Pol-PRIMETT

Tackling Metal Theft

# Findings of Pol-PRIMETT research activities

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# 1. Introduction

## 1.1. Pol-PRIMETT

Pol-PRIMETT (Police-Private Partnership to Tackle Metal Theft) was a three year project - September 2010 to September 2013.

The aims of Pol-PRIMETT were to improve collaboration between Law Enforcement Agencies (LEAs) and the private sector in the fight against metal theft and to promote good practice across the EU, enabling the exchange of knowledge, skills and intelligence.

The Pol-PRIMETT partnership comprised of agencies from five Member States – United Kingdom (UK), Spain, Italy, Greece and Bulgaria.

## 1.2. Pol-PRIMETT aims

- Improved collaboration between public/private organisations on a transnational basis
- Creation of Expert User Groups (EUG's) to improve levels of international liaison, exchanging knowledge, skills, intelligence, enforcement and prevention techniques amongst LEA's and the private sector
- Greater involvement of the private sector in the fight against metal theft in order to improve crime prevention and deterrence strategies and cross-sector integration/cooperation amongst companies involved in the manufacturing, processing and transporting of metals
- Establishment of horizontal partnerships for the collection and transmission of information and the identification/prioritisation of the types of information to be transmitted
- Increased knowledge of the regional/national nature of offences, the involvement of Organised Crime Groups (OCG's) and the relationship to other acquisitive crime
- Increased collaboration between LEAs and the private sector to reduce the movement of stolen metal across borders
- Providing a legacy of collaboration and good practice for the future

## 1.3. Purpose

The purpose of this document was to provide a report on the research carried out by Pol-PRIMETT partners to support the implementation of the project. Each partner Member State has faced different challenges whilst tackling metal theft. The specific crime types and methodology may vary, but the overall economic and human impact of metal theft remains the same – serious disruption and damage to individual citizens, communities and national economies.

## 1.4. Metal theft

The rising demand for metal on the international market and the associated significant rise in metal prices has made metal theft a particularly attractive and lucrative enterprise for criminals. It is believed that the demand for metal will remain strong and metal prices will continue to make metal theft attractive to both opportunist and organised criminals. Throughout the industrialised world, stealing valuable metal has become a serious concern for the police, the private sector and communities.

Metal theft is not generally a separate crime defined in law, nor is it separately flagged in crime datasets. The offence commonly refers to items stolen for the value of their constituent metals, most commonly non-ferrous metals including copper, lead and aluminium.

Metals commonly targeted for theft include copper wire and cable from transport, telecommunications and utility networks; lead from churches and other heritage buildings; catalytic converters and street furniture such as aluminium road signs and lead drain covers.

## 1.5. Sectors affected by metal theft

In most EU Member States, metal theft affects a range of sectors including:

- Telecommunications
- Railways
- Gas and electricity
- Water
- Government bodies
- Manufacturing
- Faith and heritage
- Agriculture
- Metallurgy
- Recycling
- Ports
- Construction
- Local authorities
- Insurance

A coordinated response is required by LEAs and other public / private bodies to tackle this problem.

## 1.6. Partner Member States affected by metal theft – 2010/11

### 1.6.1. United Kingdom

Significant research has been conducted in the UK to establish the impact metal theft has on businesses, communities and individuals. Findings include:

- Metal theft costs the UK economy an estimated £770 million per year (2010/11)
- Insurance companies reportedly pay out over £1 million a week to victims of metal theft (2010/11)
- Cable theft has cost the rail industry £43 million in the past three years (2009 - 2011)
- In 2011, the rail freight sector lost 114,000 minutes in delays due to cable theft
- A UK utility company was fined £24 million for the loss of service after an incident of cable theft

### 1.6.2. Italy

Italy is a major consumer of copper, using 801,000 tonnes of refined metal each year. Italy is relatively poor in raw materials and imports significant quantities from overseas.

Enel (Ente Nazionale per l'energia ELettrica) is Italy's largest power company and the second largest utility listed in Europe. The economic impact of metal theft for Enel was €14,942,640 with a total number of incidents being 2,189.

### 1.6.3. Bulgaria

In 2010, the six largest police departments reported 1,634 incidents of metal theft compared to 564 incidents in 2009.

No information is available about the total economic losses caused by metal theft, but anecdotal evidence suggests that this type of crime greatly increased in 2011.

There are a combination of factors leading to the increase of metal theft, including increased metal prices, the financial crisis, cross-border communication amongst criminals and slow and time consuming communications between Bulgarian authorities and other countries.

Metal theft incidents are estimated at seven to ten times greater than levels actually reported.

### 1.6.4. Spain

In Spain, metal theft is classified as a crime against property, which affects government facilities and public utility services. Punishment ranges from six months to three years imprisonment, in addition to payment of criminal and associated civilian liabilities. LEA's believe the penalties imposed on metal thieves do not reflect the impact of the offence.

There is difficulty in identifying and matching stolen metals against corresponding registers, because usually metals do not contain distinguishing marks. If metals are marked, they are usually not recorded. Some scrap metal dealers (SMDs) either have poor knowledge or do not comply with legislation which can facilitate the laundering of illegal metal.

Metal theft is a low risk – high reward crime. It is not necessary to use the black market to sell the stolen materials as it can be sold to legitimate SMDs.

### 1.6.5. Greece

Metal theft is impacting on Greek businesses and communities through the breakdown of public services - railway, telecommunications and utilities. Additionally communities are beginning to feel unsafe, due to the rise in related crime and the environmental damage caused by the burning of cables.

Tourism which forms a large part of the Greek economy is impacted as environmental damage and security risks are deterring tourists from Athens.

Public infrastructure is being targeted by metal thieves including schools and street furniture. Additionally, sculptures, monuments, churches and cemeteries are frequently targeted. Farms, construction sites and private dwellings have also been victims of metal theft. Essentially any unguarded metal is a potential target.

Metal theft has only been reported as a crime for the last five years (2007-2011) so it is difficult to accurately assess the level of the problem. Hellenic police do not record separate figures for metal theft and in 2010/11 the total economic damage was estimated at €25 million. It is recognised that metal theft in Greece is on a smaller scale than that in the UK or Italy.

# 2. Sectors affected by metal theft

## 2.1. Telecommunications

### 2.1.1. United Kingdom

Metal theft reportedly costs BT £6 million per year but the true cost is believed to be three to four times higher. In 2010, BT was subject to 130 attacks on live cable every month. This has an impact on the reputation of the BT brand as well as on communities affected by the loss of service. The amount of copper stolen escalates as metal prices increase, which in turn impacts on the amount of damage caused by metal theft.

Whilst fixing problems caused by metal theft, BT engineers are not dealing with scheduled work and this disruption obviously has a detrimental effect on the overall service provided to BT's customers.

The average cost to BT per cable incident is £10,000.

### 2.1.2. Italy

Telecom Italia S.p.A is seriously affected by the problem of cable and metal theft. This includes sensitive targets like the communication links with civil and military infrastructure including airports and hospitals. Telecom Italia has activated particular countermeasures as part of a planned strategy of corporate security.

### 2.1.3. Greece

The Hellenic Telecommunications Organisation (OTE) is regularly targeted by metal thieves with the main areas being:

- Underground and overhead cabling
- Derelict buildings which are awaiting restoration
- End of life cabling
- Manhole covers
- Metal gates from company premises
- Metal doors

OTE's offender profiling indicates metal theft is committed by a combination of opportunist thieves and large OCGs.

Following incidents of cable theft, thieves wait for OTE to reinstall cable before stealing it again.

## 2.2. Utilities

### 2.2.1. United Kingdom

**United Utilities**
United Utilities is very badly affected by metal theft and suffers approximately 8 - 15 incidents of metal theft per month (2010/11) each costing from £4,000 to £80,000. (However, it is recognised there is serious under-reporting of metal theft incidents in the company and these figures are likely to be 20 - 40% higher). The organisation is also liable to heavy penalties imposed by UK government.

From January to May 2010 a total of 25 sites were targeted with an overall loss of £226,000. One sub-station was attacked 29 times in one month. On one occasion there were six separate attacks in one night however the police only issued one crime reference number.

United Utilities greatest loss was in 2007 when members of the travelling community occupied and completely destroyed a site over a three day period. Equipment with a value of £2 million was destroyed.

**Yorkshire Water**
Metal theft is a big problem for Yorkshire Water. The company has suffered theft of lead from roofs of buildings and from water towers, manhole covers and lightening conductors. Yorkshire Water is now replacing lead with aluminium. There are also serious safety issues as live cables are being stolen.

Metal theft is a serious threat to the communities being served. For example, when a sewage works is attacked, service to the local community is compromised.

**UK Power Networks**
UK Power Networks has 170,000km of network cable across the UK and services 8.5 million customers. One incident in 2010 led to 100,000 people being without power; this included a local hospital and the railway network.

UK Power Networks has reported that the theft of a piece of cable worth £5 can cause up to £50,000 worth of damage in addition to reputational damage caused to the organisation.

UK Power Networks employs one full time investigator to look for metal theft. In comparison BT, currently employs 27 full time staff members to investigate metal theft.

### 2.2.2. Italy

**Enel**
To combat copper theft the Italian electricity company Enel, has activated alarm systems that alert police operators when cables are cut affecting voltage levels or disrupting video surveillance systems at electrical substations.
To combat theft of copper not in use, strategically positioned collection points that are security protected, have been established. Materials are stored in one place before being used for construction of new installations or maintenance work.

### 2.2.3. Bulgaria

The losses incurred as a result of metal theft in one of the three electricity supply companies escalated by 228% in 2010 compared to 2009. This adversely affected the power supply to 150,000 customers. Ten power transformers, five power engines and pumps, input cables and other items containing ferrous and non-ferrous metals were stolen or destroyed.

### 2.2.4. Spain

Utility companies have installed perimeter security barriers and used CCTV to tackle metal theft. However, metal theft is not recognised as a serious threat to the survival of energy companies.

### 2.2.5. Greece

**Public Power Corporation**
Public Power Corporation (PPC) is the main power provider in Greece. PPC owns an expanded electricity network including many transformers, which are the main target of metal thieves because of the copper they contain. Cables and earthing systems are stolen from transformers and there has been an increase in attacks on substations and warehouses.

During 2010-11 PPC suffered the loss of 1,817 transformers, amounting to €10 million of damage. Most of the targeted transformers were located in rural areas and PPC is developing a new alarm system, based on GSM technology, and a real time transmission of SMS to the police when a transformer is attacked.

The transformers are used for agricultural purposes and if they are stolen during the winter, the theft is rarely noticed until the summer. Access to these areas is not easy and there are no residents to report any suspicious activity.

Apart from the cost to PPC there is a cost to farmers as pumping systems do not operate properly which effects production.

PPC co-operates with the police and local authorities, raising awareness through media campaigns to deter thieves.

## 2.3. Railways

### 2.3.1. United Kingdom

Cable theft cost the UK rail industry an estimated £43 million (€50.9 million) during the period 2009 to 2012. In 2011, the rail freight sector lost 114,000 minutes in delays due to cable theft

### 2.3.2. Italy

Metal theft costs state railways millions of euro per year. In 2009 loss of service caused 1,394 trains to be affected whilst in 2010 there were 2,086 trains affected. In 2009 lost hours from delays amounted to 464 and in 2010 it increased to 616 lost hours.

### 2.3.3. Bulgaria

The railway network is considered a vulnerable target and railway carriages are seen as 'easy pickings'. In Bulgaria it is estimated that metal theft costs the rail industry 12.71 million BGN per year (€6.5 million).

### 2.3.4. Spain

Railways are a profitable target for metal thieves. Signals, communication and energy cables are the most sought after items. Metal theft affects the continuity of service provided by the railways, to the detriment of both the rail company and the consumer.

Records show an increase in metal theft in 2006 and 2007, a brief reduction in 2009, followed by new spikes in 2010 and 2011.

Railway companies have reacted by dispatching patrols across the rail networks. There have also been specific operations carried out with LEAs and the Fondo Internacional de Desarrollo Agricola – International Fund for Agricultural Development (FIDA) in Cadiz.

## 2.3.5. Greece

Metal theft is being tackled by using a variety of comprehensive countermeasures. This includes small vehicles patrolling the most vulnerable areas of the railway network, devoting increased human resource to protect the lines and main facilities. Security is outsourced to private companies and there is strong cooperation with state police.

**OSE**

The Greek National Railway (OSE) conducts night-time patrols in hotspot areas to prevent and deter metal thieves from targeting the rail network. It is not cost effective to patrol the entire rail network which is 2,600km long.

OSE has been significantly targeted by metal thieves with €1.5 million worth of damage and 195 related arrests occurring in 2010. Some sections of the railway network are being completely destroyed and other sections severely disrupted. This has caused significant economic damage to OSE and to the national economy. In addition the safety of OSE staff and passengers has been threatened.

Issues faced by OSE include:

- Theft of cabling creating signal failure which has caused trains to be delayed
- Theft of materials such as rails, sleepers and connectors, disrupting service
- Power shortages following thefts at substations which has disrupted service
- Thefts of batteries and electrical equipment from automated level crossings which has compromised the safety of the crossings

Metal theft has a significant impact on OSE including many hours of repair work, purchasing replacement material, reduction in services and reputational damage.

Metal theft can put the public in danger. There have been incidents where cable from a parallel railway line has been tampered with, causing injury to the driver of the oncoming train and damage to the inside of the train.

The cost of repair following an incident of metal theft is estimated at €65,000 for every km of stolen copper cable.

**OSE's annual damage costs as a result of metal theft (in €) 2007 -2012**

| Year | Rolling stock | Electrification signalling | Track material | Total per year |
|---|---|---|---|---|
| **2007** | **-** | 2,326,317 | 571,046 | **2,897,363** |
| **2008** | - | 4,263,319 | 554,375 | **4,817,694** |
| **2009** | - | 8,637,172 | 398,618 | **9,035,790** |
| **2010** | 113,683 | 9,953,535 | 308,301 | **10,375,519** |
| **2011** | 11,159 | 9,238,426 | 221,628 | **9,471,213** |
| **2012** | 150,524 | 6,931,937 | 595,088 | **7,677,549** |
| **Total** | **275,366** | **41,350,706** | **2,649,056** | **44,275,128** |

## 2.4. Government bodies

### 2.4.1. United Kingdom

**HM Revenue and Customs**
The Scrap Metal industry has historically been predominantly cash based. This has caused issues for HM Revenue and Customs (HMRC) including:

- Cash based transactions and the lack of proper records attracts criminals
- Cash transactions may offer criminals opportunities for tax evasion
- Carousel fraud – the avoidance of VAT through fraudulent transactions and exports
- Unregistered businesses and employees leading to a further loss of taxation revenue

## 2.5. Manufacturing

### 2.5.1. United Kingdom

**TATA Steel**
TATA Steel has significant problems with metal theft. Within the Yorkshire and Humber region the cost of metal theft to TATA Steel in 2010 was estimated at £400,000 (€473,600) but it is suspected that there is around 50% under-reporting which is typical for the manufacturing sector.

Contractors are a threat as it is believed they are involved in the theft of metal stock. TATA Steel has also identified ex-employees as a risk. Criminals have driven trailers into yards and loaded up metals stored on site. This suggests that OCGs are involved.

### 2.5.2. Bulgaria

Some companies have reported a reduction in loss of revenue due to high insurance of their stock and products against theft. However, the consequence of benefitting from insurance has cost implications to the business as insurance companies increase security requirements when paying out compensation.

Based on unofficial records, approximately 10% of secondary metal materials being transported are stolen during transportation. For metal companies, the percentage rate is lower because in the majority of cases increased surveillance and permanent video monitoring have been installed.

### 2.5.3. Spain

Metal theft is considered a negligible threat by the Spanish manufacturing industry who tend to view this as just another economic cost to business which does not warrant specific countermeasures.

## 2.6. Faith and heritage

### 2.6.1. United Kingdom

**Church of England**

The Church of England has 16,200 churches and cathedrals across the UK and is also responsible for a large number of heritage buildings, most of which contain lead and/or copper.

In 2010 1,763 metal theft related insurance claims were made by the Church of England. The highest number of metal theft claims occurred in 2008 when there were 2,400. Ecclesiastical Insurance which specialises in insuring religious and heritage buildings, has introduced a cap on metal theft claims at £5,000. Some insurers will not pay compensation if the metal stolen is not forensically marked.

A major issue faced by churches and cathedrals is the subsequent damage caused by metal theft. Lead may have been stolen during the summer months and gone unnoticed. However, during a period of bad weather the roof may collapse causing security risks and extensive damage.

Churches are being forced to close as a result of being a victim of multiple metal thefts. This is having a significant impact on local communities. Two churches were targeted six times each in 2010. Repair costs are frequently drawn from other areas of the church funding which restricts other community activities.

Some faith and heritage buildings are required to replace lead with lead and therefore thieves return to steal the replaced material.

It is reported that Google Earth has been used by criminals to identify churches with lead roofs indicating the involvement of OCGs.

# 3. Offender profile

## 3.1. United Kingdom

Metal thieves fall into two categories:

- Local, opportunist criminals
- Mobile, OCGs

The majority of opportunist thefts are committed by local offenders from areas of high unemployment and social depravation. The profile is mainly white British males aged from teens to 50's. The drive for criminals is to generate cash, often to support an alcohol or substance abuse habit.

Larger OCGs usually have a traveller community background or are industry based. Travellers are male, predominately white British or Irish descent and have a history of association with the scrap metal industry. Industry based criminals are mainly white British males who are employed within industry and work as part of a group, using their insider knowledge to target specific areas for theft.

## 3.2. Italy

Statistics suggest that almost half the criminals who perpetrate metal theft are non-Italian nationals. It is a situation familiar in other EU Member States and parallels can be drawn with other criminal activities where levels of foreign citizens are over-represented. There is a high level of involvement of citizens from Eastern Europe and the Balkans, including many from the Roma ethnic minority.

Metal thieves fall into three categories:

- Individual perpetrators or non-organised groups
- OCGs
- Receivers and recyclers of stolen metals

## 3.3. Bulgaria

Offenders involved in metal theft are usually below the age of 30, of which 88% are male and 12% female. Many offenders are uneducated and unemployed, living in poor urban areas where collecting and stealing metal is the only source of income. Statistics show that 73% of metal thieves have previously been involved in two or more offences.

## 3.4. Spain

The majority of metal theft offences are committed by small groups of Romanian and Spanish citizens, with low social status. There is also evidence of involvement from major criminal organisations.

The most common offenders in Spain are male Romanian nationals, of Roma ethnicity, aged in their 30s, poorly educated and unemployed. The perpetrators are most likely to have a long criminal record including fraud, misappropriation and property offences.

## 3.5. Greece

Opportunist metal thieves fall into three categories:

- Individual male offenders, aged between 16 and 50, of Roma origin
- Individuals from Albania, Bulgaria, Romania and Pakistan - many are illiterate and unemployed but have a good relationship with SMDs
- Individual offenders between 20 and 27 years of age, of Pakistani origin, unemployed with a good knowledge of the railway and utility networks.

OCGs participating in metal theft mainly target the railway network and PPC. They usually operate in teams, have appointed tasks and acquire information from transporters, distributors, traders and exporters. These OCGs operate almost exclusively in metal theft perpetrating serious criminal offences, motivated by the pursuit of profit.

Indications are that there is a large amount of cross border activity related to metal theft which is also linked to OCGs.

# 4. Legislation

## 4.1. United Kingdom

The Home Office is responsible for introducing legislation to tackle metal theft, but other government departments such as the Department for Transport (DFT), the Department of Environment, Food and Rural Affairs (DEFRA) and the Department of Energy and Climate Control (DECC) are involved in aspects of legislation to prevent metal theft .

Legislation relating to metal theft includes:

- Scrap Metal Dealers Act 1964
- Scrap Metal Dealer Waste Management Licensing Requirements
- Scrap Metal Dealers registration with local authority

The Scrap Metal Dealers Act 1964 governs the recycling industry. The Waste Carrier License differs from the Scrap Metal Dealers Act 1964 and is regulated by the Environment Agency.

Many organisations within the private sector have expressed the view that the problem of tackling metal theft is compounded by ineffective and out-dated legislation governing the recycling industry coupled with insufficient police resource to control the illegal operators in the industry.

There is a consensus in UK that the Scrap Metal Dealers Act 1964 is no longer suitable to regulate the industry, especially because it does not include sufficient measures to ensure that an audit trail of metal purchases is kept by SMDs or that the identity of the seller is established. As in other EU Member States, the metal scrap trade deals mostly in cash which make it more difficult to track illegal scrap metal dealers. There is a growing demand from LEAs to introduce cashless regulations into the scrap metal industry.

Following a review of the Scrap Metal Dealers Act a ban on cash payments was imposed on SMD's in December 2012. A further review of the Act is underway and a new Scrap Metal Dealers Act will be introduced in autumn 2013.

## 4.2. Italy

The Italian parliament is very aware of how metal theft has evolved in recent years. However, no specific parliamentary action has been undertaken and no changes to the legislation are under discussion.

Parliament is not the only political or institutional player involved in combating metal theft. The Italian legal system provides important security functions which are exercised by local authorities through municipal and provincial police forces. Regulatory interventions approved since 2010 have significantly broadened the powers of town mayors in this area.

## 4.3. Bulgaria

The Ordinance for licensing trade adopted in 1994 provided the first legal framework for governing the recycling industry. In 1997 regulations were introduced regulating trade in scrap metal which created a large increase in the bureaucracy required to obtain a license. Also the number of penalties and sanctions for violations were increased. 1000 licences were issued in 1996, whilst at the end of 2000 the number had fallen to 240.

Many businesses and individuals, not registered as commercial entities, have been engaged in the collection and trade of scrap metal without making any effort to acquire a licence. Stolen metal is sold to foundries without the relevant documents and work permits. This activity remained uncontrolled, which led to an increased number of attacks on the energy and rail infrastructure.

A law on waste management was adopted in September 2003 by the National Assembly of Bulgaria. This regulated the procedures for granting and revoking licences. Further changes in 2004 increased the requirements for traders in the purchase and sale of scrap metal. Each transaction described the type, quantity and partners in the transaction. This enabled improved monitoring of the supply chain from source, dealer(s) through to the end user.

## 4.4. Spain

Spain is considering how to remand perpetrators until the trial and also introduce effective legislation to regulate the recycling industry.

