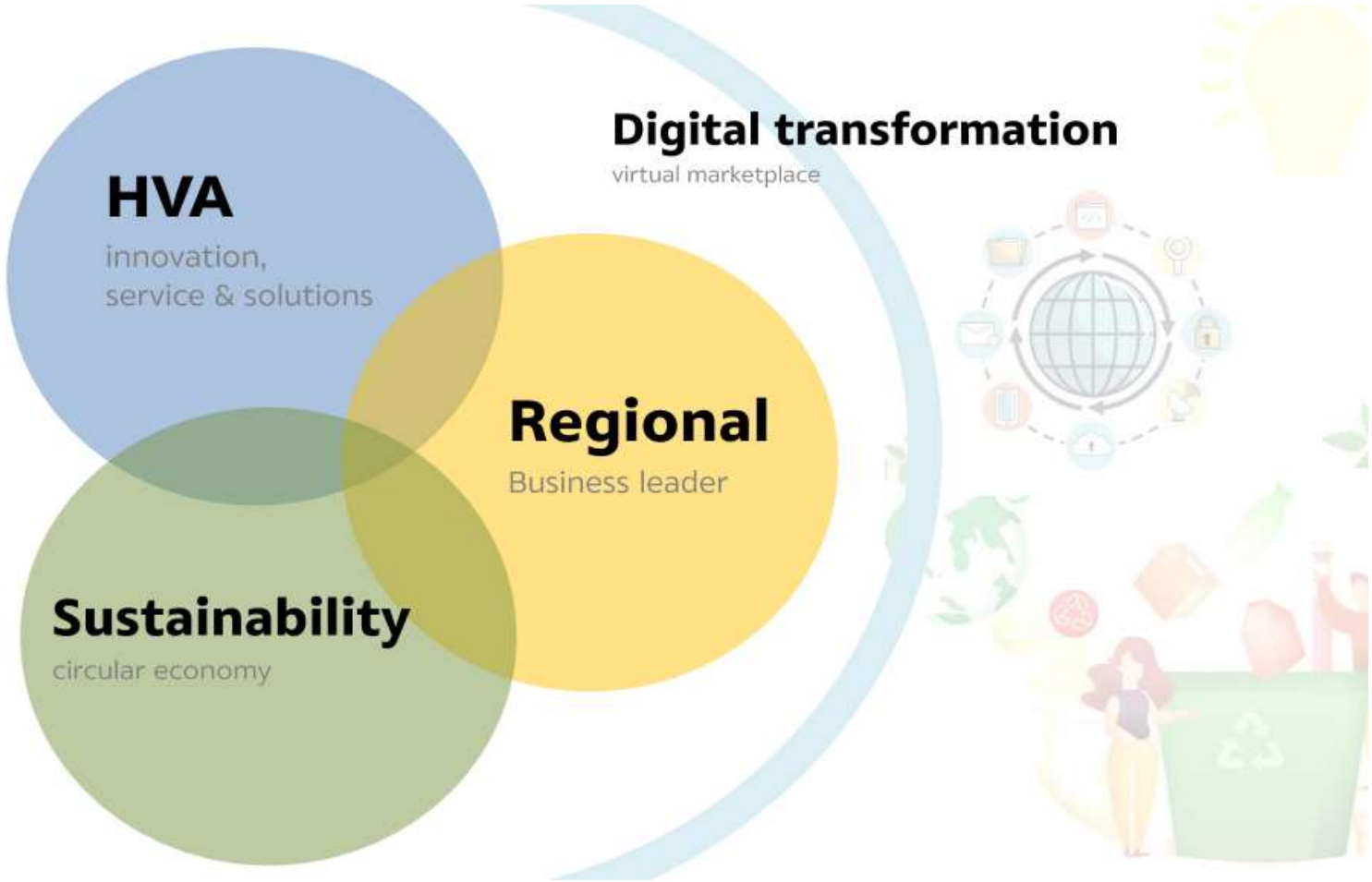
SCG's Vision



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Building the foundation

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Moving Thailand toward to Bioeconomy

