

Powering Security – Expert Workshop

24 September 2025 – Brussels



Circular practices for cable systems

Christophe Richon, Sustainability Adviser – Europacable

1. Introducing Europacable

The voice of Europe's leading wire and cable manufacturers

Member Companies & Partners



National Associations



Associated Industry Partners

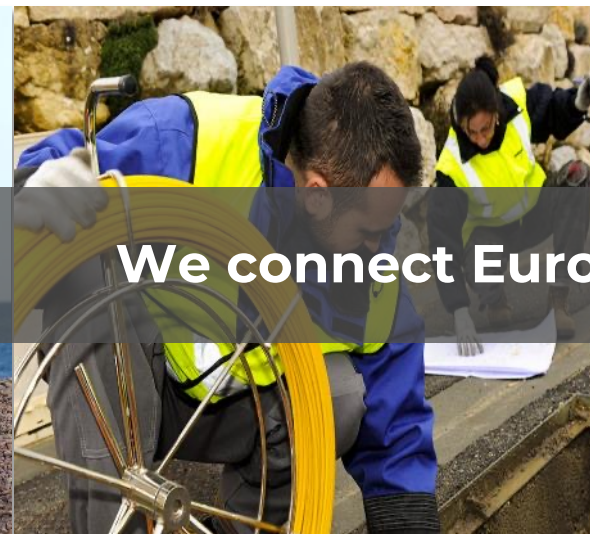


Introducing Europacable

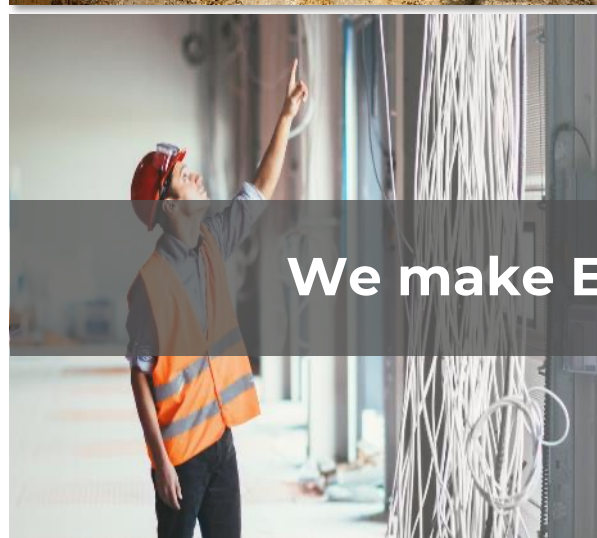
What we do



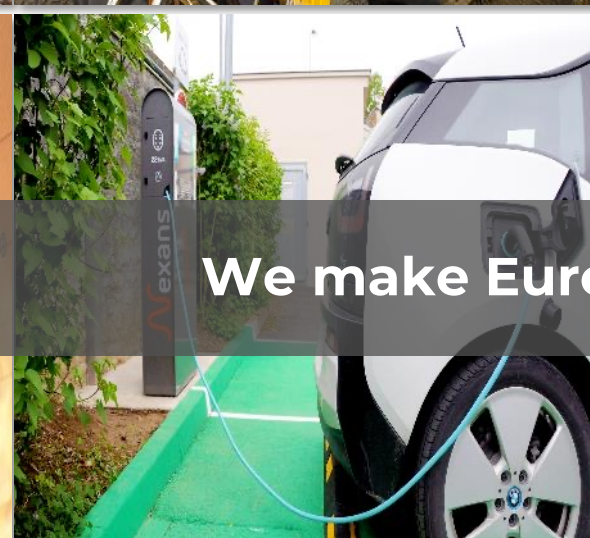
We empower Europe's **decarbonisation**



We connect Europe's **digitalisation**



We make Europe **safer**



We make Europe **sustainable**



Contents



The 5Rs applied to the cable systems industry

Recycling cables

- C** Current practices
- C** Constraints and limitations
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- C** Future prospects

Additional circular approaches

- C** Circularity services

Cable circularity

A form of circularity that's beyond manufacturers' scope

A29 / CINISI

Autostrada Palermo-Mazara al buio: rubati cavi di rame dell'illuminazione a Marina di Cinisi

I ladri hanno saccheggiato i fili elettrici che davano luce sia alla carreggiata che ad alcune strade laterali. I residenti: "La zona, attraversata quotidianamente da residenti, turisti e pendolari diretti verso Torre Pozzillo, è estremamente pericolosa. Così manca la sicurezza stradale"

Vols de câbles : 3,6 tonnes de câbles présumés volés en France et en Belgique

Lecture 1 min

Accueil • Faits divers



Le prix de la tonne de cuivre s'est envolé depuis quelques années, et atteint désormais les 9 000 euros. © Crédit photo : AFP

Major power cable theft gang disrupted in Europe



High voltage cable worth £100,000 stolen - sparking Network Rail New Year disruption warning

Passengers are advised to check the National Rail website or with their train operator to find out what the closure between Chorley and Bolton means for their journey.