Consideration is also being given to improving the process of closing unlicensed / illegal SMDs; implementing a registration system for SMDs and introducing harsher punishments for offenders.

## 4.5. Greece

There are no particular laws concerning metal theft in Greece. Metal theft is categorised as common theft. Prior to 2001, Greece had no legislation for the viable management and recycling of waste.

No new legislation has been approved to tackle metal theft and none appears to be in the pipeline, even though the Government attempted to introduce measures and launched a pilot programme (Green Point) to tackle this problem.

Legislation (2939/2001) was introduced in 2001 in compliance with EU Directives for waste management. Scrap metal regulations are considered mainly under waste management legislation.

# 5. Examples of good practice since 2010/11

## 5.1. Public Private Partnerships

Pol-PRIMETT has brought together representatives from 12 Member States to discuss and share information and intelligence to tackle metal theft.

The Pol-PRIMETT website has been developed as a platform for sharing good practice. The website has a public-facing section with news articles from across the EU to raise awareness of problems and solutions. In addition there are two secure areas for access by approved members.

Pol-PRIMETT has facilitated cross-sector activities in the UK including:

- UK police forces have worked with the private, faith and heritage sectors to develop Business Collaboration Networks. An example of this is Churchwatch - a national initiative which provides free and impartial crime reduction advice to churches
- The Crown Prosecution Service (CPS) liaised with British Transport Police (BTP) to develop guidelines on how to present crimes such as metal theft to the courts
- BTP collaborated with Emissions Reduction Units (ERU's) to visit metal recyclers and monitor exports

### 5.1.1. National Metal Theft Taskforce

In 2011 the UK Chief Finance Officer for the Treasury allocated £5 million to develop a National Metal Theft Taskforce. Administered by BTP, the aim is to complement and expand existing metal theft reduction initiatives by both the public and private sector.

### 5.1.2. ACPO Conductive Metal Theft Working Group

A national working group was developed by the Association of Chief Police Officers (ACPO) to bring together public and private sector representatives to tackle metal theft. The group agreed a strategy to tackle metal theft in the UK including:

- Increasing the effort to tackle metal theft
- Sharing existing prevention strategies
- Encouraging 'just in time' deliveries of metal in the construction industry
- Encouraging utility companies to document procedures thoroughly
- Exploring methods for designing out metal theft in the future – working with a research body, The Institute of Materials Minerals and Mining (IOM3), exploring the possibilities of marking metal, burying cable and investigating alternatives materials to be used other than metals

### 5.1.3. Fusion Intelligence Unit

BTP's Fusion Intelligence Unit (FIU) was launched in 2011; it brings together the police and industry to share intelligence to tackle metal theft. The FIU was developed as a three year strategy to ensure that methods of tackling metal theft improved during this time.

BTP began categorising metal theft into live offences (immediate impact on the railways) and non-live offences (other metal theft not impacting on the railway) and introducing specific crime codes to record metal theft.

The FIU has private sector representatives attached to work with the police, this enables BTP to have access to the internal systems used by private companies and to respond more quickly to metal theft incidents as the reporting time is reduced.

The outputs from the FIU are intelligence packages which are disseminated to relevant contacts. Intelligence on low level criminals is delivered to police Single Points of Contact (SPOC) and the Area Intelligence Bureaux whereas high level (OCGs) is disseminated to Regional Intelligence Units.

Intelligence packages are also produced for industry representatives.

Fig 2

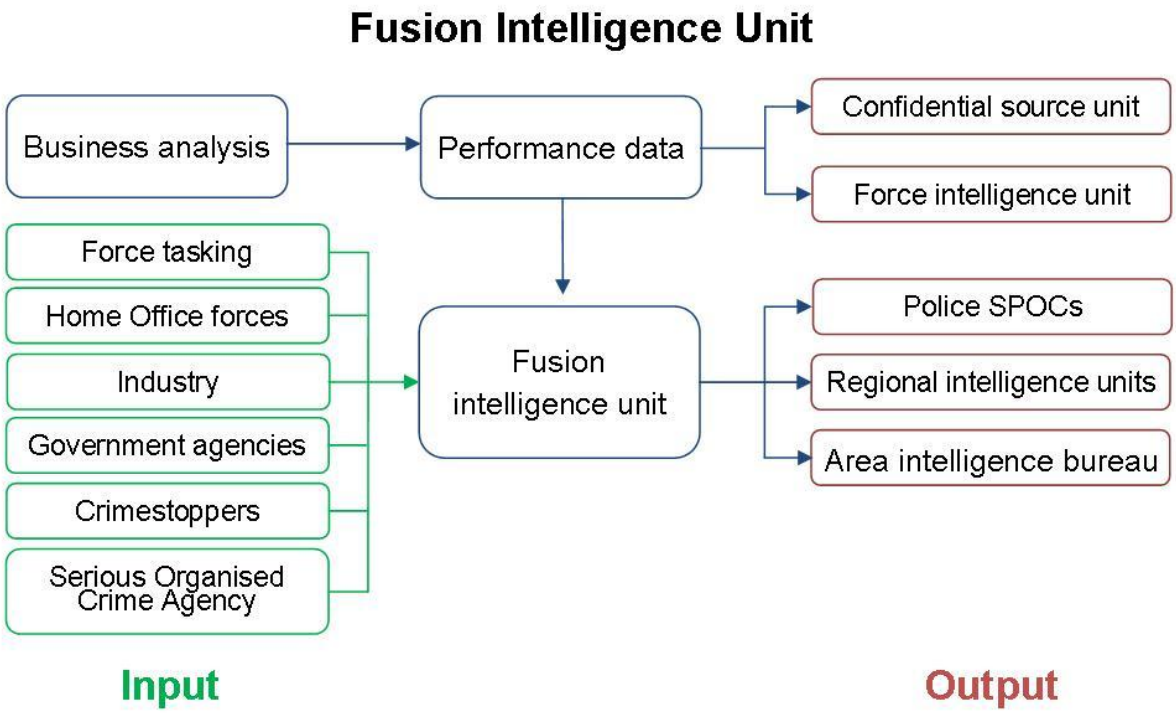


Fig 2 shows the FIU model. The left hand side of the model is referred to as the primary area which feeds into the FIU at the centre. The FIU welcomes input from all sectors including industry and Crimestoppers[1].

The FIU includes a range of public and private sector organisations and tackles all elements of metal theft including carousel fraud, environmental law violations and the involvement of OCGs. Organisations involved include:

- BT
- Network Rail
- Environment Agency
- Serious Organised Crime Agency
- Highways Agency

### 5.1.4. The Security Incident Reporting System

The Security Incident Reporting System (SIRS) was launched by UK Power Networks to help identify and track metal theft incidents. In the 18 months following the launch in 2008 there were 1,603 metal theft incidents reported. 26 police forces including BTP are now linked to SIRS as well as 11 private utility companies.

### 5.1.5. Designing out metal theft

IOM3 has been commissioned by the Home Office to design out metal theft initially focusing on copper and lead. The two objectives are to reduce the opportunity to steal metal and to make metal easier to identify.

### 5.1.6. Engagement with the recycling industry

BTP, BT and Network Rail developed information guides which were issued to SMDs to highlight what metals should not be purchased from customers.

Please also refer to 5.2.1 Operation Tornado.

## 5.2. Law enforcement activities introduced since 2010/11

### 5.2.1. Operation Tornado

Operation Tornado was launched 6th January 2012 as a pilot scheme involving SMDs throughout the North East of England. The operation ran for six months and required anyone selling scrap metal to SMDs to provide photographic proof of identity including address.

[1] Crimestoppers is an independent charity helping law enforcement to locate criminals and help solve crimes. Crimestoppers has an anonymous 24/7 phone number that people can call to pass on information about crime; alternatively people can send Crimestoppers information anonymously.

BTP developed this trial in partnership with the British Metal Recycling Association (BMRA), ACPO, the Home Office and Northumbria, Durham and Cleveland Police.

The objective was to restrict the sale and movement of stolen metal. It was designed not to inhibit dealers that operate legitimate businesses rather to identify unscrupulous dealers who operate outside the law.

As part of Operation Tornado, individuals selling scrap metals were required to present one of the following:

- UK photo card driving licence (includes address) or,
- UK passport or original passport from any nationality, or official national identity card supported by a utility bill showing the seller's current address.

Copies of the documents were kept for a minimum of 12 months and stored alongside a record of the transaction. All records had to be available for inspection by police and other agencies.

SMDs were also encouraged to enhance or install CCTV systems ensuring cameras covered the entrance, weigh bridge and cash office.

Operation Tornado proved successful, reducing the ability for stolen metal to be converted into cash. Metal theft was reduced in the pilot areas as follows: BTP 60%, Durham 55%, Cleveland 55% and Northumbria 40%.

Following the success of Operation Tornado in the North East of England, the initiative was rolled out across the UK.

### 5.2.2. British Transport Police

BTP has produced minimum standards of investigation for use by police officers. A Scene of Crimes Officer (SOCO) strategy has also been produced which outlines how to deal with both live offences, affecting railway services and non-live offences, not affecting railway operations. BTP aims to achieve 100% SOCO attendance at live offences.

BTP has adopted a 'RAG' system to categorise SMDs:

- Red – Non compliant
- Amber – Partly compliant
- Green – Fully compliant

This enables BTP to prioritise activities.

BTP also trains police officers on how to conduct a visit to SMDs.

### 5.2.3. Days of action

BTP coordinates 'days of action' on a monthly basis and a quarterly 'national day of action'.

The following organisations are involved:

- Police
- Environment Agency
- Vehicle and Operators Services Agency (VOSA)
- HMRC
- Department of Work and Pensions (DWP)
- Local authorities
- BT
- Network Rail

Days of action involve visits to SMDs and establishing road blocks. Thorough checks are undertaken at SMD premises and of vehicles to check for compliance.

**Case study – 11th October 2012**
150 SMDs were visited by BTP, other police forces, VOSA, Environment Agency, HMRC, Scottish Environmental Protection Agency (SEPA) and DWP.

500+ vehicles were stopped and a number confiscated for having no insurance and other vehicle related crimes.

13 people were arrested for a range of offences including metal / cable theft and driving offences.

### 5.2.4. HM Revenue and Customs

In December 2011, HMRC launched 30 taskforces across the UK to:

- Verify VAT reclaimed on transactions
- Verify exports to EU and non-EU destinations
- Establish identity of cash sellers
- Authenticate lifestyles of targeted individuals
- Register high value dealers under money laundering regulations

### 5.2.5. Exporting metal

**UK Border Force**
UK Border Force (UKBF) is working with BTP to establish the destination of non-EU metal exports. The work includes identifying trends, crime hotspots and areas of interest relating to the export of stolen metal.

Intelligence suggests that scrap metal is not being exported via RORO [2] to be transported across the continent before being shipped to Asia as this is not cost effective. It is therefore assumed that metal is exported from the UK directly to Asia in containers.

| Destination | Scrap metal exports in 2012 | Copper exports in 2012 |
|---|---|---|
| China | 277 | 124 |
| Hong Kong | 22 | 95 |
| Indonesia | 42 | 6 |
| Sri Lanka and India | - | 30 |

UKBF is able to profile any UK export to EU Member States acknowledging that information is limited.

### 5.2.6. Judiciary

The general consensus is that the judicial system would benefit from a better understanding of the impact of metal theft. This would ensure that sentencing is more appropriate to the impact of the crime committed. BTP has met with representatives from the UK judicial system with the aim of improving sentencing.

**Magistrates Association**
BTP has met with the Magistrates Association and in particular the sentencing committee to stress the economic and social impact metal theft has on communities. The Magistrates Association stated that a key element to improving sentencing is the preparation of evidence.

The use of victim impact statements has been encouraged within Pol-PRIMETT to demonstrate to the judiciary the impact metal theft incidents have on businesses, individuals and communities.

[2] Roll-on/roll-off (RORO or ro-ro) ships are vessels designed to carry wheeled cargo such as automobiles, trucks, semi-trailer trucks, trailers or railroad cars that are driven on and off the ship on their own wheels

## 5.3. Preventing and deterring metal theft

### 5.3.1. Good practice guides and metal theft toolkits

**UK Good Practice Guide**
BTP has developed the UK Good Practice Guide which provides an overview of good practice for tackling metal theft.

**Police checklist**
BTP has developed a checklist for police officers when visiting SMDs. This encourages police officers to prepare before a visit. BTP has produced an 'original site visit' and a 'second site visit' document to ensure all relevant information is captured in a consistent format.

**Metal Theft Toolkit**
West Yorkshire Police working in collaboration with BTP developed a Metal Theft Toolkit which promoted two ways to deal with metal theft;
1) Prevention / deterrence
2) Prosecuting offenders
Front line officers are supplied with information which enables them to understand the roles and powers of agencies.

**Training programme**
In addition to the pocket-sized toolkit, a training programme has been developed which is delivered to police officers to provide further information and a methodology for dealing with metal theft incidents.

### 5.3.2. Telecommunications

**UK**
BT has led the way in tackling metal theft within the private sector in the UK and has invested heavily (£1.5m) on establishing a private intelligence cell for covert surveillance. BT regularly works in collaboration with police forces to tackle the impact of metal theft on the organisation, its customers and communities.
BT has developed a 'flagging' system that identifies damage to BT equipment as a result of criminal activity.

**Italy**
Telecom Italia S.p.A has activated countermeasures by installing SecurVox equipment which detects the cutting of cables in real time. A device sends a message to a security centre or the police notifying the location of the attack.
GPS devices have been installed on telephone cables to track when cables are removed. ADSL cables are protected by an alarm system which activates when attempted thefts occur.
Electrical cables and copper wire used in installations are marked and catalogued to enable identification if stolen.

### 5.3.3. Utilities

**UK**

**UK Power Networks**

UK Power Networks has invested in intelligent locking systems for vulnerable or frequently targeted substations. Buildings and compounds are protected with access keys and security packages are utilised on large sites. However security is mainly viewed as a safety measure for employees and not to protect against the threat of metal theft.

**Yorkshire Water**

Current deterrent methods used by Yorkshire Water include:

- Use of aluminium instead of lead
- Deploying Redweb forensic security marking which marks the thief as well as the asset with a unique solution
- The installation of rapid deploy cameras
- The installation of site intrusion detection systems which provide an early warning of attack
- Experimentation with the use of private security and surveillance companies due to a history of poor police response
- Target hardening strategies
- Engaging with some SMDs

**Italy**

Italian utility company Enel has introduced several measures in an attempt to combat metal theft. A power line anti-theft system (RIE) has been developed which detects the absence of voltage on a power line, differentiating from normal accidental malfunctions. This system detected 11 attempted thefts in the first six months of use. Additionally, when renewing overhead lines, aluminium conductors are used in place of copper. Enel is collecting information on the various types of cables used so stolen materials are easily identified. Police make contact with relevant organisations if suspect copper is found.

### 5.3.4. Faith and heritage

**UK**

The Church of England is researching preventative techniques including motion detectors on roofs, voice activation alarms and the utilisation of alternative metals. Additionally the Church of England advises its representatives to engage with local communities in order to prevent and deter metal thieves.

Incidents of metal theft involving war memorials, heritage sites and faith buildings have gained high profile media coverage in the UK. These types of incidents increase public support and encourage communities to become involved in prevention and deterrence activities.

### 5.3.5. Legislation and policy changes

**UK**

In 2012 the UK Government reviewed the Scrap Metal Dealers Act 1964 to improve existing legislation including:

- Banning cash payments for scrap metal reducing the ease of reward
- Stricter sentencing and penalties for illegal operators
- More rigorous licensing making it harder for illegal operators to trade
- Increase fines to an unlimited amount – current fines average £300-£400
- Revising police powers of entry to SMDs

These measures aim to reduce metal theft and identify tax avoidance. A ban on cash payments was introduced in December 2012. There was however an exemption for itinerant SMDs that registered with the local authority.

However transactions between itinerants and SMDs have to be cashless and are therefore traceable. SMD's have to record each transaction with proof of ID from the itinerant.

Prior to the implementation of the cashless legislation the Government engaged with the recycling industry to discuss how to implement the legislation.

The ban on cash payments was introduced in England and Wales in December 2012 and discussions are taking place with the Scottish Government regarding the adoption of the legislative changes.

**Bulgaria**
Bulgaria introduced a new Waste Management Act in June 2012 which included:

- Introduction of 24 hour surveillance on SMD sites
- Tougher restrictions on trading scrap metal
- Reducing the number of sites for trading waste metals
- A review of the penal code relating to trading without a licence
- No cash purchase of scrap (from 2014)
- Individuals obliged to dispose of scrap metal at municipal sites free of charge (municipal sites which do not currently exist are planned to be established by 2014 when this legislation will come into force. However no funding has been allocated and there is no strategy for the development of the sites)
- Separate storage of waste materials including:
    - WEEE – Waste electrical and electronic equipment
    - Metal waste packaging
    - ELVs – End of life vehicles
    - Waste resulting from pre-treatment
    - Waste from households
    - Waste from industry
    - Materials vulnerable to theft (cables; traffic signs, traffic barriers, metal covers of shafts, street lighting, water sewage systems and facilities or cultural monuments)

  This requirement is not practical as SMDs would have more than 50 different storage piles of waste
- A transparent recording system of all transactions – certificates of origin and individual declarations, ID cards, contracts and video surveillance
- Heavy penalties for violations:
    - Fines of between €15,000 – €50,000
    - Withdrawal of waste trading permit
- Onerous administrative procedures for obtaining a waste trading permit

Following the introduction of new legislation, 50% of SMDs have been forced to close. It is believed that more SMD's may become illegal as a result of the difficulties in establishing and maintaining a legal site in Bulgaria.

CIMDA (Civil Initiative of Ferrous and Non-Ferrous Metal Dealers Association) was established in June 2011 to unite SMD's from the recycling industry and to protect their interests within the provision of the Bulgarian Waste Management Act.

## 5.4. Media coverage

**UK**

BT developed a media strategy to tackle metal theft which increased interest from the press.The strategy included raising awareness with the public and government bodies that criminals are to blame for metal theft and not the market.

BTP implemented public and government awareness campaigns in conjunction with Network Rail to raise awareness that metal theft is not a victimless crime and that the cause of service failures is often as a result of criminal activity.

BTP has actively encouraged the use of social media to raise awareness of metal theft.

In the UK high profile media coverage has been given to incidents of metal theft involving war memorials, heritage sites and faith buildings.

## 6. Information gaps

The key information gap identified within Pol-PRIMETT was the level of involvement of OCGs within the metal theft supply chain including:

- The structure of OCGs
- The value metal theft to OCGs and profit levels
- How OCGs control the supply chain from theft to export
- Identifying individuals who are part of OCGs but are not involved in metal handling
- Identifying links to other criminalities including drug and hazardous waste smuggling

Other information gaps identified were:

- The variations in sentencing of metal theft offenders across the EU
- Understanding the destination, quantity and methodology used in the export of stolen metal

## 7. Conclusions and recommendations

- To establish an effective public-private partnership like Pol-PRIMETT, a dedicated and committed lead is required to drive the implementation and development of the partnership.

- Relationships between public and private organisations must be developed and nurtured in order to tackle complex issues such as metal theft. Through Pol-PRIMETT, public-private partnerships have been developed regionally, nationally and transnationally; horizontally and vertically to tackle metal theft

- Each Member State within the Pol-PRIMETT partnership is at a different stage of tackling metal theft and faces different challenges. Due to variations in legislation, culture, society and public/private structures there can never be one solution to this problem

- Member States benefit from being able to share skills and knowledge through open trusted channels of communication in an effort to reduce metal theft across the EU

- The Pol-PRIMETT EUG created a knowledge transfer network which enabled good practice to be shared between sectors and Member States. This collaboration provided a platform for a unified approach to tackling metal theft. Tackling any commodity theft – such as metas – will be vastly improved through effective network and partnership working

    - **Case study**: At the 5th EUG meeting in London, UK, a number of LEAs provided an overview of their remit in relation to tackling metal theft. This enabled LEAs to improve their understanding of other enforcement processes and created a network to enable a more coordinated approach when tackling incidents of metal theft.

  It should never be taken for granted that different organisations understand the role of other key stakeholders when tackling a problem. Having an understanding of basic processes across different organisations will improve efficiencies and encourage collaboration when tackling a phenomenon like metal theft

- It is essential to have appropriate representatives attending meetings so key issues are tackled effectively. Within Pol-PRIMETT each meeting included representatives from LEAs, the private sector and the recycling industry

- The contribution of representatives from the recycling industry was important to the success of Pol-PRIMETT. It was recognised at an early stage that this sector is also a victim of metal theft and wanted to be part of the solution

- It was important to invite national policy makers to EUG meetings. Pol-PRIMETT has been able to share key information with government bodies to assist policy makers in other Member States.

- Pol-PRIMETT has shared information transnationally and continues to be an important information channel for government bodies

- It was important to establish that EUG meetings did not become a 'talking shop' or a platform for airing grievances. To counter this Pol-PRIMETT EUG meetings were 'action focused' and addressed specific issues previously identified by members

- Pol-PRIMETT has enabled the transnational sharing of good practices so that metal theft can be tackled more efficiently across the EU.

