

The spread of sustainable trend to regional rules and regulations and their impact on Thailand Wire and Cable Manufacturers

The AVC Sustainability Forum 2024: The Additive System for Wire and Cable application (phase 2)”

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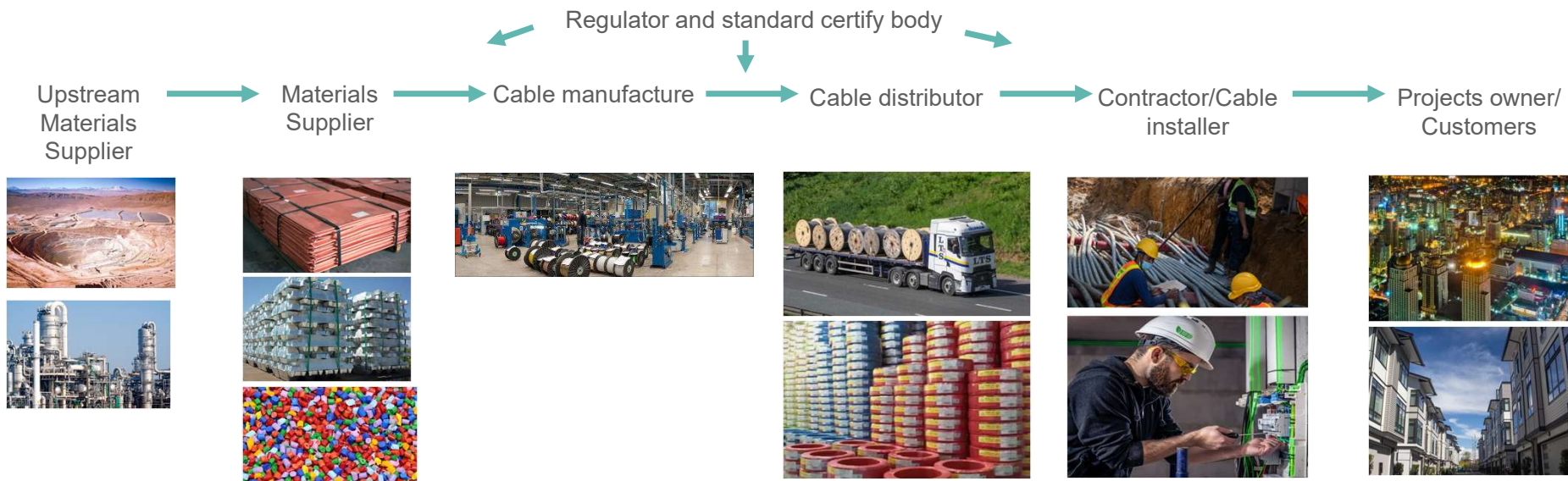


1. Sustainable trend that being impact to wire and cable industry
2. How Wires and Cables manufacture Is Evolving and Contributing to Sustainable Future?
3. The drivers of sustainable wire and cable product
4. RoHS from European union is expanding to others country worldwide as environment protection tool
5. The Market of Sustainable/RoHS wire and cable
6. The impact to TH W&C manufacture and how to capture sustainable trend?



1. Sustainable trend that being impact to wire and cable industry

Sustainability matters lies in its role in preserving our environment and safeguarding our planet. Issues such as climate change, deforestation, pollution, and loss of biodiversity