Need to start building strong foundation

- From conventional to digital and smart farming

- From nature dependent farming to controllable resources

- From commodity to high-value added product

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Moving Thailand toward to smart farming

Kubota turning 220 rai of land into smart farming classroom

- Siam Kubota turning 220 rai of land into smart farming classroom. Farmer can learn the latest precision technology from land design and management, water irrigation, smart sensor and automation.
- Kubota aims to elevate Thailand and Asian farming efficiency to the next level. The farm demonstrate technology cover usage in rice, cassava, palm, rubber tree.

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Water management

Public private partnership and technology to manage resource

Case study at Prachinburi

- SCG engage community to manage water resources by preserving natural water pathway using small dam and build community reservoir.
- In 2020, 108 communities that worked closely with SCG successfully have water supply all year (even Thailand face one of the worse drought situation in 40 years)
- **Case study:** Community in Prachinburi Province that SCG help community to build underground reservoir to collect water. So, they could have water supply all year for their flower farm.

Using data science to understand water path

SCG team building dam

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SCG - BCG Economy in action

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Circular Economy

SCG has adopted the circular economy in our operations

Circular economy implementation strategies:

- **Reduced Material Use and Durability**, e.g., Green Carton, which requires 25% less raw materials.
- **Developing innovations to replace existing products or raw materials with new ones with Upgrade and Replace strategy**, e.g., SCG Hybrid Cement that use superior raw materials to improve structural strength.
- **Reuse and Recycle**, e.g., "CIERRA™," functional materials that offer a single material enabling better recyclability.

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SCG Circular way

Community Like Waste (Waste-Free Community)

Collaboration between home-temple-school to recycling waste

- Building the green mindset from small unit of society and young generation. So, waste management is everyone's business.
- Waste sorting help reduce the amount of waste going to landfill and can be easily re-generate value.
- Establish community waste bank that provide incentive back to local people.
- Koomkha application from SCG also help digitize waste bank operation

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SCG Circular way

SCG Packaging – collecting waste paper and boxes to recycle and reuse

- PaperX - Digital platform to arrange collection and redeem point that can be used in online shopping.
- Rebox - Collaboration with Thailand post to bring back used parcel box and convert into furniture .

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SCG Circular way

Plastic Road – process transforms plastic wastes into asphalt mixture

- Collaboration between SCG – Dow (Thailand).
- Recently working with Department of Highways, Department of Rural Roads, and Chiang Mai University to explore and develop the use of plastic waste.
- Our technology able to mix about 8-10 percent of plastic waste with asphalt,
- The plastic road will become 15-33 percent stronger, more durable and more resistant to erosion.

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Green Economy – Solar energy

Internally implementation and provide innovative solution for both household and industrial scale

- Since 2014, SCG already implement solar roof, floating and farm in manufacturing area that contribute to 75 MW of electricity.
- SCG solar solution also reduce green house emission by 134 Ton of CO_2 per year
- SCG solar floating technology also maximize the area usage and help reduce evaporator loss of water.

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Green Economy – other renewable energy

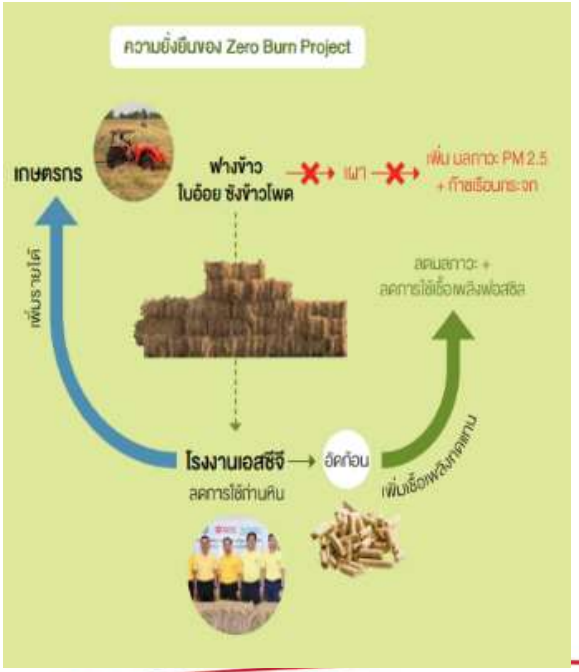
Internally implement renewable energy source to reduce consumption of fossil fuel