    - **Case study:** Forensic marking solutions have been utilised in the UK for a number of years but this was found not be the case in other Member States. During the 7$^{th}$ EUG meeting in Valencia, Spain, forensic marking was presented as a tool for tackling metal theft. This was seen as revolutionary by many non-UK EUG members. This practice was quickly adapted by many partners who had not previously deployed forensic marking

- Technical solutions contribute to deterring and reducing metal theft

    - **Case study:** BT (UK) developed an alert system called RaBiT. When a thief cuts a live BT cable, RaBiT sends an alert via SMS to local police. As police respond immediately, thieves have often been found to abandon the crime scene

- A universal system for recording metal theft would be an ideal solution to gain a clear understanding of the scale of metal theft across the EU. However establishing the level of metal theft is very difficult as each Member State records metal theft differently. It is recognised that implementing a universal system would be complex and problematic requiring high levels of collaboration and coordination from each participating Member State. A national strategy to develop a system for recording metal theft is therefore recommended

- By establishing offender profiles social issues including poverty, deprivation, unemployment and substance abuse (which create the need for metal theft) were identified. This provides society with an opportunity to address the underlying issues associated with this type of criminal activity

- A large proportion of metal theft is committed by opportunist thieves (level one offenders). A combination of improved prevention and deterrence techniques within the private sector and the implementation of effective legislation by Member States will contribute to a significant reduction in this type of metal theft incidents

- It is important to understand the methodology of criminals involved in metal theft. Currently more is known about level one offending (opportunist) and as a consequence Member States have been able to tackle and reduce metal theft carried out by this level of criminality. However, more information is required on the methodology of OCGs before their level of involvement can be effectively tackled – Pol-PRIMETT II will address this issue

- Throughout the lifetime of the project some Member States have implemented legislation to tackle metal theft. Pol-PRIMETT has been able to analyse the impact of the different types of legislation and the following are recommended as good examples of legislative practice:
    - A robust licensing system enabling LEAs to identify legitimate operators and focus resource on non-compliant organisations
    - Removing cash from the recycling industry reduces the attraction of metal theft to opportunist thieves
    - Recording the identity of the seller in each transaction creates an audit system for the police to investigate should a criminal incident occur

- Following the introduction of legislation continuous monitoring on an organised and systematic basis is required to ensure compliance. Failure to ensure compliance allows standards to be compromised

- Metal theft must be recognised as a serious problem and must be given priority by governments and LEAs. By introducing police SPOCs the approach to tackling metal theft will be more coordinated, provide clear communication channels and improve stakeholder involvement

- The adoption of good practice guides:
    - Encourages a consistent approach and improves understanding and knowledge that can be shared across sectors and Member States
    - Provides a methodology for tackling metal theft

- It is important that the public-private partnerships developed within Pol-PRIMETT continue to share and develop good practice. If the theft of another key commodity emerges as a major problem, it will be possible to transfer the infrastructure developed and the lessons learned within Pol-PRIMETT

- Many Member States were ill-prepared for the metal theft phenomenon which meant the reaction to tackle this problem was slow and ineffective. Knowledge transfer networks enable trends in commodity theft to be communicated so that any emerging problem can be tackled more efficiently and effectively

- It is recommended that the European Commission considers the establishment of an expert group to monitor the movements in commodity prices in order to be able to introduce preventative measures if and when particular commodities become attractive to criminals because of price, ease of access or methods of resale

# 8. Annexes

## 8.1. Annex 1 Metal theft in the United Kingdom

### Position of metal theft in 2010 / 2011

#### Understanding the threat and risk caused by metal theft

Metal theft has been a very significant problem in the UK for many years and affects all public services including railways, utilities and telecommunication in both urban and rural areas. Metal is also stolen from faith buildings, heritage sites and war memorials causing social and community problems.

The cost of metal theft to the UK economy is estimated at £770 million a year which includes damage, replacing stolen metal, the economic impact of lost business and compensation pay-outs.

Metal theft is a UK wide problem, but historically Yorkshire and Humberside, the West Midlands and the South East have been the worst hit regions.

There are indications that the methodologies and levels of skill required to conduct metal theft is adapted on a 'theft by theft' basis and relative to the potential rewards on offer. Metal thieves have been known to use force and violence during an attack and have impersonated legitimate employees carrying out maintenance work. Metal thieves are also using powerful tools such as petrol run disc cutters in order to thwart security measures implemented by businesses.

SIRS was launched in 2008 by UK Power Networks to help identify and track metal theft incidents. In the 18 months following the launch there were 1,603 metal theft incidents reported. 26 police forces including BTP linked to SIRS as well as 11 private utility companies.

Some private sector companies believe there is a need to implement an effective metal theft reporting system to enable data to be collected and analysed to identify trends. However, the cost implications are restrictive as dedicated staff would be required.

Reference documents have been produced by the private sector for use by the police so when they visit SMDs or when they investigate an instance of metal theft, they are able to recognise the different types of metals / cable.

## Police

The operational delivery of law enforcement is through 43 independent police forces in England and Wales under the command of Chief Constables; led by ACPO. BTP is the ACPO lead for metal theft.

BTP has established specific crime codes to record metal theft and live metal theft. Most police forces in the UK however, do not have a code to record metal theft at this time and metal theft is usually recorded generically under 'theft'. The Home Office is currently considering whether all police forces should instigate such crime code (this was introduced to all police forces in 2012).

The police now have greater visibility regarding metal theft and have appointed metal theft SPOC in many forces.

OCGs have been identified by some police forces as being involved in metal theft. In some cases significant quantities of metal have been stolen, requiring specific types of transportation and several people to enable the theft to occur. It is believed that the number of incidents attributed to OCGs is relatively low but extremely significant.

Metal theft is usually reported to local police via the telephone or in person. The crime is then generally allocated to a metal theft team (if one exists within the local force) or an appropriate officer (uniform or detective) depending on the seriousness of the crime. The businesses that are aligned to SIRS will also report it on the database.

BTP has produced a National Problem Profile of metal theft which is revised annually.

## HMRC

HMRC uses a variety of methods to detect tax fraud and evasion including a risk driven, counter evasion approach to conduct criminal prosecutions and civil sanctions.

There are a number of SMDs not registered with HMRC and these can be detected by assessing levels of compliance.

HMRC cannot investigate theft until the stolen item is traded.

The risks to HMRC posed by the scrap metal industry are:

- Predominately cash based industry which is worth over £5 billion
- Cash attracts criminals due to the lack of any records
- Cash transactions facilitate a variety of HMRC offences including tax evasion and suppression
- Carousel fraud – the avoidance of VAT through fraudulent transactions and exports
- Unregistered businesses and employees

## Environment Agency

The Environment Agency is a non-government body which reports to DEFRA. Their main involvement in metal theft is 'waste' crime, investigating illegal waste sites, illegal exports, and illegal waste disposal on a large scale.

The Environment Agency supports local operations and shares intelligence locally and nationally. The Environment Agency is hoping to contribute to the fight against metal theft and is looking for a more focused effort towards the problem. A number of staff employed by the Environment Agency are ex-police officers and are recruited for their enforcement background as opposed to their environmental background.

The Environment Agency does not have a national data sharing agreement with the police as all police forces are managed differently however there are some local data sharing agreements established.

The Thames Flood Barrier is run by and maintained by the Environment Agency and has been hit by metal theft.

## Telecommunications

Metal theft is a UK wide problem for BT, UK's largest telecommunications company. No specific region is targeted more than another although the South East of England is the worst hit area at the time of this research (November 2010).

BT suffers from malicious damage and theft of cables - the majority being live network cable. In 2010, BT was subject to 130 live attacks every month. This has an impact on the reputation of the BT brand as well as on the communities affected by the loss of service. The cost of copper has a direct impact on the level of malicious damage incurred.

Another impact to consider is that BT engineers are not dealing with scheduled work if they are fixing problems caused by metal theft. This obviously has a 'knock on' effect to the overall service provided to BT's customers.

Metal theft is a significant economic cost to BT as government imposes fines for any loss in service. Metal theft reportedly costs BT £6 million per year but a true figure is believed to be three to four times higher. The average cost to BT per cable incident is £10,000.

During a four month research exercise in 2010, BT established that there were in excess of 4300 SMDs operating in the UK.

BT leads the way amongst the large corporate organisations tackling metal theft. BT has invested heavily (£1.5 million) on establishing a private intelligence cell for covert surveillance. BT also regularly works in collaboration with some police forces to tackle the impact of metal theft on the organisation and on the communities they serve.

In 2010 there were 300 arrests for theft of BT assets (as of November 2010). However the number of actual convictions is poor with cases being lost at prosecution. BT believes that it

is important to talk to the police about the impact of metal theft in communities. BT is hoping to link with Crimestoppers[3] to improve levels of intelligence.

BT has developed media strategies that have seen an increased interest from the press and have proved successful in influencing government and public opinion about the cause and impact of metal theft. The lesson learned is that it is important to reproach the criminals and not the market.

BT believes that the police, border agencies and the private sector need to work together to tackle the shipment of stolen metal.

BT reports that there is a 30% difference between the numbers of metal thefts recorded by the police and metal theft incidents reported by BT engineers. BT operates a 24 hour help desk for reporting crime. Engineering teams report incidents of metal theft directly to the police.

BT has developed a 'flagging' system that identifies damage to BT equipment as a result of criminal activity.

A network integrity unit engages with the police at a local level.

## Utilities

### United Utilities

United Utilities is a service provider operating in the North West region of the UK.

United Utilities is very badly affected by metal theft and suffers approximately 8 - 15 incidents of metal theft per month each costing from £4000 to £80,000. The organisation is also liable to heavy industry fines. However, it is recognised there is serious under-reporting of metal theft incidents in the company and these figures are likely to be 20 - 40% higher. United Utilities has in excess of 2300 sites. Each site has a manager who is responsible for the whole site including security. There is no separate budget for security.

From January to May 2010 a total of 25 sites were targeted with a overall loss of £226,000. Thieves have stolen fences and gates. One sub-station was attacked 29 times in one month. On one occasion there were six separate attacks in one night but the police would only issue one crime reference number.

United Utilities greatest loss was in 2007 when members of the travelling community occupied a site and completely destroyed the site over a three day period. Equipment with a value of £2 million was destroyed.

[3] Crimestoppers is an independent charity helping to find criminals and help solve crimes. Crimestoppers operates an anonymous helpline that can be called to pass on information about crime. Alternatively people can pass information anonymously via the website. Callers don't have to give their name or any personal information and calls cannot be traced. They also do not need to appear in court or provide a statement to the police.

Operational assets are the most vulnerable points of the network. If the company increases physical hardening and electronic security of one asset this forces the criminal element to travel to the next unprotected site. In reality, all 2300 sites require the same or similar protection. United Utilities is planning to introduce hi-visibility random security patrols in 'hot spot' areas.

United Utilities coordinated a North West Region Metal Theft Forum in the UK and organised a regional seminar to introduce the forum. The purpose of the forum was to create a public / private sector partnership to tackle metal theft.100 delegates from the public and private sector attended the seminar which was held in September 2011. The forum comprises of members from LEAs, governmental agencies and the private sector that operate in the North West region. The aims and objectives of the forum closely mirror the aims and objectives of Pol-PRIMETT and the forum was used as a case study in the Pol-PRIMETT project to access the impact of a regional public / private sector partnership to tackle metal theft.

**Yorkshire Water**

Yorkshire Water manages the collection, treatment and distribution of water in Yorkshire, supplying around 1.24 billion litres of drinking water each day.

Metal theft is a big problem for Yorkshire Water. The company has suffered theft of lead from the roofs of their buildings and from water towers, manhole covers and lightening conductors. Yorkshire Water is now replacing lead with aluminium conductors. There are also serious safety issues as live cables are being stolen.

Metal theft at Yorkshire Water is a serious threat to the communities they serve. When a sewage works is attacked, service to the local community is compromised. Metal theft impacts negatively on operatives and morale is very poor. Yorkshire Water is very heavily regulated and suffers substantial fines if sewage leaks into rivers.

Yorkshire Water collates data for Yorkshire and the Humber region only. And believes there is between 20% - 40% under-reporting of metal theft.

Yorkshire Water has experience of contractors who have been found to be involved in metal theft.

Current deterrent methods used by Yorkshire Water include:

- Use of aluminium instead of lead
- Deploying Redweb forensic security marking which marks the thief as well as the asset with a unique solution
- The installation of rapid deploy cameras
- The installation of site intrusion detection systems which provide an early warning of attack
- Experimentation with the use of private security and surveillance companies due to poor police response
- Target hardening strategies
- Engaging with some SMDs

Yorkshire Water's relationship with the police is very inconsistent with no one appearing to want to take ownership of the problem. Yorkshire Water reported that police response has been particularly poor over the last eight months (March to November 2010). Also, there are inconsistencies in the way metal theft is recorded which makes it hard to collate data and establish a complete picture of the problem.

**UK Power Networks**

UK Power Networks has 170,000km of network cable across the UK and services 8.5 million customers. In one example of metal theft last year 100,000 people were taken off line which included a local hospital and local railway networks.

A piece of cable worth £5 can cause up to £50,000 worth of damage to the organisation.

UK Power Networks employs one full time investigator to look into metal theft. In comparison BT, currently employs 27 full time staff members to investigate metal theft.

**Manufacturers**

TATA Steel is a global steel manufacturer and the world's second most geographically diverse steel producer.

TATA Steel has significant problems with metal theft at all levels. Within the Yorkshire and Humber region the cost of metal theft to TATA Steel in 2010 is estimated at £400,000 but it is suspected that there is around 50% under-reporting which is typical for the manufacturing industry.

Contractors are a threat as it is believed they are involved in theft of metal stock. TATA Steel has also identified ex-employees as a risk.

Criminals have driven trailers into yards and loaded up metals stored on site. This suggests that OCGs are involved. Scrap metal and alloy is regularly stolen.

TATA Steel currently is very reactive and will only respond after a theft.

Generally TATA Steel has experienced a poor response from the police who seem to view metal theft as a minor crime and expect manufacturers to 'cope' with the problem.

**Faith and heritage sector**

The Church of England has 16,200 churches and cathedrals across the UK. Additionally the Church of England is responsible for a large number of heritage buildings. Most of these buildings contain or contained lead or copper.

In 2010 1,763 metal theft claims were made by the Church of England. The highest number of metal theft claims was in 2008 when there were 2,400. Ecclesiastical Insurance who specialise in insuring religious and heritage buildings, has introduced a cap on metal theft claims at £5,000. It has been reported that some insurers will not pay compensation if the metal stolen is not forensically marked.

The main issue faced by churches and cathedrals is the damage caused by metal theft. Lead may have been stolen during the summer months and go unnoticed. However, during a period of bad weather the roof may collapse causing security risks and extensive damage.

Churches are being forced to close as a result of being the victim of multiple metal thefts which has a significant impact on local communities. Two churches have been targeted six times each in 2010. The repair costs are drawn from other areas of the churches budget which restricts planned community activities.

Some heritage buildings are required to replace lead with lead and therefore thieves return to steal the replaced material.

It is reported that Google Earth has been used by criminals to identify churches with lead roofs making them a target for OCGs.

The Church of England reports to the Home Office Metal Theft Working Group and has strong connections with the government including on-going support from the UK's Crime Prevention Minister.

**Role of scrap metal industry**

It is generally believed that the most common way of disposing of stolen metal is through a SMD. This involves very little risk to the offender, with cash transactions often being carried out.

SMDs are also significant victims of metal theft. As an example, in 2010 thieves stole a crane in order to access a scrap yard and steal a vehicle loaded with catalytic converters.

It is believed that OCGs are setting up scrap metal dealerships to facilitate the sale of stolen metal.

The recycling industry believes that the police view this type of criminal activity as a low priority. Therefore the industry needs to rely on increased prevention strategies.

BMRA is involved with the police and utility companies to tackle metal theft. BMRA members are a significant source of intelligence and it is important that a positive relationship with the police is created and maintained.

It is also important that BMRA members are able to recognise stolen metals.

According to BMRA there are currently 1,800 registered SMDs in the UK - 80% being SMEs. This equates to an industry worth £5.9 billion. The UK scrap metal and recycling industry exports £3.7 billion of fully recycled, furnace-ready metal every year.

The UK is Europe's largest scrap metal and recycling industry and is vital to EU sustainability.

The recycling industry is also heavily regulated with each SMD having to comply with 17 pieces of legislation and the need to document each movement of scrap metal.

BMRA reports that SMDs suffer over half the UK metal theft offences. However, this does not have the same impact on businesses, communities and individuals as other metal theft offences such rail, telecommunications and utilities.

BMRA claims that 0.1% of scrap metal in the recycling supply chain is stolen metal, demonstrating that stolen metal has a minimal value to legitimate SMDs. The recycling industry wants stolen metal eradicated from the industry as it is 'bad for businesses'.

There are also some illegal smelters in operation in the UK who are used to smelt aluminium kegs.

**Sale and export**

In addition to selling to SMDs, stolen metal can also be disposed of through the internet or by directly exporting metal often under the guise of other products.

All containers entering and leaving the UK are controlled by three major 'hubs'; Felixstowe, Southampton and Liverpool. The Port of Felixstowe manages 10,000 container movements every day.

All movements are monitored via a paper and electric register (manifest) which contains up to 30 elements of data including:

- Container reference number
- Importer and exporter details
- Destination (port)
- Description of goods
- Weight

UKBF uses this information to detect trends and analyse container movements.

If an LEA provides UKBF with the container reference number, UKBF will provide details of that container and can hold a container indefinitely.

Stolen goods are not an assigned matter for UKBF. UKBF has information which may be useful for other LEAs relating to stolen goods but cannot act upon it alone. Therefore collaboration with other LEAs is essential.

OCGs are renowned for hijacking legitimate containers. Goods can be moved very quickly into a container and out of the country. Stolen cable can be stolen and loaded into a container at a 'slaughter site' – where an empty container is placed in an isolated, rural location and filled. This container can be on the dock and exported within hours of the metal being stolen.

Initially, all containers appear the same and it is difficult to see into a container. Stolen metal is often placed behind a 'cover load'. The manifest will state that the container holds non-suspicious items. However, on closer inspection there are undeclared items. Weight declaration can be a good indicator of a cover load.

Scanners are used at ports to identify cover loads. Health and safety regulations prevent port personnel climbing into containers and examining contents. Therefore, if there is suspicion of a falsified load, contents are removed (this could be up to 26 tonnes of materials). Some ports 'tip' containers to avoid health and safety issues but these containers have to be moved to a specific location causing a backlog and delays.

The container checking system is automated which means there is no verification of the declaration. This enables some containers to be hidden within the vast quantities moved every day. UKBF therefore targets and profiles specific containers based on intelligence.

Shipping companies issue a reference number and are responsible for maintaining a database. Shipping companies will not accept containers without a reference number or with a reference number that appears to have been tampered with.

There are cloned containers in existence which are hard to trace. Shipping companies have developed a keen eye for identifying irregularities with containers i.e. additional welding or reference number tampering.

If a container is mis-declared the container will be referred to HMRC. The penalty issued would depend of the value of the mis-declaration. However, this would trigger an investigation into other aspects of the shipment.

There is no legal requirement for goods transferred between EU Member States to be declared. An EU export manifest will comprise of information relating to the logistics company and a description of the contents.

**Offender profiling**

UK metal thieves tend to fall into one of two categories, defined by the level of organisation and the scale of their criminality:

**Level 1 – Local, small scale criminality**

Offending is usually driven by the need to generate cash and is within areas that are suffering with relatively high levels of unemployment and / or social deprivation. Areas where such conditions prevail can offer rich pickings for metal thieves and it is not unusual to find communities where metal theft is considered almost 'normal'. Risks associated with metal theft are countered by the belief that the crime is relatively low risk, and that even if apprehended, it does not carry a substantial penalty.
Knowing that there is a buyer for the stolen goods, many offenders demonstrate great determination when carrying out metal thefts. This problem is intensified by SMDs paying cash.
Offenders at this level tend not to be forensically aware and take few precautions. They use a variety of tools in order to commit the crime including hacksaws, Stanley knives, battery operated angle grinders and even accelerant if they intend burning off the outer casing of the cables in situ.
The majority of thefts, especially theft of lead, are committed by local offenders, with a number of police forces reporting that Prolific Priority Offenders (PPO's) are involved.

On the rail network there tends to be a mixture of first time offenders and prolific offenders. Here offenders tend to steal relatively small amounts of live cable (i.e. earthing, signal, heater points cable, overhead cable etc.) and usually target areas of the network where their activities are not likely to be interrupted (rural / quiet locations).

Usually, offenders tend to be white British males, often from areas with a history of heavy industry, coupled with high levels of unemployment. They are aged from teens to 50's. Proportions of metal thieves are from travelling communities or have a rail industry background.
They offend locally to where they live (up to approximately seven miles from their home address); work as individuals, or in small groups (up to five members) with minimal planning.

These offenders are usually driven by the need to generate cash, often to support an alcohol or substance habit; and often have a history of being involved with other materialistic crime.

Once the metal has been stolen, the offenders usually deal with it by:

- Taking it away in its current state
- Stripping and / or burning it in order to destroy any identification marks in situ
- Taking it to a 'safe' area in order to strip and / or burn it
- Hide it in situ for collection and disposal at a later time

The thief will usually try to dispose of the stolen metal as soon as possible, not only to put distance between him and the stolen material, but also to realise its value as quickly as possible.

Metal thieves are concerned with identification and tend to favour disposal options that enable them to remain anonymous. This usually means that they will use a local SMD that is both ambivalent as to the source of the metal and less than thorough in establishing the identity of the customer. The vast majority of such transactions are cash based.

Having found a suitable SMD, the thief needs to transport the material to the site. The methods employed for this are varied, and include walking, private car, taxi, shopping trolley, wheelie bin and bicycle.

Some offenders prefer to take the stolen metal direct to the dealers themselves, whilst others use an intermediary. The intermediary usually creates a more respectable image, sometimes female, and can vary from the offender's drug dealer, if they have one, to the organiser of the original offence.

**Level 2 – Mobile, often highly organised large-scale criminality**

Offending at this level tends to be highly organised and on a grander scale than that seen at Level 1.

Those involved tend to work as groups, which can be split into two distinct sub- groups of travellers and industry based.

**Travelling community**

Traveller groups involved in metal theft tend to be highly organised with an in-depth knowledge of the scrap metal industry. They are predominantly of white British or Irish descent, and have a long history of association with the scrap metal industry.

Travellers involved in metal theft are willing to travel long distances, in excess of 200 miles in order to commit offences and dispose of stolen goods. They are willing to use and / or threaten violence if they deem it necessary. Travellers are both forensically aware and knowledgeable regarding police tactics. By adopting a confident and professional demeanour these highly organised groups will steal large volumes of metal by day or night.

Prior to any theft, the target will be researched by physically visiting locations, as well as carrying out research on the internet. These groups normally target copper based equipment (i.e. cables), often using transit vans and / or vehicles with a Hiab capability for lifting drums of cables.

They appear to be both willing and able to take metal from depots or any other location where there are sufficient quantities to attract their attention.
Some elements of the travelling community in the UK have had a long association with the scrap metal industry and it is believed that stolen metal is disposed of using industry contacts.

The offender profile developed by UK Power Networks suggests that metal theft is not led by the travelling community. The majority of thieves that target UK Power Networks are local criminals, career criminals or existing / past employees – either staff or contractors.

**Industry based groups**

Industry based groups tend to use internal knowledge of the rail industry to acquire and dispose of materials for their own personal gain. These groups are highly organised, with involvement being largely dictated by the individual's role and position within the organisation.