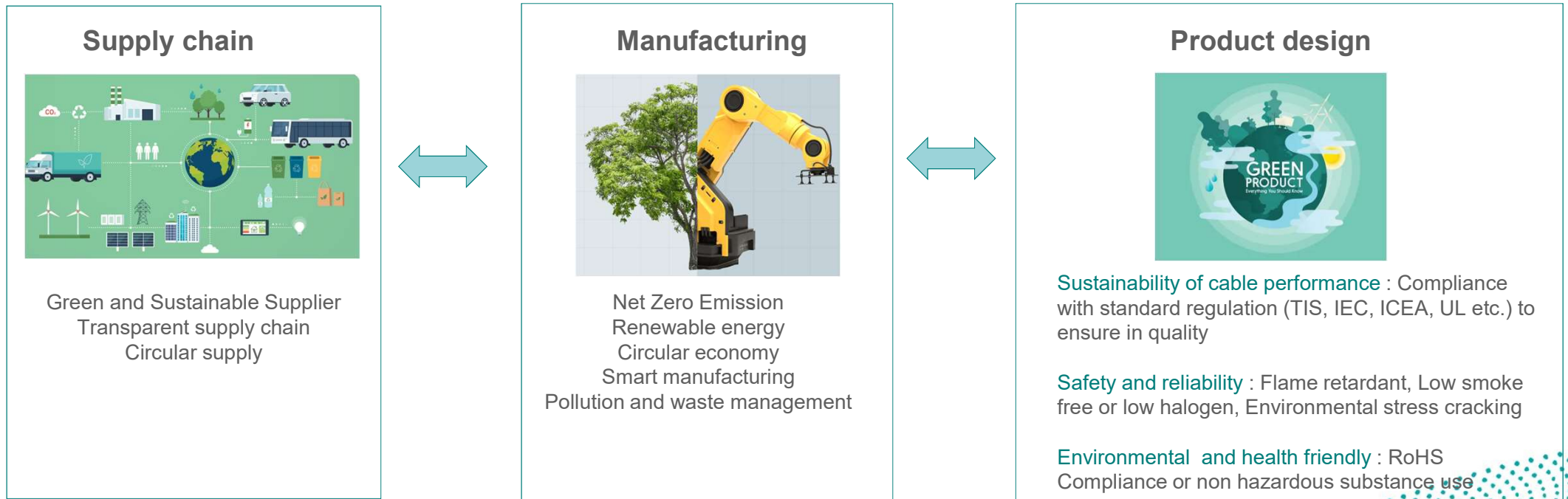
- Manufacture challenge**
- Net Zero Emission
 - Renewable energy
 - Circular economy
 - Smart manufacturing
 - Sustainable product design
 - Pollution and waste management

- User Challenge**
- Clean transportation
 - Green Building
 - Sustainable and smart infrastructure
 - Environmental friendly
 - Health and well being
 - Safety and risk management

Consumer behavior + Investors + Compliance regulation are driving force to ESG

2. How Wires and Cables manufacture Is Evolving and Contributing to Sustainable Future?

From adherence to global green certification standards, eco-friendly raw materials, green manufacturing process, and insulation materials to disposals, the cable industry is transforming in a possible way to reduce the environmental impact of its operations and products. Together with good cable product quality will generate sustainable infrastructure and secure from power distribution system breakdown.



3. The drivers of sustainable wire and cable product

Green Environmental and Health friendly cable still have limit apply in some area, without Government support for regulation but mainly drive by Projects owner and Cable producer

Driver component

Sustainable cable performance



Regulation

- Global cable standard (IEC, ICEA, UL, BSEN)
- Government country cable standard (TIS, SNI, SS, TCVN, MS)
- Industrial requirement (Automotive, EA, Power, Tele)
- Projects requirement

Related parties

- Standard organization
- Government regulation
- Brand owner
- Projects owner/Consultant
- Customers

Safety and reliability



- Global cable standard and testing for specific properties
 - Flame retardant (EN 60332)
 - Smoke density (IEC 61034)
 - Halogen content (IEC 60754)
 - Environmental resistant (ASTM D 1693)

- Standard organization
- Government regulation
- Projects owner/Consultant

Green, Environment and Health friendly



- RoHS
- REACH
- JIG

- European Union and 12 volunteer country
- Japan
- Projects owner
- Brand owner
- Cable producer

4. RoHS from European union is expanding to others country worldwide as environment protection tool

RoHS regulation can promoting sustainable manufacturing practices, helps to reduce the environmental impact of the industry. Also, health and safety from the control of substances restricted



Prohibits RoHS substances (22 Jul 2019)