- Biogas production from waste water treatment process at Wang Sala, SCG Packaging. Replace 3.3 Million Liter/year of Fuel oil and 4,500 Ton/year of coal

- SCG Cement and Siam Kubota launch zero burn program to purchase agricultural waste and compress it to Briquette to use in burner

Biogas to electricity unit

Zero burn agricultural waste



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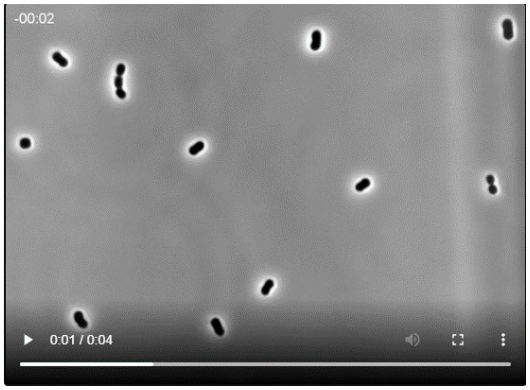
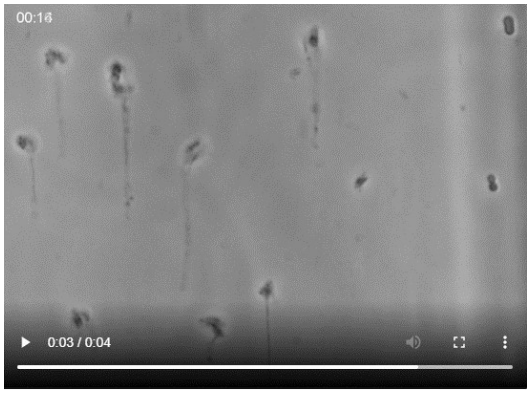
BioEconomy - Lysando

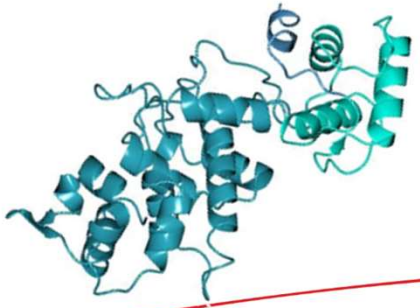
Our expansion into new biotechnology platform





Fast action: few second after Artilysin® meet the target cell.

- LYSANDO AG, the world leader in the development of antimicrobial proteins to combat Gram-positive and Gram-negative bacteria.
- **Artilysin® is a new antimicrobial platform** technology to combat bacterial pathogens. It is possible to design specific Artilysin®s to target nearly every bacterial species.
- **Antibiotics vs Artilysin®:** antibiotic require non-resistant cells, hours to work and only kill cells that are metabolically active, fast-acting Artilysin®s destroy resistant and persistent bacterial cells within minutes.