Industry based groups are predominantly composed of white British males (although not exclusively so) who, through their roles or positions, have insider knowledge of vulnerable or accessible material (the material favoured by such groups tends to be rail or 'non-energised' cables). They have access to official equipment including vehicles, which allows them to acquire, manipulate and dispose of materials with relative ease.

The groups tend to comprise of members with a history of theft from the rail industry. There is a widely held perception of there being a low risk of investigation and / or arrest resulting from such criminality and many of those concerned see little if anything wrong with the thefts themselves.This type of culture can lead to greed that in turn leads to increased volumes of metal being stolen.

These offenders exploit their insider knowledge and access to target areas of the network where the theft of such material is likely to be relatively straightforward (i.e. areas where cable / rail replacement and / or upgrades are taking place).

Such groups generally carry out their criminality at night, and will often involve the use of company assets to commit offences (i.e. using company vehicles to move material from trackside to a SMD).

These groups will make cash payments to relevant staff who occupy a position where they will either need to know about such activity or where their role is key for the thefts to keep happening (i.e. night shift supervisors that are trackside).

The SMDs used by these groups tend to be sourced by a group member which usually means they use the same dealers that have proved their worth in the past. Failing this, local staff who are involved in the corruption may be asked to source a local SMD.

The groups utilise 'preferred' SMDs who will routinely 'skim off the top' (taking a quantity for themselves when an official comes to collect) from illegal sales of stolen metals.

The following are examples of sites targeted by both level 1 and level 2 offenders: building sites; builders merchants; cemeteries; churches; depots; electricity pylons and substations; farms; hospitals; licensed premises; manhole covers; railway lines; residential properties; safety railings; schools; scrap yards; stately homes; statues; storage facilities; telecommunications systems; vehicles; and water treatment works.

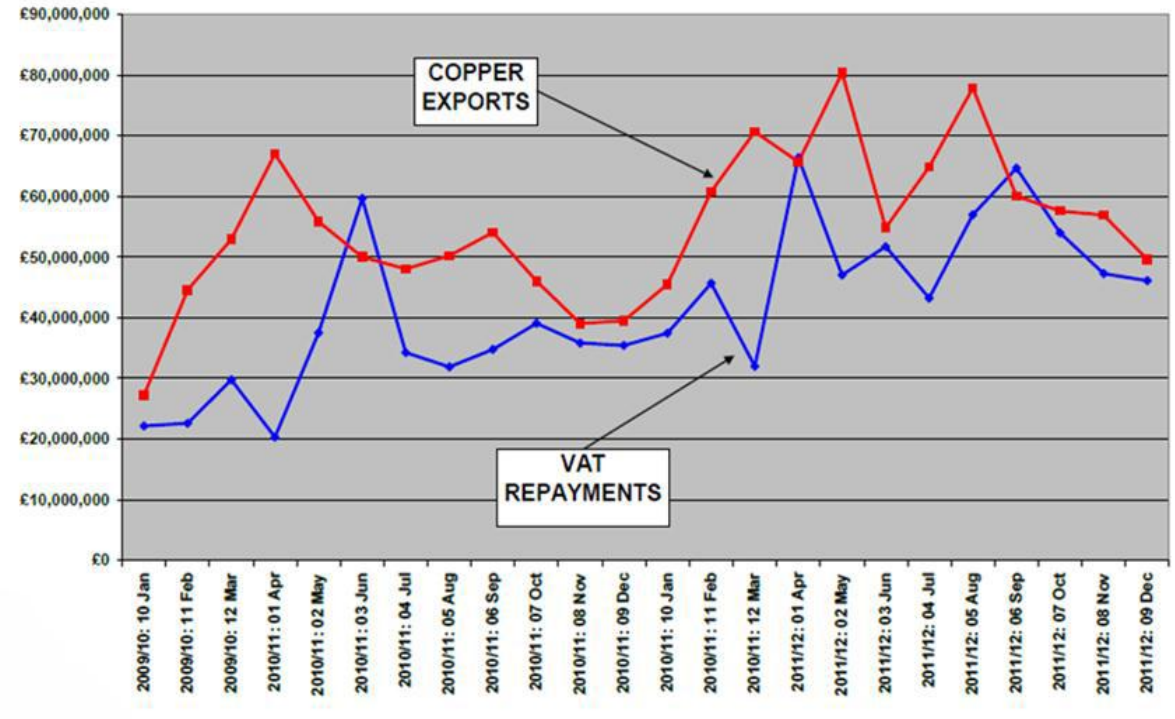
**Relationship with other criminality**

HMRC has compared the amount of copper exported, to VAT repayments to identify areas for investigation.

If copper exports rise and VAT repayments do not this indicates an increase in illegal exports.

Similarly if exports fall and VAT repayments rise this indicates tax and exportation fraud.

The graph over the page shows copper exports and VAT repayments from January 2010 to December 2011.




Tax offences are generally seen as a 'bolt on' to larger criminal investigations which are conducted by the police. On occasions larger offences have not been proven, however tax offences have and known criminals have not escaped punishment. This highlights the benefit of collaborative working.

HMRC investigated an SMD who had been unlicensed for 18 years, submitted no tax returns and reportedly earned over £2 million. He had also been trading online and earned over £230,000 in 18 months. A joint investigation with police and the Environment Agency ensured the owner was sentenced to two years and four months, £813,000 confiscated and £122,000 in cash seized. The scrap yard is now closed.

In 2009 HMRC visited 221 SMDs, identified and protected £41 million in potential lost tax revenue and made 38 referrals for criminal investigation. Additionally 1.8 million non-duty paid cigarettes were seized and there were 17 detections of the misuse of 'red' diesel.
A recent development has seen third party involvement where thieves will sell stolen metals to a drug dealer, who will then sell to an SMD.

**Legislation**

The Home Office is responsible for introducing legislation to tackle metal theft, but other government departments such as the Department for Transport, DEFRA and DECC are involved in aspects of legislation to prevent metal theft .Legislation relating to metal theft includes:

- Scrap Metal Dealers Act 1964
- Scrap Metal Dealer Waste Management Licensing Requirements
- Scrap Metal Dealers registration with local authority

The Scrap Metal Dealers Act 1964 governs the recycling industry.

The Waste Carrier License differs from the Scrap Metal Dealers Act 1964 and is regulated by local authorities as opposed to the Environment Agency.

Many organisations within the private sector have expressed the view that the problem of tackling metal theft is compounded by ineffective and out-dated legislation governing the scrap metal industry coupled with insufficient police resource to sufficiently control the illegal operators in the industry.

There is a shared consensus in UK that the Scrap Metal Dealers Act 1964 is no longer suitable to regulate the industry, especially because it does not include sufficient measures to ensure that an audit trail of metal purchases is kept by SMDs and that the identity of the seller is proved. As in other EU Member States, the metal scrap trade deals mostly in cash which make it more difficult to track illegal scrap metal traders. There is a growing demand from LEAs to introduce cashless regulations into the scrap metal industry.

Changes were introduced to environment regulation in 2010, when the Environmental Permitting Regulations were re-issued.

Other changes to new / current legislation are being discussed in Parliament to improve the fight against metal theft.

**Activities since 2010 / 2011**

Significant research has been conducted in the UK to establish the impact metal theft has on businesses, communities and individuals. The findings have been:

- Metal theft costs the UK economy an estimated £770 million per year
- Insurance companies reportedly pay out over £1 million a week to victims of metal theft
- Cable theft has cost the rail industry £43 million in the past three years
- In 2011, the rail freight sector lost 114,000 minutes in delays due to cable theft
- A UK utility company was fined £24 million for the loss of service after an incident of cable theft

**Public – private sector partnerships**

**Website**
The Pol-PRIMETT lead partner is based in the UK and has developed the Pol-PRIMETT website to be a platform for sharing good practice. The website has a public-facing section with news articles from across the EU. In addition there is a protected area for approved members to access.

The secure area has two sections:

- Restricted LEA area – which contains restricted documents to enable LEA's to securely share information and intelligence
- Stakeholder area – which is split into five categories:

- Research
- Case studies
- EUGs
- Country
- Media

Pol-PRIMETT has facilitated cross-sector activities in the UK including:

- BTP collaborating with ERU to visit metal recyclers and monitor exports, which helps them understand what is happening with their metals
- CPS liaised with BTP to develop guidelines on how to present crimes such as metal theft to the courts
- Some UK police forces have worked with the private sector and faith and heritage sector to develop Business Collaboration Networks. An example of this is Churchwatch - a national initiative which provides free and impartial crime reduction advice to churches

**National Metal Theft Taskforce**

In 2011 the UK Chief Finance Officer for the Treasury allocated £5 million to develop a National Metal Theft Taskforce administered by BTP to complement and expand existing metal theft reduction initiatives by both the public and private sector.

**ACPO Conductive Metal Theft Working Group**

A national working group was developed by ACPO to bring together public and private sector representatives to tackle metal theft.

The group agreed a strategy to tackle metal theft in the UK including:

- Increasing the effort to tackle metal theft
- Sharing existing prevention strategies
- Encouraging 'just in time' deliveries of metal in the construction industry
- Encouraging utility companies to document procedures thoroughly
- Exploring methods for designing out metal theft in the future – working with IOM3 exploring the possibilities of marking metal, burying cable and investigating alternatives materials to be used other than metals

**FIU**

BTP's FIU was launched in 2011, with the aim of bringing together the police and industry to share intelligence to tackle metal theft.

BTP began categorising metal theft into live offences (immediate impact on the railways) and non-live offences (other metal theft not impacting on the railway) and introducing specific crime codes to record metal theft.

The FIU was developed as a three year strategy to ensure that methods of tackling metal theft improved during this time.

In 2011 the SIRS database provided the statistics in fig 1 which includes information provided by UK Power Networks, BT and Virgin Media.

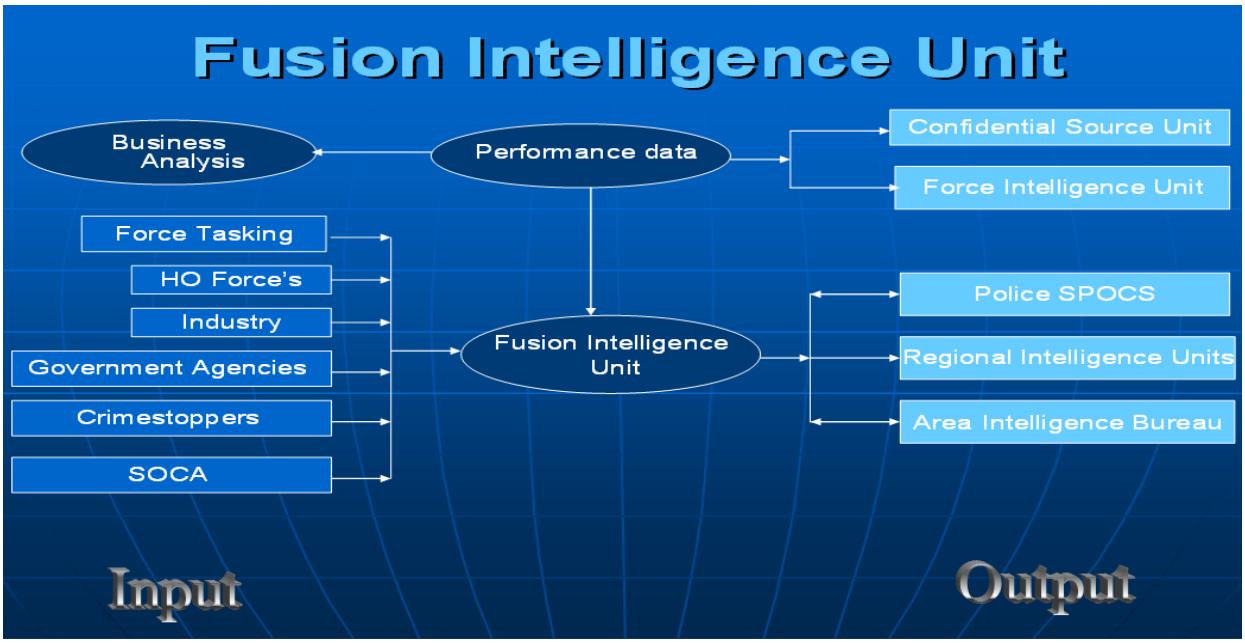
The SIRS data is uploaded sporadically by industry due to resource and other restrictions. Therefore this information is used as an indication of the type of offences being committed.

| **Incidents by Month:** | |
|---|---|
| January | 557 |
| February | 669 |
| March | 795 |
| April | 599 |
| May | 547 |
| June (1st – 12th) | 112 |

As the FIU has seconded private sector representatives to work with the police, it enables BTP to have access to the internal systems used by companies and to respond quicker to metal theft incidents as the reporting time is reduced.

Below is the FIU model. The left hand side of the model is referred to as the primary area which feeds into the FIU at the centre. The FIU welcomes input from all sectors including industry, Crimestoppers etc.

The outputs from the FIU are intelligence packages which depending on their content are disseminated to the relevant contacts. Intelligence on low level criminals is delivered to police SPOCs and the Area Intelligence Bureau whereas high levels (OCGs) are disseminated to the Regional Intelligence Units.




The intelligence packages are also produced for industry representatives.. These are sanitised and include results following intelligence provided to the police.

The FIU includes a range of public and private sector organisations and tackles all elements of metal theft including carousel fraud, environmental law violations and the involvement of OCGs.

Below is an overview of some of the organisations that participate in FIU:


**Designing out metal theft**

IOM3 has been commissioned by the Home Office to design out metal theft initially focusing on copper and lead. Their two objectives include reducing the opportunity to steal metal and making metal easier to identify.

**Legislation and policy changes**

In 2012 the Government reviewed the Scrap Metal Dealers Act 1964 with the aim of updating and improving the existing legislation to include:

- Tackling easy and nominal rewards for metal thieves by banning cash payments for scrap metal
- Targeting illegal operators through stricter sentencing and penalties
- Making it harder for illegal operators to trade with more rigorous licensing procedures

Amendments to the existing legislation include:

- Increasing all fines available under the Scrap Metal Dealer Act 1964 to an unlimited amount – current fines average between £300 and £400
- Creating a new criminal offence to prohibit cash payments to purchase scrap metal and removing anonymous transactions
- Revising police powers of entry to SMDs to enable the enforcement of cashless transactions

These measures aim to help reverse the metal theft epidemic and also identify tax avoidance.

A ban on cash payments was imposed on SMDs in December 2012 however there was an exemption for itinerant SMDs that are registered with the local authority.

Transactions between itinerants and SMDs are cashless and therefore are traceable. SMD's record each cash transaction with proof of identification from the itinerant.

Prior to implementation of the cashless legislation the Government engaged with the scrap metal industry to discuss how best to implement the cash ban successfully.

Initially the ban on cash payments has been introduced in England and Wales. However, discussions are taking place with the Scottish Government to encourage the adoption of the legislative changes.

**Media strategies**

BTP has implemented a media strategy which links with Network Rail to raise awareness with the public that metal theft is not a victimless crime and affects everyone at some point.

BTP has actively encouraged the use of social media as a good way to raise awareness of metal theft.

BT has developed media strategies to raise awareness with the public and Government of the cause and impact of metal theft.

Incidents of metal theft involving war memorials, heritage sites and faith buildings, have gained high profile media coverage in the UK. These types of incidents increase public support and encourage communities to become involved in prevention and deterrence activities.

**Engagement with scrap metal industry**

BTP has produced posters which are issued to SMDs to highlight what cannot be bought from customers.

**Engagement with judiciary**

It is generally believed that the judicial system needs to have a better understanding of the impact of metal theft so that the punishment offenders receive reflects the impact of the crime they have committed.

BTP has met with representatives from the UK judicial system in an attempt to increase penalties.

BTP has written to the Magistrates Association to stress the impact metal theft has on local communities and to quantify the economic cost involved.

A meeting was held with the chairman of the sentencing committee to raise awareness with Magistrates. This highlighted the impact the crime has on communities, industry, and the economy emphasising that the effects of metal theft are often more damaging and far reaching than is initially understood.

The Magistrates Association were surprised at how one small crime could have such a large impact on communities and businesses.

The Magistrates Association stated that a key part of improving sentencing was the preparation of evidence and case papers. Cases where suspects had been found guilty and received an adequate sentence were shared with delegates as examples of good practice.

The use of victim impact statements were encouraged to relay to the judiciary the impact of each incident of metal theft on businesses, individuals and communities.

**Law enforcement activity**

BTP has produced minimum standards of investigation for all police officers.

There is also a SOCO strategy which outlines how scenes of crimes officers will deal with live offences, which affect railway services, and non-live offences, which do not affect railway operations.

BTP aims to achieve 100% SOCO attendance at live offences.

BTP has adopted a 'RAG' system to categorise SMDs:

- Red – Non compliant
- Amber – Partly compliant
- Green – Fully compliant

This enables BTP to establish problem operators and focus activities on red or amber SMDs. It also ensures that green SMDs feel less victimised by the police.

BTP supplies training for front line police officers on what to do when visiting SMDs, including a practical visit to a yard.

**Operation Tornado**

Operation Tornado was launched on 6th January 2012 and was a pilot scheme involving SMDs throughout the North East of England. The operation ran for six months and required anyone selling scrap metal to participating dealers in Northumbria, Durham and Cleveland, to provide photographic proof of identity.

BTP developed this trial in partnership with BMRA, ACPO, the Home Office and Northumbria, Durham and Cleveland Police.

The objective was to restrict the sale and movement of stolen metal. It was designed not to inhibit dealers that operate legitimate businesses and to identify unscrupulous dealers who operate outside the law.

As part of Operation Tornado, individuals selling scrap metals were required to present one of the following:

- UK photo card driving licence (includes address) or,
- UK passport or original passport from any nationality, or official national identity card supported by a utility bill showing the seller's current address.

The SMD was required to copy and record each document presented for inspection by the police and other agencies.

Photo ID was required on each and every transaction.

The ID was copied and either physically or electronically stored with a record of the transaction, for a minimum period of 12 months.

SMDs were also encouraged to enhance existing CCTV systems or install CCTV systems to record the entrance, weigh bridge and cash office.

Operation Tornado had a significant impact on the ability of local criminals being able to convert stolen metal into cash, thereby reducing crime. In the pilot areas, Durham reported a 55% reduction in offences, Cleveland 55%, Northumbria 40%, and BTP 60% reduction.

Following the success of Operation Tornado in the North East of England, the pilot was rolled out across the UK.

**Days of action**

BTP arranges 'days of action' on a monthly basis as well as holding a 'national day of action', four times a year.

During 'days of action' a range of organisations including police, Environment Agency, VOSA, HMRC, DWP, local authorities, BT and Network Rail come together to visit SMDs or establish road blocks. Every aspect of a SMD business or a vehicle is reviewed to establish if there are any matters to be investigated.

**Day of action – example of results**

On Thursday, 11th October 2012 more than 150 SMDs were visited by BTP, other police forces, VOSA, Environment Agency, HMRC, SEPA and DWP.

More than 500 vehicles were stopped and a number of vehicles were seized for having no insurance and other offences.

BTP arrested 13 people for a range of offences including theft of metal and cable, and driving offences.

**HMRC taskforce**

In December 2011, 30 taskforces were launched by HMRC with the aim of:

- Verifying VAT reclaimed on transactions through the supply chain
- Verifying exports to EU and non-EU destinations
- Establishing the identity of cash sellers in HMRC 'hidden economy'
- Authenticating the lifestyle of targets
- Registration of high value dealers under money laundering regulations

**Metal theft toolkit**

West Yorkshire Police working in collaboration with BTP developed the Metal Theft Toolkit which promoted two ways to deal with metal theft; 1) prevention / deterrence, 2) prosecuting offenders. Front line officers are supplied with information which enables them to understand the roles and powers of agencies.

In addition to the pocket-sized toolkit, a training programme has been developed which is delivered to police officers to provide further information and methodology on dealing with metal theft incidents.

**Sale and export of metal**

UKBF is working with BTP to analyse information and identify patterns, hotspots or areas of interest in the export of stolen metal to establish where non-EU metal exports are being sent.

In February 2012 there were 277 scrap metal exports from the UK to China, 22 to Hong Kong and 42 to Indonesia. Additionally there were 124 copper exports from the UK to China, 95 to Hong Kong, 6 to Indonesia and 30 to Sri Lanka and India.

Intelligence suggests that scrap metal is not being conveyed via RORO [4]and transported across the continent to be shipped to Asia as this is not cost effective. It is therefore assumed that metal is exported from the UK directly to Asia.

UKBF is able to profile any UK export to another EU Member State but information is limited.

**Prevention and deterrence**

**Forensic marking**

Feedback from the police and the private sector indicates that the main issue with forensic marking solutions is the lack of coordination between DNA providers which leads to complications with police investigations.

[4] Roll-on/roll-off (RORO or ro-ro) ships are vessels designed to carry wheeled cargo such as automobiles, trucks, semi-trailer trucks, trailers or railroad cars that are driven on and off the ship on their own wheels

The Church of England stated that some insurers do not pay compensation if the metal stolen has not been forensically marked.

**Good practice guides and metal theft toolkits**

BTP has developed the UK Good Practice Guide which provides an overview of good practice that is available in the UK for tackling metal theft.

BTP has developed a checklist for police officers when visiting SMDs. This encourages police officers to prepare before a visit. A metal theft pocket guide has also been produced to advise police officers what actions to take within the yards.

BTP has produced an 'original site visit' and a 'second site visit' document to ensure all relevant information is captured in a consistent format.

**Preventative measures**

**The Church of England**
The Church of England is researching preventative techniques including motion detectors on roofs, voice activation alarms and the utilisation of alternative metals. Additionally the Church of England advises its representatives to engage with local communities in order to prevent and deter metal thieves.

**UK Power Networks**
UK Power Networks has invested in intelligent locking systems for vulnerable or frequently targeted substations. Buildings and compounds are protected with access keys and security packages are utilised on large sites. However security is mainly viewed as a safety measure for employees and not to protect against the threat of metal theft.

**IOM3**
IOM3 (Institute of Materials, Minerals and Mining) was requested by BTP and the Home Office to create a knowledge transfer network (KTN) to investigate methods to design out metal theft –

**MaDE.**
MaDE encouraged product designers and materials experts to collaborate in order to prevent metal theft. In order to understand the issues they faced, practical experiments were arranged to demonstrate how easy it is to commit metal theft (cutting cables etc). Following a brainstorming session with experts,30 initial ideas on how to design out metal theft both at the crime scene and beyond were presented. A list of the ideas with the feasibility ratings was produced. At an event 'MaDE on a bus' key stakeholders visited crime scenes to understand the problems faced by police and also a SMD premises to see a SMD operation.