© Saturday 28 December 2024 21:57, UK



Kabeldiebstahl: Wenn Buntmetall entwendet wird

Von Dr. Philipp Hammerich

Letzte Aktualisierung am: 9. August 2025

Geschätzte Lesezeit: 3 Minuten

X Facebook Pinterest Kommentare

Welche Folgen hat Kabeldiebstahl?

Es ist zu einem echten Problem geworden: Kabeldiebe entwenden in der gesamten Republik Stromleitungen und Erdungskabel und sorgen somit nicht nur für einen hohen Sachschaden, sondern sabotieren gleichzeitig die Infrastruktur.

Erst seit den letzten Jahren ist der Diebstahl von Kabel lukrativ. Grund ist Chinas enormer Hunger nach Buntmetallen, weshalb der Preis für Kupfer und Co. auf dem Weltmarkt einen hohen Wert erreicht hat. Trotz Schwankungen des Weltmarktpreises ist Kabeldiebstahl unentwegt „beliebt“ bei den Dieben.

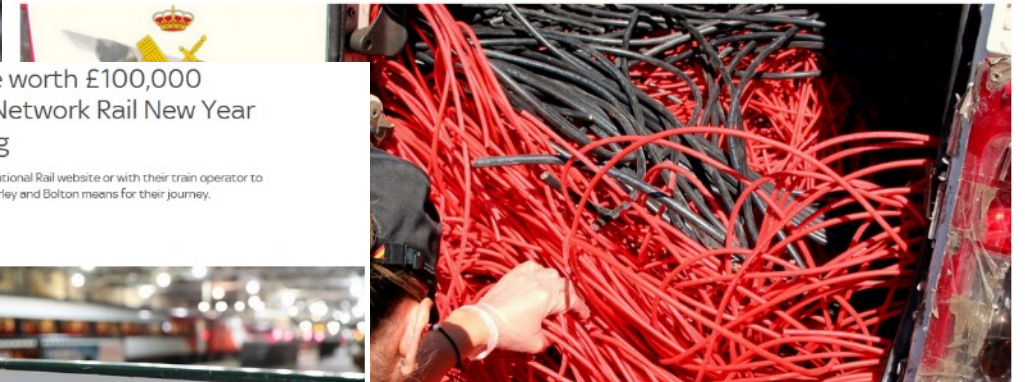
In diesem Ratgeber informieren wir Sie über Kabeldiebstahl, mit welchen Strafen Kabeldiebe rechnen müssen und was Firmen und Polizei unternehmen, um dem Problem Herr zu werden.



Kabeldiebstahl ist ein schweres Verbrechen.

Desmantelado un grupo por robar 53.000 metros de cable de cobre en Asturias y Cantabria

- Los hechos provocaron un coste económico de unos 387.000 euros, aunque se han recuperado 1.100 kilos de cableado
- La Guardia Civil ha detenido a seis personas, cinco hombres y una mujer, y ha esclarecido 37 delitos



The 5Rs of circularity applied to the cable systems industry

Reduce



Reuse



Repair



Refurbish



Recycle



Recycling cables

Current practices



Copper

- C** Recycled copper is already in use by most manufacturers
- C** Ongoing research to gradually increase the share of recycled copper
- C** Key requirement: high purity of material to maintain high level of electrical conductivity



Aluminium

- C** Ongoing integration of aluminium with recycled content in new cables
- C** Key requirement: high purity of material to maintain high level of electrical conductivity

→ European manufacturers integrate ca. 10% of recycled copper in new cables, targeting 30%

Recycling cables

Current practices



Plastics

- High-quality plastic materials are necessary for insulation purposes
- Main plastics used for cables:
 - Polyethylene (PE)
 - PVC
 - Cross-linked polyethylene (XLPE)
 - Elastomers
- PE and PVC can be recycled at satisfactory quality level
- XLPE recycling: serious downgrading of the material

➔ **Research ongoing to improve XLPE and elastomer recycling**

Recycling cables

Constraints and limitations



- C** Access to end-of-life cables (“urban mine”):
 - C** Role of stakeholders in the value chain (TSOs, DSOs, manufacturers, installers, ...)
 - C** Organising identification, sorting and logistics to recycling plants
- C** Environmental alignment of recycled material
 - C** CO2 emissions
 - C** Resource depletion: energy, water (mechanical / chemical recycling)
 - C** Pollution (chemical recycling)