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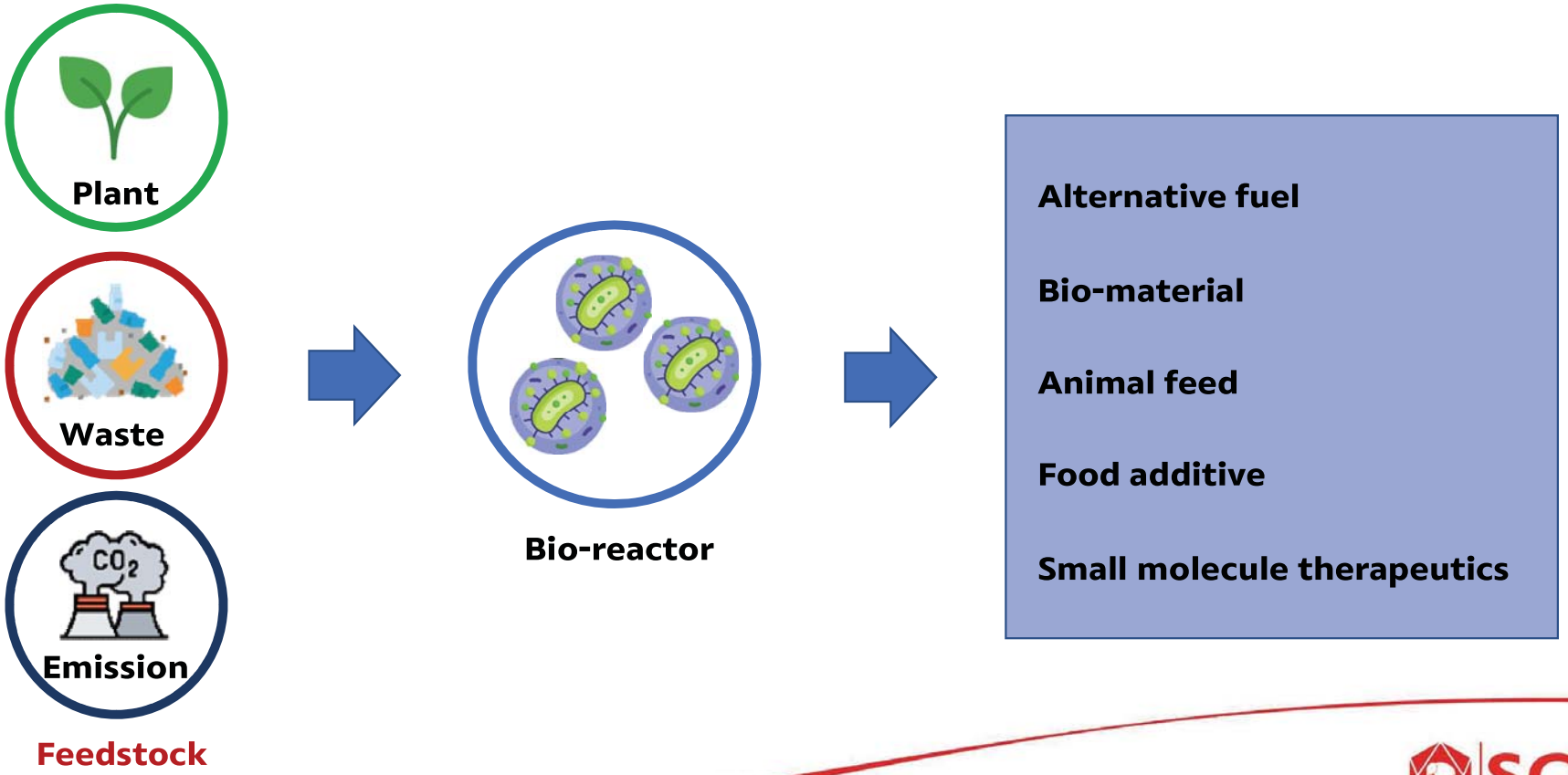
BioEconomy – Vision of our future

More naturally feedstock and manufacturing process will play a key role



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Collaboration is a driver for SCG's BCG economy

Working with local and international partner help speed up success

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Summary

- SCG embrace sustainability mindset into our business operation and BCG is 3 main pillar that help to achieve our goal.
- SCG comply with Paris agreement's goal of limiting global temperature increase. We target to reduce 28% GHG reduction by 2030. Renewable energy and efficiency improvement energy is our key focus.
- SCG endeavor to pursue effective use of resource through product stewardship. SCG already achieved zero-landfill in operation. In 2025, SCG aims to make 100% of SCG packaging product recyclable and reusable
- SCG aims to utilize advancement in biotechnology to produce or provide more sustainable product or service

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