## 8.2. Annex 2 Metal theft in Italy

### Position of metal theft 2010/2011

#### Understanding the impact of metal theft

Italy is an industrial country that is relatively poor in raw materials and imports quite significant quantities from overseas.

Italy is one of the world's main consumers of copper after China, the United States, Germany, South Korea and India, with 801,000 tonnes of refined metal used each year.

The attention in Italy is focused on exploiting recycling, which now covers 40.5% of its domestic consumption.

In Italy metal and copper thefts follow the price trends, decreasing when the price drops and increasing when it rises.

No specific cost assessment is available, however the perception is that the costs for this crime are running high and they are mostly paid by the community through the general taxation system or by the consumers through increased service bills.

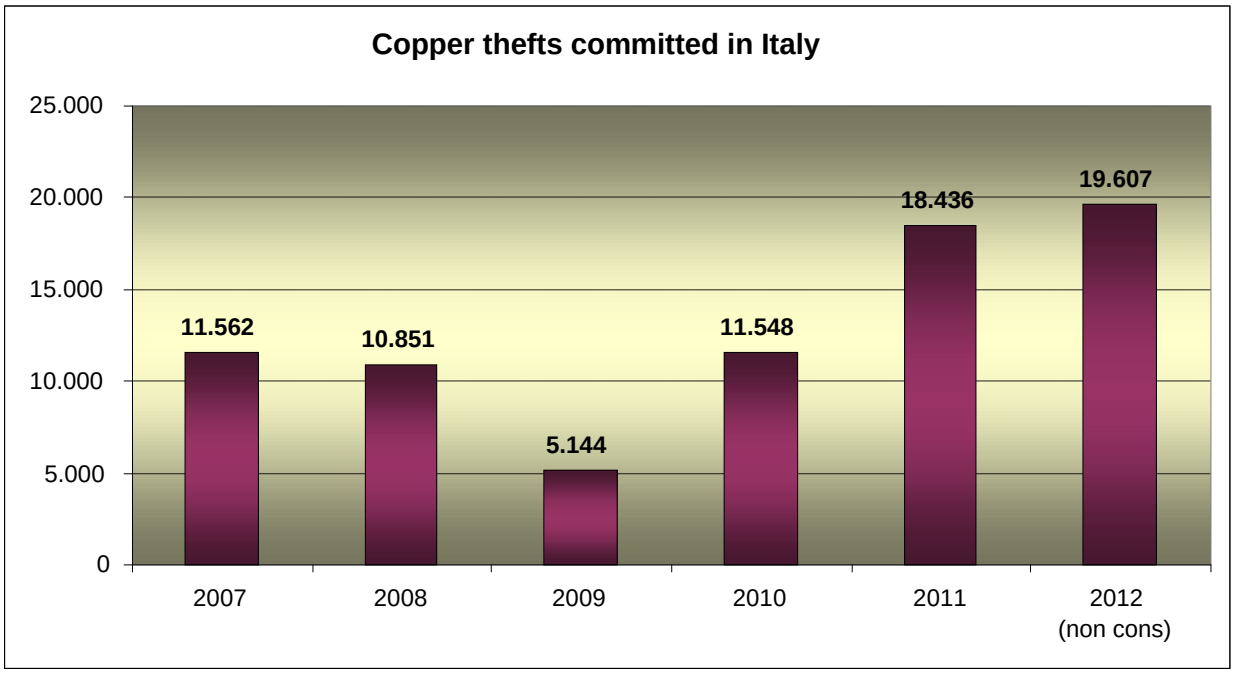
Copper is the most sought after metal both for its quality and its accessibility: in 2009 and 2010 the direct damage was estimated at more than ten million Euros.

Metal theft involves many important companies, including Telecom and Enel, who are power suppliers. Private properties, such as houses and apartment blocks, building sites and public entities, including graveyards and sports facilities are also affected.

The Italian railway system, which covers more than 16,000 kilometres with lines outside urban centres, offers a clear example of the difficulty of implementing direct surveillance. The evaluation of the impact of metal theft in Italy is carried out by the Ministry of Home Affairs. The Crime Analysis Service (SAC) has been involved in the analysis of metal theft and in the strategic planning of adequate countermeasures.

In December 2010, the Ministry of Home Affairs launched a strategy to develop a synergy between the police and private companies mostly affected by metal thefts with the creation of a joint - forces working group. A "National Monitoring Centre on Copper Theft" was created where periodically the main stakeholders of metal theft in Italy (Police, Customs Agency, Italian State Railways S.p.a., Telecom S.p.a., Enel and Anie - National Electrotechnic and Electronic Enterprises Federation) meet in order to assess the situation of metal theft related crimes, to exchange information and to draft possible countermeasures.

Based on the data collected by the Italian Ministry of Home Affairs, (Ministerodegli Interni - Servizio Affari Criminali) it is possible to assess the trend of copper theft in the last six years.




Source : Italian Ministero degli Interni. Servizio Analisi Criminali

From 2007 to 2012 there is a clear correlation between the world price of metal at the London Metal Exchange (LME) and the growth of copper theft in Italy.

Geographically, almost 50% of metal thefts are concentrated in four regions only: Lombardia, Puglia, Sicilia, and Campania. Among these four Regions, only Lombardia registered a significant reduction in the number of thefts, while the other Italian regions experienced  a growth in copper thefts.

Criminal organisations are operational and are capable of facilitating the creation of a structured and organised chain linking the band of copper thieves to OCGs and the recycling industry.

Apart from the public utilities networks, Italy has a wide range of urban furniture and art works that have become irresistible targets for the perpetrators of metal theft, in particular because they are either scarcely defended or not at all. This is the case of funeral furnishings, frequently stolen from tombs, the covers of urban sewers, road signs, roofs of churches and monuments.

Metal theft, in particular copper theft, has become a permanent feature of the Italian criminal activity. Hopes triggered by the fall in this type of crime in 2009 soon evaporated when thefts began to rise again, in parallel with an increase in the price of metals. .

Thefts are perpetrated on the entire national territory involving a vast range of property and goods. As a result, awareness, which is already high in other European countries, is only a recent concept in Italy. Awareness of the social costs of these crimes is increasing. Metal theft crime has now entered the media agenda both at local and national level.

Thefts that have assumed particular importance are those against public utilities, managed by leading companies such as R.F.I. - Trenitalia of the State Railway Group, Enel and Terna and Telecom Italia. These companies own infrastructural networks that extend all over the national territory, are unprotected in most cases and basically impossible to defend. Some companies have adopted alert systems and internal protection services that can, if necessary, also collaborate with national and local police forces.

The Italian crime intervention strategy has been mostly based on public – private cooperation, increased investigative activity and police operations against suspected members of the metal theft criminal networks.

A transnational dimension has been identified in different investigation activities and it has already produced the demand for activities of cross-border cooperation among LEAs and other relevant stakeholders. These forms of cooperation should be increased and encouraged to achieve a global understanding and to combat this particular type of crime more effectively.

The new approach to the problem requires the direct involvement of the scrap metal trade associations, and the foundries, together with the companies whose interests are damaged by metal theft crimes. These are represented mainly by businesses working in the areas of power supplies, telecommunications and rail transport, and the sector of metal processing including the production of semi-finished and finished metal products. The process calls for the organisation of working groups with public and private partners to analyse and plan the implementation of policies.

This kind of collaboration is already operating at a central level, but needs to be strengthened and expanded to overcome obstacles facing such projects. Unjustified opposition to forms of protection and confidentiality of the data can be an obstacle which is inconsistent with the approach of an effective and carefully planned strategy of prevention and crime fighting at a national and European level.

**Telecommunications**

**Telecom Italia S.p.A**

Telecom Italia S.p.A is, seriously affected by the problem of cable and metal theft even on sensitive targets like the lines guaranteeing communications with the infrastructures of civil and military airports and hospitals.  This company has activated particular countermeasures as part of a planned strategy of corporate security.These countermeasures include:

1. Installation of “SecurVox” equipment making it possible to detect the cutting of cables in real time, with a device that sends a message to the operations centre of security firms/police headquarters where the remote section of the system is located specifying the stretch of cable affected. This system, despite the necessary callout and arrival times, has allowed numerous thefts to be prevented. At the moment several hundred devices are installed on the most strategic stretches of transmission lines.

2. GPS devices on telephone cables in collaboration with a company specializing in security systems, GPS tracking and positioning devices have been installed in an experimental phase. This system tracks the position of cables after they have been removed, has failed to give satisfactory results.

3. Supervision of cables on ADSL users together with the appropriate corporate departments and the monitoring of ADSL users has been organised. The experiment involves the installation of a cable system suspended from poles. The system makes it possible to send an alarm signal in real time in the event of attempted thefts. A service cable for ENAV is constantly guarded by security firm personnel. This service became necessary to guarantee the normal continuation of operations for important airports following several attempted thefts.

4. Micro-marking of electrical cables and cataloguing of the particular strands of copper wire used in installations,which permits the identification of the batch of cable stolen. The company participates in working groups organised by the police at the level of Committees for Public Order and Security. The cooperation between police and private security firms, combined with the alarms given by the SecurVox system has made it possible to interrupt numerous attempted thefts of pole-suspended copper cables.

**Railway**

Each year the state railways suffer losses of more than 3 million euro, but in 2009 and 2010 losses amounted to 10 million euro. At peak commuting times, up to 90 trains have been suspended, causing considerable pressure on the rail transport system and the need to make the stretches of railway affected operational again.

In 2009, a total of 1,394 trains were affected by the theft of metal, whilst in 2010 this figure rose to 2,086. Meanwhile, the hours of delay accumulated increased from 464 to 616, with further repercussions on the economic activities of travellers that are not immediately quantifiable.

Taskforces of the POLFER Railway Police are located in the various geographical divisions of the rail network, coordinated at a central level and able to collaborate with corporate protection functions of the rail network company. POLFER Taskforces perform the initial investigations into cases of metal theft on the rail network and carries out inspections on scrap metal collection companies that recycle materials of this type.

The investigative structure promotes crime prevention activities that include the cataloguing of the types of metals used by the Italian Railway Network. This is released to businesses that work in the sector of scrap metal recycling, who are instructed how to identify “railway” copper during inspection activities.

The companies involved in rail transport and the railway police of 26 European countries have established “COLPOFER”[5] an association that addresses security themes and problems concerning railway-policing services. As part of the association, a permanent working party dedicated to copper thefts has been set up, with the aim of exchanging

[5] http://www.colpofer.org

information to monitor the crimes and to carry out possible joint investigations at the European level.

## R.F.I. - Italian Railway Network

R.F.I. is an Italian company in the transport sector that is heavily targeted by copper thieves, with around 16,550 kilometres of electrified railway tracks and some 3 million euros of damage sustained annually. In addition to this, collateral damage is caused by delays to services and inconvenience to passengers.

### Utilities - Enel

The utilities are seriously affected by copper thefts, usually in more inaccessible areas. To combat the copper theft this company has activated alarm message systems communicating with police operators when cables are cut causing interruptions in voltage levels or video surveillance systems for electrical substations. To combat theft of copper not in actual use, strategic collection points have been established, protected by suitable infrastructures, where the stored materials are gathered together before being used in the construction of new installations or for maintenance work.

With regard to:

1. The traceability of copper conductors, the company is working on the collection of information on the various types of cable used (cross-sections, external appearance, photographs), to allow stolen materials to be identified.
2. New installations or overhead line renewals are fitted with aluminium conductors, with steel-reinforced aluminium cables for overhead lines.
3. Copper disposal procedures have changed as many thefts now involve copper conductors installed on actively operating power lines. Waste copper to be disposed of, for example from power line replacements due to technological updates, is returned to the logistics platform of the company. This is then sold back to suppliers authorised for this task: prevalently scrap merchants operating in the recovery of metals.
4. Power line anti-theft systems are now introduced. Enel has developed the RIE system (formerly RAID/AFL), which detects the absence of voltage on the power line, differentiating from normal accidental malfunctions. This system has been used experimentally on about 220 lines and has detected 11 attempted thefts in the first six months of use, enabling the stretch of line affected by the theft attempts to be traced within the first 10-15 minutes after the power loss. Times to reach the theft site must be reduced to enhance the effectiveness of this countermeasure. Greater coordination with the police forces for the analysis of the available data and to collectively decide the strategy for the positioning of these devices would improve the system.
5. Involvement of Enel for the identification of stolen copper means that the company technicians are normally contacted by the police when copper of dubious origin is discovered. For Puglia and Sicily, the number of such contacts is estimated to be some 100-150 per year.

Economic impact of metal theft for Enel in terms of the number of incidents and costs per Italian region in 2010 :

| Region | No. of incidents | Impact in € |
|---|---|---|
| Sicily | 905 | € 7,973,000.00 |
| Puglia | 1,026 | € 5,807,000.00 |
| Calabria | 27 | € 111,780.00 |
| Sardinia | 25 | € 79,817.00 |
| Molise | 23 | € 57,650.00 |
| Emilia Romagna | 18 | € 23,855.00 |
| Basilicata | 93 | € 527,000.00 |
| Lombardy | 14 | € 128,550.00 |
| Campania | 12 | € 25,090.00 |
| Lazio | 10 | € 36.630,00 |
| Toscana | 7 | € 6,740.00 |
| Marche | 6 | € 7,150.00 |
| Piedmont | 6 | € 900.00 |
| Abruzzo | 5 | € 9,450.00 |
| Veneto | 4 | € 97,382.00 |
| Liguria | 4 | € 4,750.00 |
| Friuli Venezia Giulia | 3 | € 45,046.00 |
| Umbria | 1 | € 850.00 |
| Trentino AA | - | - |
| Val d'Aosta | - | - |
| Italy | 2,189 | € 14,942,640.00 |

**Role of scrap metal industry**

The Recycling Copper investigation that began in 2009 seemed particularly significant and led to the discovery (and arrest on 3 March 2011) of a Bologna-based company almost entirely dedicated to the purchase of stolen metal. The owners were accused of handling a total of 12,000 tons of ferrous material from 2008 onwards largely purchased illegally.

This borderline world of simplified scrap collectors or itinerant traders which was operating under very few, if any, regulations, had been boosted by the liberalisation process that has affected the sector in the last decade, and especially by the amendments to some environmental laws introduced in Italy in 2006 in compliance with a sentence of the European Court of Justice 2006 [6]

Without intending to criminalise the whole category of "itinerant traders", it appears that the increase of these companies has extended the grey area which exists between those with a vocation for scrap collection and recycling in a professional way and metal thieves. This has created additional problems for the monitoring and inspecting activities of the police forces.

Such enterprises nearly always take the form of sole-proprietor companies, many of which are registered in the name of members of the Roma ethnic minority and often involved in the crime of receiving stolen goods and theft, including copper.

Statistics show that 60% of enterprises who carry on this type of activity are sole proprietors. The methods used to sell scrap in Italy help make the industry more obscure and less straightforward. Unlike other areas of Europe, where supplies are made by monthly contracts at fixed prices, in Italy, different purchase procedures continue to exist. For the time being, agreements continue on a weekly basis in relation to demand., The aim is to achieve greater continuity regarding supplies, both in terms of quantity and price, gradually turning towards the use of contracts. This is an evolving process that is hard to manage because of the fragmentation which characterises the scrap market

**Sale and export**

If world metal price seem to be the main driver of metal theft, a more complex picture is presented by the geographic destination of stolen metal. According to current opinion stolen metal is quickly smelted by scrap dealers and then introduced back into the national market. A large percentage is exported directly towards the markets in emerging economies, primarily China and India.

Sometimes the "Asian route" of stolen metal is not the result of the re-introduction in the legal scrap market but takes place inside an illegal export environment.

The Asian trade is not the only route for stolen metal in Italy. As a consequence of stricter controls on Italian metal recyclers and foundries, part of the illegally obtained scrap is

[6] The amendments to the Italian law originate from the sentence dated 7 October 2004 (case no. C - 103/02) of the European Court of Justice, whereby Italy was found guilty of not having legislated in the decree dated 5 February 1998 on the identification of non-hazardous waste subject to simplified recovery procedures, which can be the subject of recovery with waiver of authorisation. With the adoption of Ministerial Decree no. 186 dated 5 April 2006 the Italian government legislated on the matter.

exported towards plants in third European Union countries. These operations are sometimes controlled by Italian entrepreneurs, who launder the metal abroad and re-import it into Italy so that it can be sold on the legal market.[7]

The theory that copper scrapped in Europe and Italy (including metal of illegal origin) is mostly sent to the Far East was confirmed in several interviews carried out by the research group. However, the idea that scrapping copper from theft always and systematically ends up going to emerging markets is not correct and the picture is much more complex.

The confusion between the illegal and legal market chains is caused by the thieves themselves who operate to conceal the presence of the stolen metal, especially in the case of copper cables.

**Offender profiling**

The official Home Affairs statistic confirms that almost half of the criminals who perpetrate metal theft are foreigners. It is a similar situation in other EU countries and has parallels with other criminal activities where foreign citizens are over-represented.

There is a high level of involvement of numerous individuals from Eastern Europe and the Balkans including many from the Roma ethnic minority

Initially these crimes were committed by mainly Eastern-Europeans. More recently, however, a growing number of Italians are increasingly involved in these criminal activities.

Criminals involved in metal theft

These can be roughly split into three categories:

1. Organised groups
2. Individual perpetrators or non-organised groups
3. Receivers and recyclers of stolen metals

The categories differ in terms of, individual profiles, goals, modus operandi and crimes committed

**1. Organised groups**

**Profile**

The profile consists of Italian nationals who work with a relevant number of foreigners mostly from Eastern Europe. Leadership is nearly always entrusted to one or more Italian national with roots in the area where the gang has its logistical base;

Many members of the group are of Italian nationality, nearly always with previous criminal records involving crimes against private property;

Members of these criminal groups usually don't work in manufacturing or service activities related to the metal sector.

[7] This copper laundering process is not different from the one existing for other illegal activities

### Goals

Large quantities of metals amounting to several hundred thousand euro in value are stolen from companies with metal deposits and from vehicles used for metal transport.

### Modus operandi

The knowledge of the area by group members and their integration in the socio-economic fabric allows the group to acquire important information from the employees of the companies selected as targets, regarding stored quantities and types of metal stored or moving raw materials or semi-finished products.

Besides traditional breaking and entering, they use more sophisticated methods to disable alarm and video-surveillance systems of the victim companies. Other methods include bribing or threatening guards or paying money to the drivers of the vehicles transporting metals in order to steal loads without using threats or violence.

Relations with companies which receive or recycle the stolen material are mediated by companies (so-called "missing traders") [8] which recycle metal on "paper" before presenting and selling such material to purchasers often unaware of its illegal provenance, at prices slightly lower than those of the market, issuing sales invoices which appear to be in order and which (illegally) authenticate the sale of the product. In some cases, the actual directors of the "paper" companies are an actual part of the criminal organisation or associated with it.

### The crimes committed

The major crimes committed by these organisations or persons at their service are:

- Organised crime (those who associate to commit an indeterminate series of thefts, etc.);
- Burglary (taking possession of metals belonging to others, committing the crime using violence, deception or fraudulent means);
- Robbery (thefts from articulated vehicles loaded with metals using violence or threats);
- Recycling of assets (for the carrying out of operations suitable for preventing the identification of the illegal provenance of metals, by issuing false tax documents).

## 2. Individual perpetrators or non-organised groups

### Profile

Almost half of the perpetrators are Italian citizens with previous convictions for minor property thefts. The remainder of metal thieves convicted are foreign citizens, with a concentration on some ethnic minority groups (Romany) and nationalities (Romania and Bulgaria).

A large part of this group include foreign individuals engaged in apparently legitimate activities in the sector of collection and trade in scrap metals. (With regard to the required registration with the

[8] Legally established companies, which do not in fact operate but pursue the sole purpose of issuing or receiving fiscal documents that do not correspond to the truth or mediating "only on paper" existing business relations to provide the "*system users*" with unfair tax benefits and/or create a sort of screen for illegal activities.

appropriate public authorities such as the Italian Revenue Agency and Chambers of Commerce) These individuals normally carry out their business with their own vehicles, collecting miscellaneous metals from companies or other sources.

The ranks of these "perpetrators" are increased by people using or dealing in illegal drugs, who carry out the thefts to feed their habits.

**Goals**

- Railway copper;
- Power or telecommunication lines;
- Street furniture and similar items;
- Unguarded construction sites.
- Religious and cultural items

## Modus operandi

Traditional breaking and entering methods are used and methods that are tried and tested in effective application, for example cutting power line cables.

The illegal activity of these perpetrators has negative effects in socio-economic terms on local businesses, social groups and on population categories that are not always affluent. These activities include the removal of gates, doors, gutters and drainpipes. Industrial machinery is broken up only for the sale of its metal components as scrap. Catalytic exhaust silencers are also a major target.

The composition of these groups includes persons engaging in a primary low-level activity of metal recycling, the activities of metal procurement pursued by these groups are a preliminary action. Further activities are undertaken by the same groups to make the stolen materials unrecognisable, burning the sheaths of power cables marked with the producer or user codes, removing these sheaths from the metal cables or shredding or crushing the pieces of metal manually.

The actions of these groups produce further negative effects for the community, with the release into the atmosphere of pollutants caused by the combustion fumes of the materials, and the indiscriminate dumping of components or other non-metallic wastes separated or extracted from the stolen materials.

Cases have emerged showing a growing degree of violence in the criminal activities performed by these groups. For example in October 2010 in the Province of Bari, when a Finance Police patrol pursuing a car was repeatedly rammed by the criminals in their efforts to escape. Once stopped, the vehicle was found to be loaded with stolen copper, and both driver and passenger, of Romanian nationality, were also arrested on a charge of attempted murder.

Modified motor vehicles, similar to those used in the transport of smuggled cigarettes, are now used to move stolen copper. A van confiscated in the Province of Bari by the Finance Police, was loaded with stolen copper; the suspension of the vehicle had been deliberately modified to give it a normal appearance during transport, as if not excessively heavily loaded, so as to avoid attracting the suspicions of traffic police.