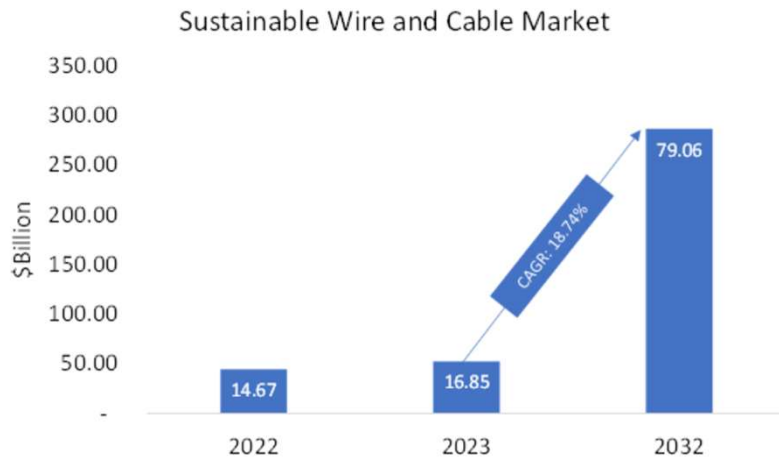
- Cadmium (Cd): < 100 ppm
- Lead (Pb): < 1000 ppm
- Mercury (Hg): < 1000 ppm
- Hexavalent Chromium: (Cr VI) < 1000 ppm
- Polybrominated Biphenyls (PBB): < 1000 ppm
- Polybrominated Diphenyl Ethers (PBDE): < 1000 ppm
- Bis(2-Ethylhexyl) phthalate (DEHP): < 1000 ppm
- Benzyl butyl phthalate (BBP): < 1000 ppm
- Dibutyl phthalate (DBP): < 1000 ppm
- Disobutyl phthalate (DIBP): < 1000 ppm

Singapore RoHS Compliance (SG-RoHS)

Singapore is the pioneer in SEA who apply RoHS regulation to the county. It starting June 1, 2017, the Singapore Ministry of the Environment and Water Resources (MEWR) adopted a regulation that prohibits the use of the six RoHS substance to protect their country and people.

5. The Market of Sustainable/RoHS wire and cable

The sustainable wire and cable market is driven by several factors, such as the rising demand from the **renewable energy sector**, the growth of **smart and green infrastructure**, and increasing **government focus** on carbon neutrality to offset carbon emissions.



Source: BIS research company (<https://bisresearch.com>)

Demand driver and Limitation of sustainable W&C market

Demand drivers

- Rising Demand from Renewable Energy Sector
- Growth of Smart and Green Infrastructure
- Increasing Government Focus on Carbon Neutrality to Offset Carbon Emissions
- Customers/Investor behavior with environmental concern
- New regulation by Government rising
- ESG Policy from brand/projects owner

The limitations

- Lower Adoption Rate Owing to High Price and Lack of Suitable Technologies
- Limited Availability of Sustainable Materials
- Standardization Challenges
- Materials and formulation technology
- Regulation and privilege support from the government
- Testing and certificate service limit
- Higher cost to modify machine, processing system and the materials
- Lack of awareness in related party in the value chain


Example of Developments in the Sustainable Wire and Cable Market

In April 2023, Prysmian Group, These cables are identified with the new, exclusive ECO CABLE green product label from Prysmian Group.



PRODUCT PICTURE	PRODUCT NAME	CPI CLASS	VOLTAGE	MIN HANDLING TEMPERATURE	INSTALLATION
	XPK-HF C-Pro	Cca-std1a1	300/500V	-15°C	Installation cable for fixed indoors and outdoor use
	XPK-HF C-Pro	Cca-std1a1	0,6/1kV	-15°C	Copper power cable for fixed indoor and outdoor use

6. The impact to TH W&C manufacture and how to capture sustainable trend?

Impact Area	Driving force	How to capture?
Product	<ul style="list-style-type: none"> - Customer requirement for green product - Standard and regulation - ESG implementation from related party in value chain 	<ul style="list-style-type: none"> - Apply sustainable product design concept
Company Policy	<ul style="list-style-type: none"> - Branding - Competition among industry - Company position and commitment on ESG from customer/investor views 	<ul style="list-style-type: none"> - Apply to company policy and roll out action in the organization
Manufacturing	<ul style="list-style-type: none"> - Smart manufacturing - Environmental friendly - Clean energy and efficient consumption - Zero emission - Waste and recycle management 	<ul style="list-style-type: none"> - Continuous improvement program - Apply digital software and AI tool - New investment to improve operation facility
People	<ul style="list-style-type: none"> - Employee and related party health and well being 	<ul style="list-style-type: none"> - Chemicals and Hazardous control system - Health monitoring and checking - Training and build awareness to people throughout organization
Government/Regulator/ Certify party 	<ul style="list-style-type: none"> - Regulation (TIS) - Privilege support sustainable product/company (ฉลากเขียว) - Standard, certificate assurance service and monitoring - Testing lab facility support 	<ul style="list-style-type: none"> - Working through related organization



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