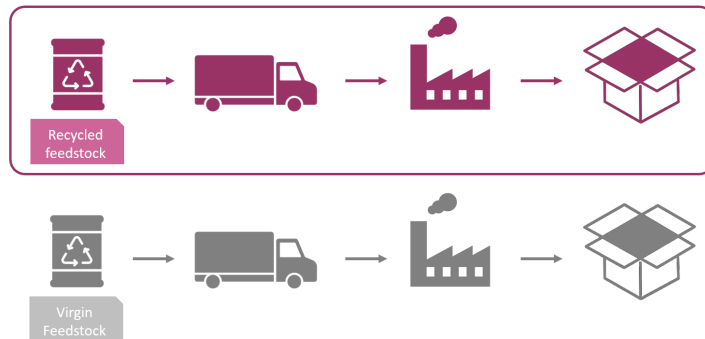
→ Manufacturers need cooperation along the value chain

Recycling cables

Qualification of recycled contents

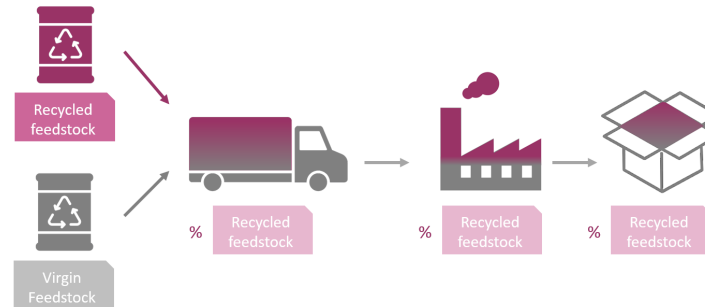
Segregation method

- Specified characteristics of a material or product are maintained from the initial input to the final output
- Useful to keep track of materials with particular sustainability properties across value chains.



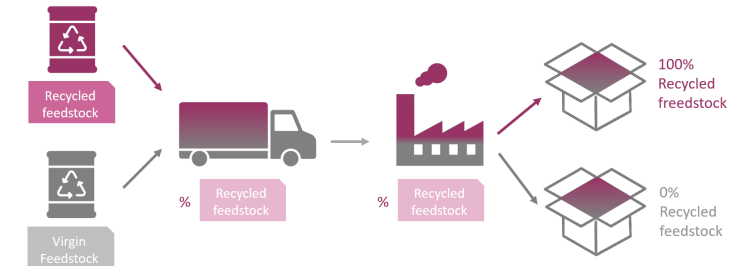
Percentage mass balance method

- Materials or products with a set of specified characteristics are mixed according to defined criteria with materials or products without that set of characteristics
- Useful to keep track of materials with particular sustainability properties across value chains



Credit mass balance method

- Administrative record flow is not necessarily connected to the physical flow of material or product throughout the supply chain.
- Used to account of materials with particular sustainability properties at the end of value chains



→ Ongoing debate within our industry on preferred method

Recycling cables

Future prospects



- C** New insulation material to replace XLPE: thermoplastics
 - C** Easier to recycle
 - C** Satisfying electrical requirements of XLPE
- C** Regulatory measures to generalise Extended Producer Responsibility
The French experience: EPR obligations for building equipment manufacturers since 2023
 - C** contribute to an eco-organism or set up an individual system
 - C** get a unique identifier (UDI)
 - C** perform an annual declaration
 - C** mention environmental characteristics of products

→ **New technologies, ecodesign and regulation**

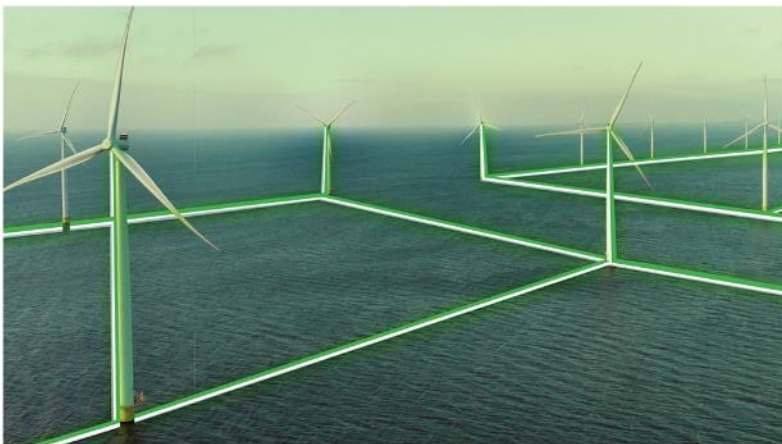
Other circular approaches

Circular services



- C Buy back service of unused cable lengths (depending on application segment)
- C Drum collection services:
 - C GPS locator
 - C Common drum system with collection (e.g. KTG in Germany)
 - C Scrapping/recycling of plastic and wooden drums at end of life

→ **Circularity is not only recycling!**



**Thank you
for your attention!**

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