### Crimes committed

The crimes committed by this type of perpetrator are generally the following:

- Criminal association (those associating for the purposes of committing an unlimited series of crimes involving theft, receiving and recycling of stolen goods);
- Aggravated theft (for those stealing metals, committing the crime with criminal deception or violence, including on property destined for public service) ;
- Receiving (for purchases of metals from metal thieves);
- Recycling of stolen goods (for purchases of stolen metals, on which operations are performed such as to impede the identification of their criminal origin - by unwinding reels of copper 9shredding or crushing metals, etc.);
- Environmental offences (the release of fumes into the atmosphere, dumping or trade in waste by persons lacking the necessary authorisations for these activities).

### 3. Receivers and recyclers of stolen metals

#### Profile

The persons involved in this level may play a double role, as offenders either directly belonging to or are otherwise closely associated with criminal organisations engaging in metal thefts, from which they receive stolen metals to be recycled. They also act as entrepreneurs with a more solid position in the “legal economy”, acting as the qualified partner in the sales of the spoils of thefts.

Commonly known as receivers [10] these persons can be identified as persons with a legal activity for the recovery of industrial wastes, and they function as the driving force for the entire criminal chain.

The illegal trading of stolen metal is hidden by the thieves association with legitimate industrial waste collection companies. Consequently the trade of the illicitly purchased products right through to their definitive passage into foundry furnaces, or more probably, into containers destined for shipment outside the EU, appears legitimate.

Small businesses with permits for the collection of scrap metals on an itinerant basis (therefore exempted from the obligations envisaged for waste), accept small quantities of materials stolen by members of the community. They then offer them for sale to authorised collection centres that may or may not be aware of the illicit origin of the product. Clusters of

[9] Some braids of railway copper are characterized by a specific number of strands used only for railway purposes, and therefore by unwinding them this characteristic and their recognisability can be eliminated.
[10] Technically, and also from the legal viewpoint, the term “recycler” is more appropriate

these companies have been able to offer significant quantities of copper procured by theft to large scrap collectors based in different regions, and most probably stolen from the R.F.I. - Italian Railway Network.

Large structured companies that recycle scrap metal from legitimate production processes and waste collections may also be involved in the purchase of batches of stolen metal. Some companies are unaware of the illegal origin of the metal sold to them, despite several warning elements which should have been noticed as clear indicators of an illicit trade. Most indicators are:

- The type of person offering the metal (persons who are not entrepreneurs, with numerous previous convictions for property theft and known in the local criminal community)
- The methods of consignment used 11
- The specific characteristics of the materials received (for example, “railway copper”, or batches of brand-new objects or items marked with the distinctive marking of the original producer or owner).

With regard to the cases examined, foundries do not appear to have been criminally involved in this illicit trade.

## Modus operandi

The manual collection centres run by small businessmen with permits only for “collection on an itinerant basis”, but effectively acting as the operators of makeshift “illegal” deposits, located in small private businesses or even directly in travellers’ camps. Here an initial sorting process is carried out on the materials, separating non-metallic components using manual methods and crushing the metals, and in some instances even shredding them, including copper. Manual smelting operations attributable to the same groups have also been found, as in the case of copper cables stolen from Telecom in the Puglia region and smelted manually at an agricultural settlement near the area of the theft.

Large collection centres with full authorisation for the activity in question sometimes act as a hub for the traffic in stolen copper. These centres have links to dozens of other smaller scrap metal companies either in the same region or in other parts of Italy. These centres rapidly shred the materials to eliminate their distinctive markings, and mix them with other materials acquired legally.

The presence of stolen materials is concealed by the creation of false tax documents issued in the name of unsuspecting parties indicated as the consigners or by the presentation of tax documents for purchases issued by qualified suppliers. The Fiat Group, for example, is well known for its trade in scrap materials from power lines and railways. This is followed by the subsequent sale to further collection centres of foundries, either directly or in deals brokered by “agents” . These occur without the issue of tax documents, or indicating smaller quantities than those effectively supplied, or even with the fictitious involvement of “missing traders”, as discussed earlier in this paper.

[11] A case has been reported by police of a drug addict in the Alessandria area who went to scrap metal collection centres by taxi to sell copper items stolen from local cemeteries

Control systems for tracing the illicit materials traded are compromised by those who are also involved in systems of tax fraud related to the sale and consignments of metals. Prices sometimes appear to be distorted – downwards - to ensure these systems of fraud are applied. This makes it even more difficult to identify the legitimate or illegitimate origin of the batches of metals traded.

## Possible crimes committed

- Receiving (for purchases of stolen metals directly from the thieves or from smaller collection centres);
- Recycling of stolen goods (for purchases of stolen metals, on which suitable operations are performed such as to impede the identification of their criminal origin - by unwinding reels of copper shredding or crushing metals, issue of false tax documents);
- Illegal trafficking in wastes;
- Falsified invoices for non-existent operations.

### Relationship with other criminality

In 2011 a major operation by the Finance Police of Brescia uncovered tax fraud amounting to 180 million euro in the scrap metal trading sector. The fraud was committed by issuing and accounting of invoices for non-existing operations by companies located in Lombardia, Sicily and Campania, which, with false invoices covered large illegal" sales of scrap metal.

The frequent involvement of industry operators in tax fraud offences, including persons involved in exports outside the EU, indicates that sales transactions with foreign foundries and/or importers are deceptive as they are often mediated by fictitious companies or performed with the issuing of false tax documents.

### Legislation

The Italian parliament is well aware of the criminal activities and of its evolution in recent years. No specific parliamentary action has been undertaken and no changes to the legislation are under discussion.

Parliament is not the only category of political and institutional players involved in combating metal theft. The Italian legal system provides important security functions which are exercised by local authorities through municipal and provincial police forces. Regulatory interventions approved in the past two and half years have significantly broadened the powers of town mayors in this sphere.

### Engagement with the judiciary

Judicial and investigative bodies have met with problems linked to the recognition of "untreated" material of illegal provenance (discovered during police operations) by companies that are potential theft victims. The problem lies in distinguishing stolen material from used material that comes from disused plants, which has been handed to a third party legally. This difficulty is caused by the absence of micro-marking and of other procedures

that ought to ensure traceability of discarded material until it reaches its final destination, the foundry.

Though it may seem minor, this problem actually makes it impossible for the police and for Judicial Authorities to establish the exact nature of a crime, which is essential to court proceedings. The indiscriminate circulation of discarded lots of material, including those that are lawfully handed to third parties, generates confusion when similar material of dubious provenance is discovered. This uncertainty benefits the managers of recovery plants that receive stolen goods.

Material that cannot be identified guarantees the immunity of the person who owns it. Devious means and false documents mean they are subject to less disciplinary measures, compared to the harsher penalties that are applied to the receivers of stolen goods. It is up to the investigative bodies and to the judicial authorities to demonstrate the illicit origin of the material that is discovered, and to establish the criminal intent of the company that owns it.

Traceability of discarded lots, especially of those handed to legitimate parties, simplification of the intermediary handling of material (through binding contracts), from the moment it is discarded to the moment it is reutilised (foundry), and micro-marking, would greatly simplify police operations at recovery plants. Under such conditions in fact, the police would be able to contact the company that owns the material (or previous owners) to establish if it is authorised to operate in the scrap metal retail and recycling sector. The police would be able to carry out further checks when deemed necessary.

The lack of identification of material of illegal origin means that court proceedings lack the necessary information to charge perpetrators. This situation favours the prosecuted party as it is not possible to carry out precautionary measures on their assets, which is a determining factor in fighting the crime, since disciplinary measures are not merely rightful, but are also a deterrent in the metal theft business.

For those who operate in the scrap metal recovery and recycling sector, non-traceability of disused lots generates the following:

- Concern about the seizure of copper that has been regularly purchased This is especially relevant to the copper from “railways” and the subsequent need to reconstruct and prove lawful origin;
- It favours those who take advantage of the uncertainty generated by the present situation with the representation of stolen goods.

**The “missing trader”**

Another obstacle encountered by judicial investigators is the placing of a number of companies between the first receiver of stolen metal and the final receiver. These companies, which function as “missing traders”, create a smoke screen for the law-breaking end user of the stolen goods. This strategy ensures the immunity of the perpetrators.

Careful analysis of the documents employed in illegal operations has been verified by investigation into financial transactions, and by monitoring the transportation and international shipping of the products, which is carried out by various companies. These

results should allow the detection of other unlawful elements at various levels of the scrap metal recycling process. This is a complex task as the companies involved in the process are located all over the country, which entails significant costs for the Judicial Police in financial terms, and in the use of human resources. Additionally this creates problems of area competence for the Public Prosecutor's Offices involved

## 8.3. Annex 3 Metal theft in Bulgaria

### Position of metal theft 2010/2011

#### Understanding the impact of metal theft

Metal theft is not an emerging crime in Bulgaria; it has been around for many years and continues to impact on businesses, individuals and communities.

In 2010, the six largest police departments in Bulgaria reported a total 1634 incidents of metal theft compared to 564 in 2009.

National statistics present a problem. While metal theft is registered as a crime in the Bulgarian Crimes Act, it is not explicitly addressed. Instead, Section 195 provides a general definition of theft and defines the act of theft without making any distinction between the different kinds of theft in terms of the nature of the property stolen.

Section 196 regulates aggravated theft that is defined as a socially dangerous offence. This type of offence encompasses theft of property of higher value and / or that has been committed by two or more persons who have planned the activity in advance; and / or in cases where a specialised technical device or method has been employed in the act. This section sets a penalty of one to ten years imprisonment.

Metal theft is mostly committed by individual perpetrators or non-organised small groups. Railway companies, electricity suppliers; plumbing suppliers; and telecommunication companies are the main victims from the national infrastructure. Despite the funds invested in preventive actions by companies operating in these sectors to reduce the damage of metal theft, the majority have still sustained substantial economic losses.

According to data received from the Bulgarian Ministry of Interior, metal theft is a crime that has achieved high levels throughout the last decade, with the exception of 2009 when the price of metal dropped.

| Reporting period years | Number of thefts registered |
|---|---|
| **2004** | **1972** |
| **2005** | **1437** |
| **2006** | **1555** |
| **2007** | **1323** |
| **2008** | **1111** |
| **2009** | **564** |
| **2010** | **1634** |

Source: Bulgarian Ministry of Interior. Metal Thefts reported 2004 to 2010

No information is available about the total economic losses as a result of metal theft, but data illustrates that this type of crime has greatly increased in the last year. Significant amounts of other related crime makes it difficult to calculate the total losses. However, they may be summarised as follows:

- Cost of restoring damaged equipment – materials, transportation costs, labour
- Losses from undelivered energy
- Cost of compensation as a result of damages
- Reducing the continuity of power supply
- Deterioration in quality of electricity supply
- Power cuts at important administrative, economic and industrial sites
- Negative impact on company image and reputation

There are a combination of factors leading to the increase of metal theft, including increased metal prices, the financial crisis, cross-border communication amongst criminals and slow and time consuming communications between authorities within the EU and other countries.

The three problem areas where metal is frequently stolen are:

- Vehicles transporting scrap metal
- Underground and overground utility and telecommunication sites
- Private dwellings

The table below shows the value of stolen metals as reported by the main companies affected in 2010

| **Company name** | **Damages (BGN)** |
|---|---|
| **Vivacom** | 2 500 000 |
| **CEZ** | 10 000 000 |
| **EON** | 525 000 |
| **EVN** | 670 000 |
| **Railway infrastructure** | 2 000 000 |
| **State railways** | 500 000 |
| **Total** | **16 195 000*** |

*represents 0.77% of total scrap traded in Bulgaria during 2010

Individuals and communities are also affected, particularly those owning houses outside the city limits and in poorly populated areas, as unguarded properties are targeted by thieves who completely destroy them in order to steal any metal. In some cases metal theft may cause crime against individuals if they attempt to protect their property. This type of crime has a negative impact on the economic environment in the country, as the damage caused by metal theft is estimated at dozens of millions of Bulgarian Levs (BGN).

Metal theft incidents are estimated at being 7 to 10 times greater than those actually reported.

**Police**

The main policing methods used to tackle metal theft include administrative control on SMDs, telephone and electronic tapping and monitoring locations and movements using GPS.

As soon as a business is informed about an incident of metal theft against their trucks, the police are notified. However, the police reaction appears to be slow, as one of the problems is that most of the trucks are not equipped with GPS systems.

**Railway**

The railway network is considered a vulnerable target and railway carriages are seen as 'easy pickings'.

It is estimated that metal theft costs the rail industry 12.71 BGN per year (€6.5 million ).

**Utilities**

In 2010, the losses incurred as a result of metal theft in one of the three electricity supply companies escalated by 228% compared to 2009.

Other recorded impacts due to metal theft in 2010 included:

- 150,000 customers adversely affected by interrupted electric power supply
- 120 electric supply network incidents were recorded
- Power supply was badly affected for approximately 226 hours
- Ten power transformers, five power engines and pumps, input cables and other items containing non-ferrous and/or heavy metals were stolen or destroyed

**Manufacturers**

Some companies have reported a reduction in loss due to heavily insuring their stock and products against theft.

However, the consequence of insurance also affects the business as the insurance companies have increased their security requirements when paying out compensation.

Based on non-official records, approximately 10% of secondary metal materials that are transported are stolen during the transportation route.

For metal companies, the percentage rate is lower because in the majority of cases increased surveillance and permanent video monitoring has been installed.

**Role of scrap metal industry**

A large amount of stolen metal is usually sold to small, illegal foundries however it is also being discovered in legal yards, as stolen material is difficult recognise.

SMDs are also victims of metal theft, with most incidents happening during the transportation of materials.

In 1998 the Bulgarian Association of Recycling (BAR) was established and now has over 90 Bulgarian and non-Bulgarian members.

BAR is a member of BIR (Bureau of International Recycling) and links with a range of organisations including the BIA (Bulgarian Industrial Association) , the Confederation of Employers in Bulgaria and the Permanent Representative to the International Council for Environment in Brussels.

In Bulgaria, currently there are 1,131 licensed SMDs and over 20,000 industry employees. The current investment in the Bulgarian scrap metal industry is 1 billion BGN (which is the equivalent of €511 million or £425 million). In 2010, SMDs in Bulgaria registered a turnover of 2.2 billion BGN (which is the equivalent of €1.125 billion or £935 million).

CIMDA was established in June 2011 to unite the recycling industry and protect their interests within the provisions of the Bulgarian Waste Management Act.

In 2011, CIMDA:

- Held two protests against the implementation of the Waste Management Act in June and July 2011
- Conducted a media campaign to raise the awareness of metal theft in Bulgaria
- Participated in governmental round table discussions and conferences
- Explored EU good practices
- Drafted proposals for the revision of the Waste Management Act

To date these activities have achieved a six month postponement of the enforcement of the Waste Management Act and a governmental commitment to cancel the general spatial plans outlined in the Waste Management Act.

CIMDA is continuing to hold discussions with the Bulgarian government regarding any further amendments to the Waste Management Act.

CIMDA proposes the following be included:

- A code of ethics for responsible organisations to be signed by all the members of CIMDA
- Clarity on waste management standards
- A signed agreement between SMDs and the Ministries of Interior, Environment and Economics, plus other relevant associations to offer full cooperation if any breach of law is detected
- Online system for ‘whistleblowing’ and complaints

- Unified recording and reporting systems to enable the tracing of scrap metal
- A minimal financial guarantee which can be attainable by SMEs
- A threshold for cash payments ensuring that all large transactions are bank transfer only
- A total ban on the purchasing of public infrastructure elements or items on the prohibited list

CIMDA asks 'could environmental law solve criminal and social issues in Bulgaria?'

**Sale and export**

Due to the increase of theft of metals during transportation many businesses have introduced security measures including:

- Providing names and registration plates of the trucks and drivers expected
- Photographing cargo in the trucks
- Changing routes and time schedules
- Instructing trucks to only stop in parking areas where there is a high level of organised surveillance
- Instructing trains to travel without stopping or decreasing speed, or to only stop at secure stations
- Increasing surveillance inside the plant, for transportation by train, and for transportation of cathodes by trucks
- Employing armed security guards
- Installing CCTV and metal detectors
- Securing electrical panels, boards and transformers in substations with a special secret closing system
- Storing transformers high up on the electric platforms

In the past 15 years, the amount of security measures implemented for metal theft reduction has produced conflicting results so the threat remains serious to Bulgarian society and economy.

**Offender profiling**

Offenders involved in metal theft are usually below 30 years of age. Of this, 88 % of offenders are males and 12 % are females.

In an overwhelming number of cases, the offenders are uneducated, unemployed Bulgarian citizens that are willing to travel up to 30km in order to carry out the thefts.

In some cases metal theft is committed by employees and ex-employees of railway companies, electricity suppliers and telecommunication companies, but the majority belong to the poorest part of society, quite often living below the threshold of poverty.

These people reside in the poorest urban areas, isolated from the rest of society and reluctant to live by the established social values. For many, collecting and stealing scrap metal is their only source of income.

This type of crime strongly depends on metal price, but, given the 'low' profile of the offenders, even if metal prices continue to increase there is little chance that OCGs could take control of the stolen metal business.

Serious concerns are related to the high number of reoffenders involved in scrap metal theft. Official statistics illustrate that 73% of all metal thieves have been previously involved in two or more offences; this rises to five or more times in 12 % of the cases.

Usually the thefts are carried out at night, using several kinds of vehicles (trucks, wheelbarrows and carts) and specific tools. These acts are perpetrated by more than one criminal.

The most sought after items to be stolen are both ferrous and non-ferrous metals including:

- Metal elements from train carriages and railway infrastructure
- Plumbing fixtures
- Copper wiring / cables
- Air conditioning units
- Electric substations
- Vehicle parts/catalytic converters
- Aluminium siding / gutters / roofs
- Bronze plaques / statues
- Building iron

The timeframe from metal being stolen to it being sold is usually up to two days.

**Legislation**

The Ordinance for licensing trade adopted in 1994 provided the first legal framework for governing the industry.

In 1997 the Ordinance regulating trade in scrap metal was adopted which created a large increase in the documents required to obtain a license and the amount of penalties and sanctions for violations. 1000 licences were issued in 1996, whilst at the end of 2000 the number fell to 240.

It was reported that many businesses and individuals, not registered as commercial entities, engaged in the collection and trade of scrap metal without making any effort to acquire a licence. Stolen metal was then sold (laundered) to foundries without the relevant documents and work permits. Their activity remained uncontrolled, which by the end of 2001 led to an increased number of attacks on the energy and rail infrastructure.

In 2001 temporary restrictions were introduced on the purchase and implementation of new rules. Subsequent legislation appears hypocritical as there is the need for rigid regulation of the industry, with the inclusion of restrictive conditions in the granting of

licenses, yet there is a reluctance to promote wider development of entrepreneurship within the industry.

The temporary measure was revoked in June 2001 and an organisation was created to improve the business environment by facilitating licencing, permits and registration regimes. A law on waste management was adopted in September 2003 by the National Assembly of Bulgaria. This regulated the procedures for granting and revoking licences.

The Decree № 316 passed in November 2004 increased the requirements for traders in the purchase and sale of scrap metal. Each transaction is described by type, quantity and partners in the transaction, as well as the relevant documents necessary (certificate or certificate of origin). This enabled improved monitoring of the supply chain from source, dealer(s) through to the end user. The Decree aimed to determine the origin of the waste, in order to limit violations on reusable metal products and equipment, which are regularly delivered at the scrap points.

A turning point in the fight against metal theft in Bulgaria was the legislation review in 2011. Since then police have begun to record a significant drop in metal theft in Bulgaria.

Broader measures to be considered relate to cooperation amongst different administrative units, society and SMDs. The main problem is the public law governing the purchase of non-ferrous metals as scrap.

At a political level, the Government and Parliament are key players involved in combating metal theft. Municipalities have only certain implementation responsibilities. In the past decade, professional associations were involved in discussing national strategies or draft laws, but combating metal theft is still not considered a priority for both political and civil society.

In July 2012, a Waste Management Act was implemented which restricted the activity of SMDs which provoked a strong response from the scrap metal industry. The burden on the sector is not consistent with the principle of proportionality. 61 MPs have initiated a case in front of the Constitutional Court on this issue.

The main changes are as follows:

1. A ban on individuals selling domestic ferrous and non-ferrous scrap metal and instead forcing them to give it up to municipal sites (this provision is in force from 2014 and is currently a subject of a Constitutional Court Case № 2/2013)

2. Permission to trade with waste of ferrous and non-ferrous metals of a non-domestic nature, including:

    - Cables and electric cables of all types and sizes
    - Elements and parts of rolling stock, track, security systems and any installations for them
    - All elements and parts of the road infrastructure, such as road signs, crash barriers, manhole covers, street lighting or irrigation systems

- Equipment, and metal-containing monuments or parts or components of these

Trade shall be allowed if there is:

- A certificate of origin
- A written contract

3. No cash purchase of scrap – in force from 2014 (subject to a Constitutional Court Case).

4. Bank guarantee of BGN 25,000 (€12,500) for companies and BGN 5,000 (€2,500) per site to operate

5. Reducing the number of sites for trading waste of ferrous and non-ferrous metals, by placing them in areas defined by the structural plans for production and storage activities

6. Introduction of 24 hour surveillance on sites

7. Amendments in the Penal Code related to trading without a license

24 hour CCTV surveillance has been introduced on sites, in scrap yards and disposal areas for scrap and scrap metal collection and sorting. The deadline for providing sites with the necessary equipment and for sending the information back to the Ministry of Economy was 15th February 2012. Unfortunately, no details regarding the specific characteristics of the equipment as well as the surveillance methods were given by the Ministry. SMDs were only obliged to preserve their recordings for one year. According to the latest information, the Ministry of Economy does not dispose of data from the dealers. The deadline was lengthened in order to receive data from dealers that had been fined or were awaiting information about video surveillance requirements.

On 22 February 2011 a new law limiting cash payments was introduced. This law prohibits cash payments exceeding BGN 15,000 (€7,500).

Additionally, in the period 2009 – 2011 a review of the Waste Management Act and of the Penal Code was introduced. These changes introduced new regulatory and administrative burdens for recycling companies (bank guarantees, documents for obtaining permission to operate, municipal monopoly on certain waste metals, obligation of separate storage for different types of waste). All have penalties for minor violations.

**Conclusions**

It is clear that some amendments in the Penal Code need to be made in order to regulate the illegal sector. Currently there is a legislative gap that needs to be filled. Improved monitoring of potentially illegal activity and metal laundering has been achieved with cooperation from the metal industry and recycling sector. This cooperation aims to narrow the legislative gaps which enable illegal activity.

The regulation and legislation in Bulgaria differs from the majority of other Member States specifically:

- A ban on the sale of non-domestic metal to discourage the theft of commercial metal / cable
- A certificate of origin and a written contract must be produced for each transaction
- Reduction of the number of sites dealing with metal recycling

Following the proposed legislative amendments the feeling from the industry was that this would only impact on legal sites and will not clamp down on the illegal activity. As a result the industry protested against the government.

The Government response was to invite public and private sector organisations to participate in a parliamentary working group. The aim was to develop legislative measures in order to reduce metal theft. A draft law was proposed and offered for public discussion; the government submitted it to Parliament and it was later adopted. It contained two main areas:

1. Improving licensing regimes and the regulation of metal purchase and dealer activity. A total of 1,023 permits have been issued in Bulgaria and there are 2,390 sites for metal purchasing which are operating in the country. The existing licensing regime was amended to incorporate the growth of metal thefts which spiked in 2010 when the prices of metal on the international markets reached its peak. The new law introduced requirements for scrap dealers including:

    - Relocating out of residential areas and into industrial regions
    - A commitment to provide permanent CCTV monitoring
    - A ban on purchasing industrial scrap

    It was proposed to introduce a ban on purchasing scrap metal from an individual but it was agreed that restrictions should only focus on the type of waste.

2. Stricter monitoring of reporting procedures by SMDs including the requesting of documents and information from metal sellers.

Parts of these measures were enforced in August 2011 and the remainder implemented in January 2012. This is because some amendments to the legislation required a longer preparation period for the SMDs.

Additional amendments relate primarily to the penal law, including an increase in sentencing for metal theft offences. In particular these are Articles 194 and 195 of the Penal Code and Art.234b. This states that SMDs that do not have a license or that operate in contradiction to the issued license will be subjected to penal proceedings. These amendments require a greater cooperation between the LEAs and government bodies that deal with the prevention of materialistic crime.

Initial results following the amendments are positive. Police statistics show a reduction in metal theft which encourages the Government to continue to implement the amendments.

In 2009, amendments were made to the penal code in Bulgaria stating that any person found purchasing scrap metal without a license or a permit would receive a prison sentence, yet most offenders only receive a suspended sentence. The industry is campaigning for all metal thieves to serve a definite prison sentence.

The industry representatives – Bulgarian Association of Recycling (BAR) has proposed the following initiatives to reduce metal theft in Bulgaria:

- A total ban on purchasing 'problematic scrap' from unlicensed individuals i.e. cables and railway items
- The introduction of robust recording systems at SMDs enabling scrap metal to be tracked
- Reducing the number of SMD sites and relocating existing SMD sites to non-residential areas

However BAR opposes restrictive measures suggested by the government as the scrap metal industry is one of the few current successful economic sectors. SMDs are the main suppliers to recycling and metallurgy organisations.

## Activities since 2010/2011

### Public – private sector partnerships

A platform for collaboration has been established which enables the public and private sectors to discuss legislative changes. New drafts of waste management regulations have been drafted and came into force in 2012.

### Legislation and policy changes

- The new Waste Management Act was passed in June 2012
- Following the implementation of the new legislation 50% of SMDs have been forced to close
- It is felt that the changes in legislation favour larger corporations
- Municipalities are encouraged to build their own scrap yards to enable citizens to deposit scrap metal for no financial reward
- Protests are being made to the President, Constitutional Court and the European Commission
- A multi-agency workshop was created for police and environmental authorities to meet with BAR and they have developed new proposals that have been put forward to fill legislative gaps, including the difficulty to prove theft and intention of theft
- It is believed that more SMD's may become illegal due to the difficulties in setting up and maintaining a legal site in Bulgaria

The new legislation requires a permit issued by the regional structures of the Ministry of Environment and Water. The main drive for having the new legislation was the New Framework Directive on Waste that was developed into national legislation through the new

Waste Management Act (in force since 13 July 2012) and that introduced a new waste 'hierarchy' and recycling targets at a national level.

**Media strategies**

Public awareness of metal theft is not increasing. Last year there were ten articles and two interviews published in three daily newspapers and a weekly magazine on metal theft.

Feedback from Bulgarian media is that metal theft is not considered an important issue at national level.

Additional feedback from the media suggested raising the awareness of the international dimensions of metal theft and of the need to enhance European cooperation in order to tackle it.

**Engagement with the judiciary**

Legislation to tackle metal theft is there to be enforced. The main issue is that the judiciary is not aware of the impact of metal theft which enables criminals to receive reduced punishments.
Additionally SMDs are perceived as criminals when many of them are registered businessmen.

## 8.4. Annex 4 Metal theft in Spain

### Position of metal theft in 2010/2011

#### Understanding the impact of metal theft

Metal theft affects a range of sectors including telecommunications, agriculture, water, metallurgy, recycling, energy, gas and electricity, railways, port, construction, insurance, cultural heritage and ecclesiastical. Sections of motorway were without light for a significant period of time after a succession of cable thefts. Therefore it requires a coordinated response by police, environmental agencies and other public bodies to tackle it.

According to the Spanish Ministry of Home Affairs, there are on average 40 cases of major metal theft crimes per year in Spain, mainly linked to large criminal organisations.

In Spain, metal theft is classified as crime against property, which can affect government facilities or public utility services.

Sentencing of metal thieves ranges from six months to three years imprisonment, in addition to payment of criminal and associated civilian liabilities.

In 2010 the Spanish media published articles on metal theft, but the coverage is barely sufficient. Local press tends to take the lead, however not one major police operation has been covered.

The level of concern by the general public on metal theft ranges from low to medium.

There is notable difficulty in identifying stolen materials and matching them to corresponding registers, because usually the materials do not contain marks or signs. If metals are marked, they are not recorded. Further difficulties include:

1) Some SMDs have poor knowledge or comply with legislation which can facilitate the laundering of illegal metal
2) Metal theft is a low risk – high reward crime. It is not necessary to use the black market to sell the stolen materials as it can be sold to legitimate SMDs
3) It is felt that the penalising of metal thieves does not match the impact the offence has on businesses, communities and individuals

#### Police

Spanish LEAs use a wide range of methods to tackle metal theft including phone tapping and monitoring of GPS movements. According to the Spanish authorities the fight against metal theft would benefit from new legal powers including the tracking of the origin of metals.

The main obstacles faced by Spanish police in tackling metal theft are:

1) The large number of police corporations interacting in Spain, which leads to some elements of overlapping. This requires coordination between the organisations.

There is limited specialisation with some police departments devoted exclusively to the prevention and investigation of metal theft

2) Due to the complex levels of legislation the preventive area of policing including the inspection of SMDs is particularly difficult. Since all administrations (European, national, regional and local) have legislative powers on metal theft, there are many rules which must be considered by the inspector which can cause inconsistency. It is necessary to establish clear action protocols to facilitate the work of the police

Despite the above, the Spanish Police in general have been successful in the fight against metal theft.

**Tax**

Legislation states that payments of more than €6,000 must be specifically identified and separately stated from other transactions.

Individuals or companies that professionally trade with goods exceeding €15,000 in transactions must:

- Document and report this to the authorities
- Request and record identification of the seller

**Environmental enforcement**

The Valencia Association of Irrigation Wells and Groundwater Users stated that they suffer from metal theft on a daily basis, mainly copper from processing facilities. The damage inflicted to organisations is usually larger than the profit extracted by the perpetrators.

On occasions metal theft has led to the closure of wells. In 2010 one company suffered 6,000 thefts and during some of these attacks the thieves used violence.

There is a legislative proposal requesting scrap metal is treated similarly to dangerous waste ensuring that authorisation is required to dispose or sell scrap metal.

**Utilities**

Metal theft has not yet been recognised as a serious threat to the survival of energy companies.

To tackle metal theft, companies have installed perimeter security barriers and used CCTV.

**Manufacturers**

Metal theft is only considered as a negligible threat by the manufacturing industry. Businesses tend to view metal theft as just another economic cost which does not warrant specific countermeasures.

**Rail**

Railways are a profitable target for metal thieves. Signals, communication and energy cables are the most sought after items. Metal theft affects the continuity of service provided by the railways, to the detriment of both the rail company and the consumer.

Historical records show an increase of metal thefts from the railway in 2006 and 2007, a brief reduction in 2009, followed by higher spikes in 2010 and 2011.

The railway companies have reacted by dispatching patrols across the rail networks. There have also been specific operations carried out in partnership with LEAs, plus FIDA in Cadiz.

**Role of scrap metal industry**

Since 1982, FER defends the interests of the companies involved in the collection, trade, processing and recycling of ferrous and non-ferrous metal waste. FER members represent 90% of the materials recovered in Spain.

The issues raised to FER by its members are:

- Scrap facilities also suffer from metal thefts
- Illegal operators
    - Do not care if the copper is stolen
    - Long procedures in place to close illegal operators down
- Public image and reputation of SMDs are damaged
- Legal scrap traders are under strict inspections and legal requirements whereas illegal operators are ignored

Measures in place:

- Record book - Daily purchases and sales are recorded
- FER:
    - Cooperates with several Law Enforcement Agents
    - Provides information and advice to its members
    - Reports illegal operators
    - Conducts communication campaigns

Approximately 250,000 tonnes of copper goes through the scrap and recycling process each year.

There are five items of regulations with every transaction and police use this to target and penalise offenders. The punishments are not severe enough to serve as a deterrent.

**Sale and export**

The Port Authority of Valencia, which is also responsible for the ports of Sagunto and Gandia, confirmed that there is a significant amount of metal theft incidents each year at the ports, including 30 to 40 in Sagunto alone.

In Spain OCGs operate within the metal supply chain by stealing large quantities of metal, owning SMDs to store stolen metal and controlling ports to enable stolen metal to be exported.

**Offender profiling**

The majority of metal theft offences are committed by small groups of Romanian and Spanish citizens, with low social status. There is also evidence of involvement from major criminal organisations

The most common offenders of metal theft in Spain are male Romanian nationals, of Roma ethnicity, aged in their 30s, poorly educated and unemployed. The perpetrators are most likely to have a long criminal record including fraud, misappropriation and other property offences.

Preferred targets are cable installations which are usually attacked at night.

Stolen metal is sold to licensed dealers at market price in an average timeframe of three days. The dealers are generally aware of the illicit origin of the metal.

Stolen metal enters the legitimate section of the industry after it has been processed.

Metal thieves have access to basic cutting tools, make use of vans and private trucks and operate in a 100 km radius.

Evidence shows 15% of offenders have some link to the companies being attacked.

Copper is the most popular commodity but aluminium and iron are also of interest to metal thieves. On average the quantity of metal stolen ranges from 2,000 to 3,000 kg.

According to Spanish authorities, most of the metal thefts described above should be referred to as petty thefts, which are only a part of the overall problem.

The majority of the metal thefts which are committed are at Level 1 and often the goods are exported to China and India. There are also smaller thefts where metals are sold in Spanish scrap yards

**Legislation**

All legal regulation is based on the Spanish Constitution (1978) which determines the distribution of power between the existing public administrations: Central Government; State; Autonomous Administration; Autonomous Communities and finally Local Government Municipalities. Apart from this there are the Community Standards issued by the legislative

bodies of the European Union which are directly applicable to all administrations. In this sense, there are exclusive powers of various governments and others that are exercised on a shared basis.

The State always reserves the power to dictate basic legislation, which sets out general issues and minimum requirements to regulate a specific subject (in the case of metal theft it is the management of the metals used).

The Autonomous Communities then have the authority to enforce legislation, in accordance with their respective statutes of autonomy, and may implement rules respecting the basic principles issued by the State.

The regional regulations regarding metal theft may be more restrictive regarding the regulatory conditions, but no more lenient than the state legislation.

It is therefore possible that one case of metal theft can encounter state, regional and local regulations. This makes it necessary to apply some principles for the interpretation of the regulations.

## Activities since 2010

### Public – private sector partnerships

A Spanish utility company has implemented a silent alarm which notifies the national police when and where a cable has been cut.

### Law enforcement activity

Initially, Valencia Local Police pursued these crimes reactively. Later, in line with a strategy and business model, they identified the need to address the problem from a preventive perspective. This included patrolling vulnerable areas such as industrial estates, roads and public works.

By being aware of the problem of metal theft and the solutions required, Valencia Local Police has implemented the following measures:

- Installing mechanisms to detect metal theft in vulnerable areas. Information is sent to district police units for analysis and if necessary to the national police
- Conducting static and dynamic surveillance of metal theft hotspots
- Developing a specialised police unit to protect the environment - the Green Patrol. The Green Patrol conduct inspections of scrap yards to ensure metal is stored in compliance with environmental legislation. The Green Patrol liaises closely with other police forces that perform similar functions

Valencia Local Police has contributed to the continuous improvement of the management of metal theft. They have begun to conduct analysis to anticipate future demands and threats. Other work includes:

- Redefining protocols to assist officers during inspection of recycling sites to standardise operations and centralise information gathering

- Implementing new systems of analysis to enable information to be processed more efficiently
- Establishing communication channels within specialised metal theft police groups, such as the Judicial Police Unit of the Guardia Civil and the National Police's Metal Theft Group
- Training police staff to understand the complexities of metal theft and the organised crime networks involved
- Participating in projects such as Pol-PRIMETT to establish the transnational picture of metal theft and to share good practice across Europe
- Researching the possibility of documenting the control of metal from origin across its lifetime
- Implementing a silent warning system which raises an alarm to the police and provides surveillance in hotspot areas
- Using a cable marking system to track cable
- Monitoring cable peeling machine purchases in order to track thieves
- Sharing good practice with the Environment Agency in the UK

Guarda Civil has been working close with LEAs from Portugal (Guarda Nacional Republicana) and France (Gendarmerie Nationale) to identify areas for improvement in tackling cross border metal theft.

Valencia Local Police has piloted innovative marking and monitoring systems in order to identify the optimum way to implement solutions, thereby reducing metal theft and the impact on communities.

**Prevention and deterrence**

Insurance companies have insisted that businesses implement security systems connected to central alarms. However, this measure has been deemed insufficient.

**Recommendations and lessons learned**

Having analysed the relevant legislation and considering the problems faced by the Spanish police, the following solutions are suggested to curb the growing problem of metal theft.

**Public – private sector partnerships/engagement**

It is proposed that solutions should be implemented jointly by the recycling industry and the police. Joint effort is required as the intended purpose is the same: stopping metal theft.

Disseminate and enforce best practice manuals between industries, together with appropriate training for employees.

Full cooperation with the recycling industry from the authorities, security forces and bodies responsible for administrative control is required. Flexible systems should be established to supply details of goods received.

**Legislation**

Provisions to keep perpetrators in custody until the trial are being reviewed. Other legal measures to exert more effective control over SMDs are strongly recommended in addition to:

- Streamlining the closing down of unlicensed / illegal SMDs
- A registration system for SMDs managed by the Spanish government
- Introduce harsher punishments for offenders

**LEA activity**

Factors for consideration include:

- Greater involvement from the authorities responsible for administrative control of metal management. This will assist in streamlining the process of closing unlicensed and illegal sites.
- Establish clear protocols to facilitate checking procedures
- Create specialised units to tackle the national and transnational fight against metal theft and establish flexible systems for information exchange between them, as well as access to a central SMD database.
- Specify in police reports:
    - The value of goods stolen
    - The damage caused by metal theft to facilities
    - The risk or damage caused by metal theft. These are often very significant as they affect a wide range of individuals, communities and businesses. This would also increase awareness of the impact of metal theft and subsequently affect the severity of the penalty
- Conduct surveillance in areas with high theft risk
- Improve controls in export shipments
- Inspect legal as well as illegal facilities

**Prevention and deterrence activity**

Factors to consider include:

- Introduce systems which enable metals to be traced at any stage of their life, in order to verify origin and provenance
- Provide companies with advanced passive safety systems to improve the security of their business
- Promote the use of commercial forensic solutions such as Smartwater or SelectaDNA which can protect infrastructure from possible attacks

## 8.5. Annex 5 Metal theft in Greece

### Position of metal theft 2010/2011

#### Understanding the impact of metal theft

Like most countries metal theft is impacting on Greek people and businesses through the breakdown of services (trains, utilities etc.). Additionally communities are beginning to feel unsafe in the region outside Athens. This is due to the rise in related crime and the environmental damage caused by the burning of cables.

Greek tourism is impacted as environmental damage and security risks are deterring tourists from Athens which forms a large part of the Greek economy.

Public infrastructure is being targeted by metal thieves including churches, cemeteries, schools, street furniture, sculptures and monuments. Farms, construction sites and private dwellings have also been victims of metal theft. Essentially any unguarded metal is a potential target.

Five years ago theft in Greece was not reported so it is difficult to report accurately on the level of the problem. It is recognised that metal theft in Greece is on a smaller scale than that in the UK or Italy.

A pattern has emerged from businesses that operate in the field of irrigation, energy and railway transport.

Metal theft is on the rise in the irrigation industry, with accumulated losses of tens of thousands of euros. The damage is nearly always higher than the perpetrator's profit.

The effects of the economic downturn, the lack of effective border controls, inefficient judiciary and poor control of SMDs are among the causes of the increase in metal theft.

Prevention appears extremely difficult, due to the territorial dispersion of the infrastructures required to irrigate fields. It is suggested that by using public aid a GSM-based security system is installed. This would be in addition to improved surveillance of the international border with Bulgaria. Some provisions to keep offenders in custody until trial and other legal arrangements to exert a more effective control over SMDs have also been suggested.

The total economic damage is estimated at €25 million. Preventing metal theft is being tackled by using a large and comprehensive group of countermeasures. This includes small wagons patrolling the most vulnerable areas of the railway network, devoting increased human resource to protect the lines and main facilities. Security is outsourced to private companies and there is strong cooperation with state police.

The press has reported dozens of thefts over the years, mainly from Athens. The coverage has however remained negligible and mostly confined to local press or the internet. Occasionally there are reports concerning operations carried out by Hellenic Police, but there is no effort to eradicate this kind of crime from Greece, despite public awareness of the

dangers metal theft poses to property and human life. It is recognised that enforcement agencies are understaffed. According to the press reporting, Roma appear to be the main perpetrators.

Mining is an important part of the Greek economic recovery particularly materials including bauxite, nickel, lead and zinc. Gold production is soon to begin in northern areas of Greece.

In addition to the economic damage suffered, there is indirect damage including delays on rail networks, the theft of lightning rods from schools and an increase of risk to individuals through the removal of sewer lids.

Metal theft can be divided into two categories; OCGs which mainly targets the railway network and opportunist theft which tends to target other unguarded metal. These two categories have different characteristics as described later in the document and require different ways of approach.

**Police**

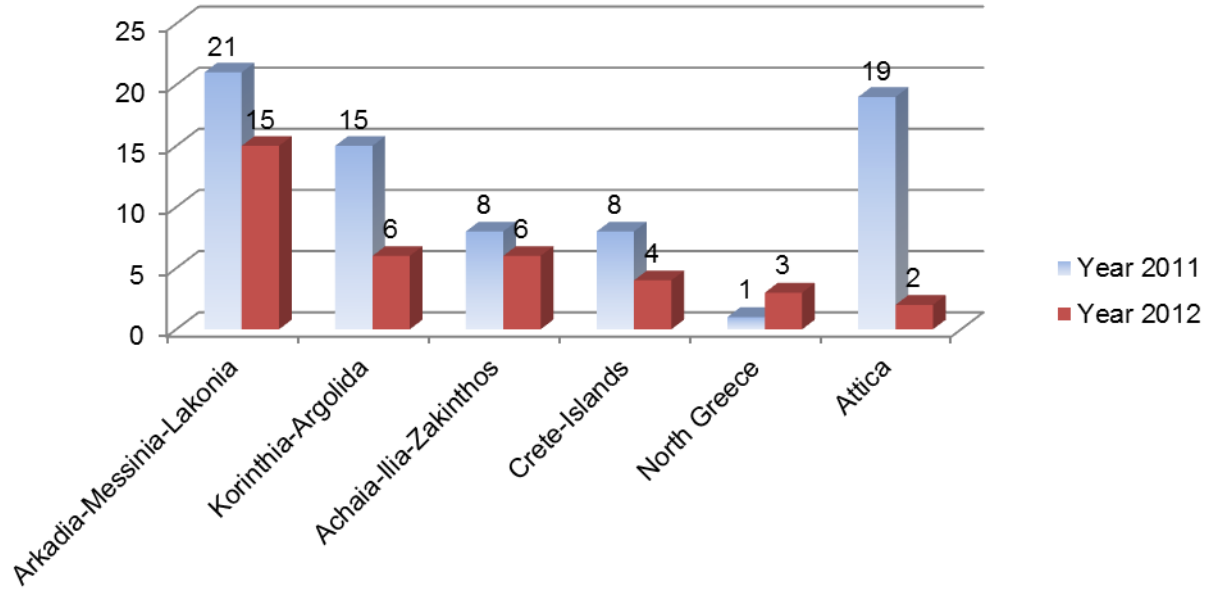
The Hellenic police do not record separate figures for metal theft.

**Telecommunications**

OTE (the Hellenic Telecommunications Organisation) is being regularly targeted by metal thieves with the main areas being:

- Underground and overhead cabling
- Derelict buildings which are waiting restoration
- End of life cabling
- Manhole covers
- Metal gates from company premises
- Metal doors

**Cable theft incidents by region**




| **Reported incidents** | |
|---|---|
| 2011 | 72 cases |
| 2012 (to date) | 36 cases |
| Total damage in Euros | 700,000 |

OTE's offender profiling shows that metal theft is committed by a combination of opportunist thieves and large OCGs.

After some incidents of cable theft, thieves are waiting for OTE to reinstall the cable before stealing it again.

OTE has implemented the following security measures:

- Lobbying Ministers to encourage the exchange of information between the public and private sectors
- Participating in legal actions against all metal theft perpetrators
- Installing a network of alarms which are monitored by an operations centre, CCTV, access control systems, perimeter electric fencing, security guards and patrols and discrete exterior lighting at OTE substations

OTE has also recommended the following:

- Closer cooperation between the police, authorities and the private sector to enable incident alerts and the exchange of expertise and good practice
- Analysis and mapping of crime hotspots to enable OTE to focus their security measures more efficiently

- Creation of a metal theft taskforce
- Installation of a coordinated alarm system which sends an alert to the police and the company affected, similar to the RABIT system developed by BT in the UK
- Using different types of cable which have a steel core and a copper outer casing, creating an effective but less valuable cable
- Using forensic marking solutions which can be unique to specific locations
- Harsher penalties for metal theft offenders
- Improved monitoring of the illegal supply chain
- Introduction of a crime reporting code for police to improve data recording and understanding of the problem
- Improved licensing regime for SMDs with harsher penalties for non-compliance

**Railway**

OSE has been significantly targeted by metal thieves with €1.5 million worth of damage and 195 related arrests occurring in 2010. Some sections of the railway network are being completely destroyed and other sections being severely disrupted. This has caused significant economic damage to OSE and to the national economy. In addition the safety of OSE staff and passengers has been threatened as a result of metal theft.

Issues faced by OSE include:

- Theft of cabling causing signal failure which has caused trains to be delayed
- Theft of materials such as rails, sleepers and connectors, disrupting service
- Power shortages following thefts at nearby substations which has disrupted service
- Thefts of batteries and electrical equipment from automated level crossings which has compromised the safety of level crossings

These types of thefts have a significant impact on OSE including many hours of repair work, purchasing replacement material, reduction in services and reputational loss.

Also metal theft puts the public in danger. There have been incidents where cable from a parallel railway line had been tampered with, was unanchored and has hit the oncoming train causing injury to the driver and broken glass inside the train.

The cost of repair following an incident of metal theft is estimated as €65,000 for every km of stolen copper cabling.


Image 1 Types of copper and aluminium cables that are stolen from Railway

**OSE's annual damage costs as a result of metal theft (in €)**

| Year | Rolling stock | Electrification signalling | Track material | Total per year |
|---|---|---|---|---|
| **2007** | **-** | 2,326,317 | 571,046 | **2,897,363** |
| **2008** | - | 4,263,319 | 554,375 | **4,817,694** |
| **2009** | - | 8,637,172 | 398,618 | **9,035,790** |
| **2010** | 113,683 | 9,953,535 | 308,301 | **10,375,519** |
| **2011** | 11,159 | 9,238,426 | 221,628 | **9,471,213** |
| **2012** | 150,524 | 6,931,937 | 595,088 | **7,677,549** |
| **Total** | **275,366** | **41,350,706** | **2,649,056** | **44,275,128** |

OSE regularly meets with the Hellenic Police to ensure preventative actions are coordinated. OSE also participates in investigations with the Hellenic Police to provide advice and to ensure the police have unlimited access to the rail networks.

OSE conducts night-time patrols in hotspot areas to prevent and deter metal thieves from targeting the rail network. It is not cost effective to patrol the entire rail network which is 2,600km long.

OSE stated that metal thieves are exploiting the vulnerabilities of the scrap metal system. Currently individuals are not required to show identification to sell metal which makes tracking stolen metal almost impossible.

Metal thieves who attack the rail network in Greece are believed to be Greeks, Slovak Romas, Bulgarians, Macedonians and Albanians. Many stolen items are sold in neighbouring countries.

**The case of Kardiokafti (CASE STUDY)**

The most notorious incident is the case of Kardiokafti. This is a region in western Peloponnese where six trains and an unidentified number of wagons were stolen.

Image 2 The stolen vehicles of the railway organisation

These vehicles were characterised as obsolete and were left in an unguarded area until the sales procedures were finalised. Due to the scandal of selling scrap metal by OSE the sale had been frozen and during that period the vehicles were stolen. A group of criminals with specialised equipment dismantled and stole the vehicles without being noticed. (Each weighed 120 tonnes).

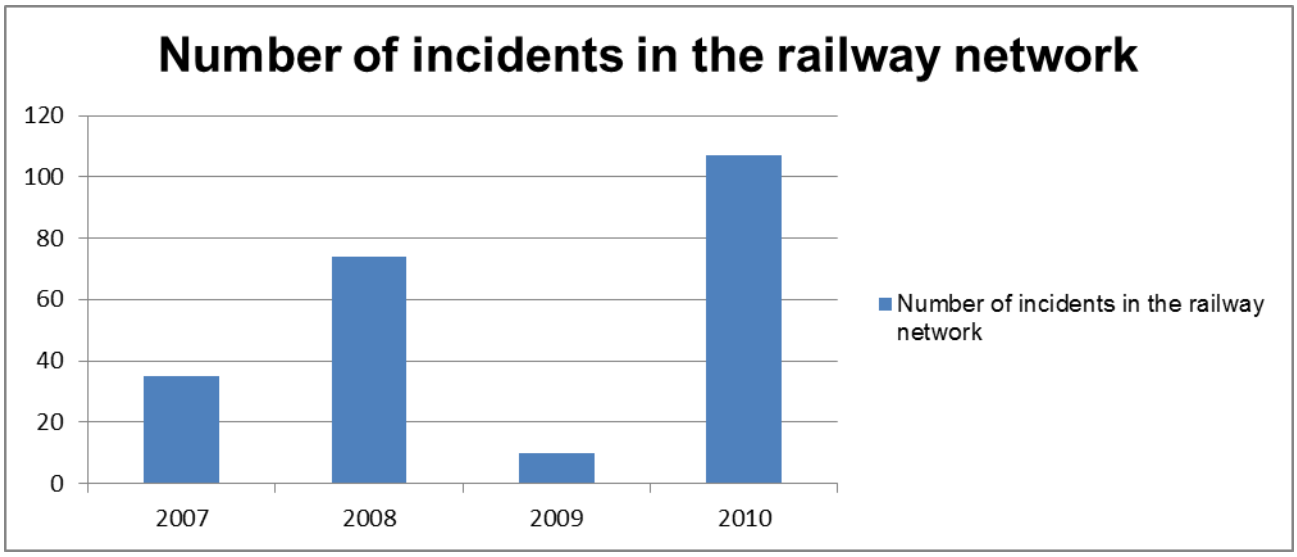
The case with the highest rate of casualties occurred in Attica on the outskirts of Athens. OSE was making a large investment to adapt the railway network to be solely electrical. The head officer of OSE stated the cables for this network have all been laid at least twice because of constant thefts.

Image 3 stolen rails in a van

**Other factors**

The reasons for repeated attacks on the rail network are the inability to guard the entire network, poor policing operations and the delay of information; probably due to the corruption from organised criminals.

Another factor is that the empty railroad stations were used by municipalities as refugees' camps. During that period everything that could be stolen was removed.




**Response to the problem**

The problem of metal theft affecting the railway has reached Parliament and public awareness of the crime has increased.

There have been many arrests by the police but there has not been a reduction in the number of thefts. There have been no effective measures implemented to handle the increase of thefts.

In order to minimise the impact some precautionary measures have been introduced, including:

- Transporting unguarded materials and equipment into secure locations
- Requesting that immigrants living inside the territory of OSE leave
- Improving security of high risks locations
- Improving cooperation between police, authorities, ministries and prosecutors
- Increasing security patrols of the vulnerable parts of the rail network
- Installing alarms, thermal cameras and recording equipment at key points along the rail network
- Improving fencing and reducing access to the rail network
- Establishing points of contact within the Hellenic Police to ensure an immediate response following an incident of metal theft

- Conducting inspections of the rail network with the support from the Hellenic Police to identify vulnerabilities
- Analysing crime data to map the rail network and identify metal theft hotspots
- Coordinating covert operations with the Hellenic Police
- Participating in police inspections of local SMDs, Roma camps and metal foundries to identify stolen OSE materials
- Developing a policy to identify and convict any OSE employee found participating in metal theft
- Campaigning to the Ministry of Interior to relocate the Roma sites situated near the rail network
- Submitting proposals to the Ministry of Finance to amend legislation to state that all individuals selling scrap metal should provide photo identification

OSE has declared that the problem has now become too great for them to deal with.

**Utilities**

PPC is the main power provider in Greece. As a result, PPC owns an expanded electricity network including many transformers, which are the main target of metal thieves due to the copper they contain. Cables and earthing systems are stolen from transformers, and there is an increase in attacks on substations and warehouses

PPC has suffered the loss of 1,817 transformers in 2010 to 2011, amounting to damage costing €10 million. Most of the targeted transformers were located in rural areas and PPC is developing a new alarm system for protection, based on GSM technology, and a real time transmission of SMS to the police when a transformer is attacked.

The overall cost for PPC reaches €10,000,000 including replacement costs for material and labour.

The transformers are used for agricultural purposes and if it is stolen during the winter, the theft is rarely noticed until the summer. The access to these areas is not easy and there are no residents to notice any suspicious activity.

Apart of the cost to PPC there is a cost for the farmers as the pumping system will not operate properly which effects their production.

**Response of PPC to the problem**

At the moment an alarm system is under development which will send an SMS to the police and PPC when there is an attempted theft of a transformer.

PPC cooperates with Police and local authorities, informing them of issues, how to act in case of a theft and by raising awareness through media campaigns to prevent and deter thieves.

**CASE STUDY**

"In June 2011 nine Pakistani citizens were arrested who had stolen copper from two PPC transformers in the region of Argos. Following initial investigations it was revealed that they had stolen over 47 transformers in the wider region of Argos"

"In November 2011 three Roma citizens aged 31, 29 and 14 were arrested after attempting to steal a transformer from a farm in the Region of Livadia. A passer-by saw them trying to steal the metal box from the transformer and notified the police. Police found an iron crowbar, a mechanism for loading and carrying metal pulleys plus chains inside the Roma's vehicle."

Image 4 Shell of broken transformer

Image 5 Shell of broken transformer

**Farmer's facilities**

The agricultural sector is an important factor in Greek economic and social cohesion, both at national and regional level. The agricultural participation rate for 2006 is 5.2% to national Gross Domestic Product, 12% of the working population and 17.2% of total exports, confirming the importance of the sector for economic activity and employment.

There are organisations that are paid by farmers to develop facilities and investments to advance their productivity.

These organisations have a large number of irrigation pumping stations, wells and irrigation networks which are predominantly made of metal (wires, electrical panels and piping).

The reported cost for replacing and repairing these facilities following metal theft is estimated in excess of a million euros.

The president of GOEV Oretiados Mr Vournelis stated that "the impact of metal theft is much bigger due to the effect it has on the production and repair costs. For example the theft of a one metre cable in a borehole (which happens very often) involves the use of a crane for extracting the pumping system and the services of an electrician for installation. This equates to extra working hours and salaries which costs more than a one metre cable. There is also the delay of irrigating the farmer's field. So the total cost far outweighs the cost of a one meter cable."

Image 6  Broken valve from a pumping station

Theft of electricity cables can lead to a disruption of road and highway lighting plus faults in traffic signalling.

The head of the Western Greece region stated that 70% of road lighting in the Elis regional road network has been disrupted due to metal theft in comparison to 40% in the Etoloakarnania region and 60% in the Achaia region.

Other cases of theft from private and public buildings include:

- Abandoned factories
- Olive press industry
- Businesses with telecommunication or internet connection
- Copper pipes and copper gutters from houses
- Lightning rods from public buildings and schools
- In Keratea there were 2500 thefts of sewer lids in 2011
- Benches and metal garbage bins from parks

The majority of these incidents are committed near the Roma camps or areas with a high population of Roma citizens. Roma citizens are frequently arrested for these kinds of metal theft as well as Bulgarians and Romanians.

**Faith and heritage sector**

Bells from churches are stolen.

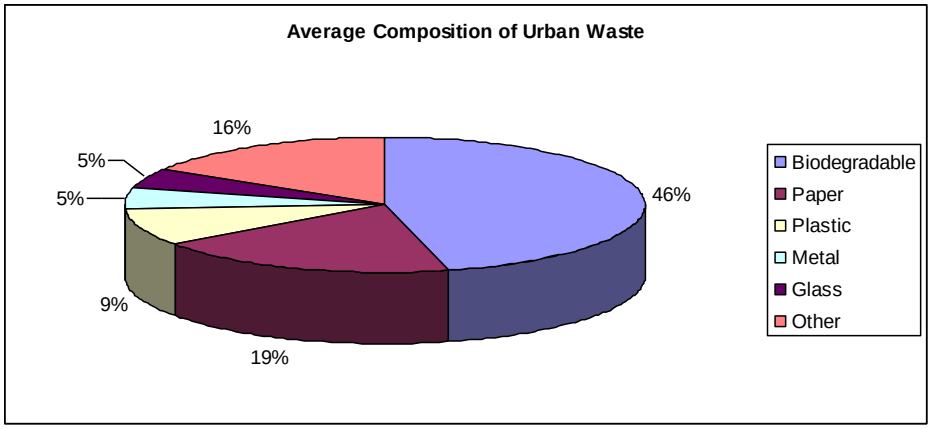
**Role of the scrap metal industry**

Metal recycling is defined as the management (collection, transport, disassembly) of waste and scrap, used and non-used, sorted and unsorted, and the treatment of secondary raw materials, which can then be used in other industries to produce other intermediate materials or final products.

Metal recycling includes several stages of processing such as sorting, crushing, mechanical shrinking (compression), purification and separation, and further treatments for recovered materials to make them ready for use as a raw material.

The metal recycling industry includes companies that offer the following:

- Removal and garbage collection
- Sorting and dismantling of waste
- Treatment and recovery of materials
- Energy recovery of waste and residual waste




Average Composition of Urban Waste

Source: National Planning for Solid Waste Management (2003)

The demand for recycling is formed by:

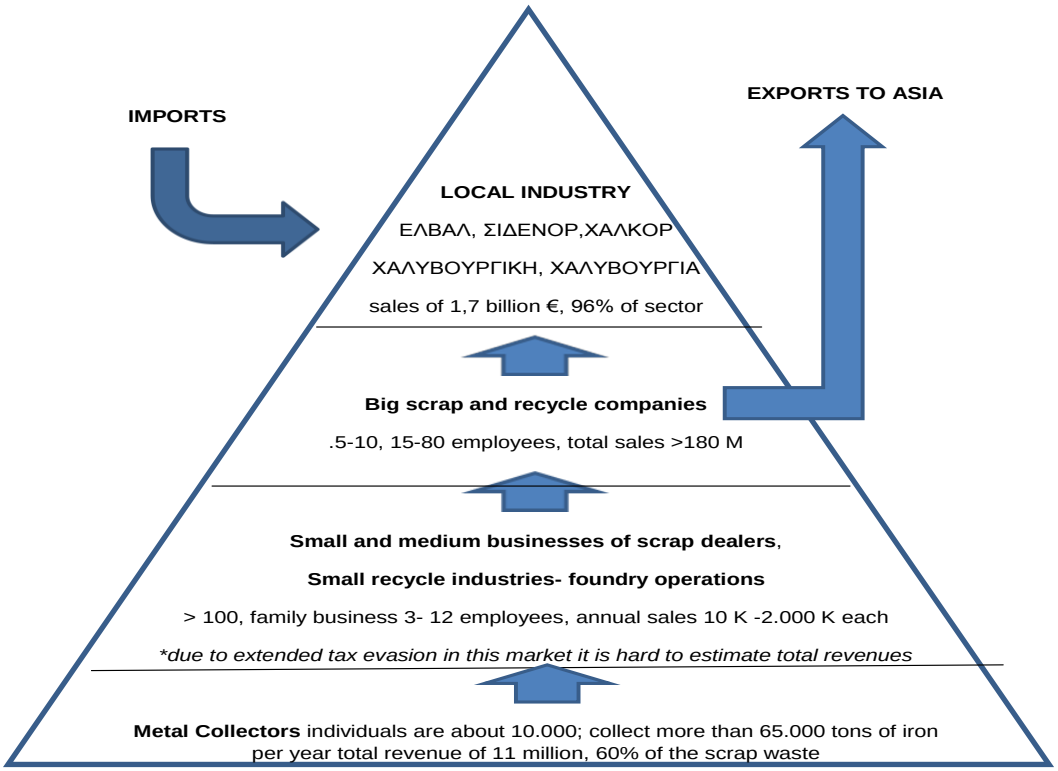
- Statutory waste streams
- Consumption of products made available to the market by the producer
- Substitute materials and their prices
- Technological and environmental developments
- General economic conditions

The total revenue of the waste metal industry is estimated at €1.2 billion per year.

There are 32 registered SMDs in Greece and the majority are situated on the outskirts of Athens near the ports. This area has become a favoured location for the travelling community. Research shows that small businesses operate as a feeder for the larger companies or as recyclers/dealers of industrial and trade waste, or combination of them. In total the sector employs more than 10,000 people with five companies controlling over 51 % of the market.

There are five companies which control the majority of the recycled metals - ΕΛΒΑΛ (aluminous), ΧΑΛΥΒΟΥΡΓΙΑ, ΧΑΛΥΒΟΥΡΓΙΚΗ, ΣΙΔΕΝΟΡ (iron), ΧΑLΚOR (copper). These companies have a total revenue of over €1.7 billion. Apart from the metal used in production a significant amount of metal which is recycled is exported.

The process of scrap metal can be described as a pyramid with the companies mentioned above at the top of the pyramid.




The second level consists of a few wholesale traders of scrap metal. Most of these traders supply scrap metal to the top level. Even though there is a shortage of scrap metal, there are regular exports, as it is more profitable to export metal due to tax reasons. The second level traders are the main exporters. These companies have an annual turnover of more than 5 million and total revenue of €180 million as of 2010.

Level three consists of the smaller scrap dealers which range from small, family run businesses to companies with over 20 employees. There are approximately more than 400 companies at this level in Greece. The majority are family businesses which usually have one owner/manager, one finance manager, one driver and one or two workers to cut and transfer the metals. Usually all the employees are relatives.

At level four there are metal collectors who tend to be immigrants from Roma communities or individuals who collect abandoned metal in their backyards. There are approximately 10,000 metal collectors in Greece who collect more than 65,000 tonnes of iron per year totalling approximately €11 million which is 60% of all scrap waste.

| **Name of company** | **Turnover 2010 €** | **No of employers** |
|---|---|---|
| ΝΕΟΝΑΚΗΣ ΑΡΧΙΜΗΔΗΣ Α.Ε. | 79.309.623 | 81 |
| ANTYMET PLUS A.E.B.E. | 27.569.899 | 30 |
| ΚΩΝΣΤΑΝΤΙΝΙΔΗ ΑΦΟΙ Α.Β.Β.Ε.& Ν.Ε. | 16.604.315 | 100 |
| ΣΙΔΜΕΤΑΛ Α.Β.Ε.Ε. | 14.624.873 | 12 |
| ΑΜΕΚΩΝ Α.Ε. | 11.845.943 | 35 |
| ΚΑΘΕΡΗΣ Α.Β.Ε.Ε. | 8.420.359 | 19 |
| ΑΝΑΚΥΚΛΩΣΗ ΒΟΛΟΥ Α.Ε. | 5.868.946 | 19 |
| ΑΕΙΦΟΡΟΣ Α.Ε. | 5.751.904 | 42 |
| **Total turnover** | **169.995.862** | |

Metal collectors travel around with a super market trolley collecting from waste disposal sites. They also use small vehicles such as three wheel small motor bikes or pick-up trucks. The collectors who use a truck usually have a loudspeaker promoting that they will clean basements and warehouses and will collect any old items.

Image 7 Pick up truck with iron waste

Image 8 Metal collector with super-market trolley

Metal collectors are generally perceived to be connected with illegal removal of iron, copper or any unguarded material which can be taken easily.

Once the metal is collected it is sold to the level three small SMDs.

Many small recycle industries-foundry operations function in parallel to the level three SMDs.

Metal thieves will always try to sell stolen metal as quickly as possible, usually to scrap metal dealers who are willing to 'turn a blind eye'.

Licensed foundry businesses are generally small organisations and do not accept stolen items. Their clientele are usually plumbers and tradesmen and focus on smelting bronze. Furthermore, the majority do not have the financial capability to purchase, for example, two tonnes of copper nor the technical ability to smelt it. These small businesses lack even basic technological equipment such as an internet connection and fax machine.

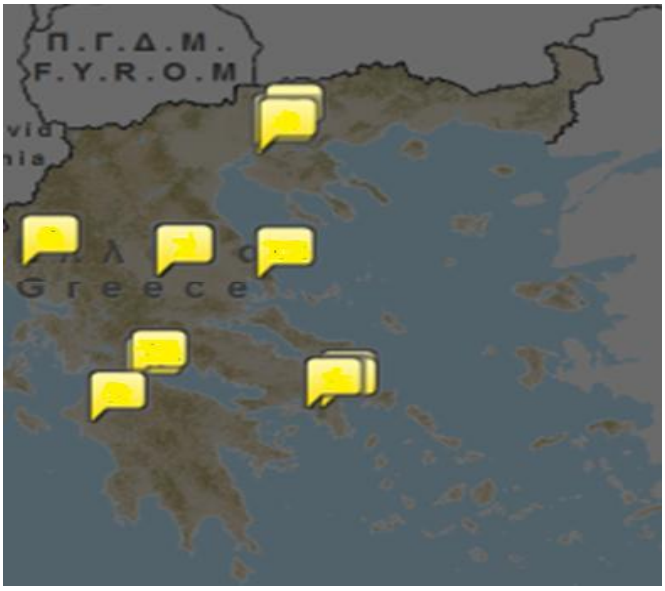



Image 9 Concentration of foundry businesses around Greece as registered in Advertisement Newspaper xo.gr

**CASE STUDY**

"In January 2011 a 63 year old Greek owner of a scrap metal business and the 23 year old Indian employee in 'St. Ioannis Rentis' area were arrested due to accepting stolen metal. During the inquiry it was revealed that they were accepting large quantities of stolen cabling from a co-worker and were crumbling them with special equipment. This enabled them to sell the metal to the larger companies as copper fillings without revealing their origin. Items recovered included 20m of cabling from the railway network, 50m of cabling from PPC and 20 sewer lids."Research shows that 94% of metal exported from Greece is sent to Asia at the large scrap and recycle company level. It is also at this level where the illegal metal enters the legalised system.

There are two levels of SMDs – primary and secondary.

Primary SMDs are generally:

- Family businesses with an average annual revenue of €500,000
- Unlicensed and have a history of tax evasion
- Buying stolen metal directly from thieves at a reduced rate
- Using devices to conceal the origin of metals
- Reselling stolen metal as secondary scrap

Secondary SMDs are generally:

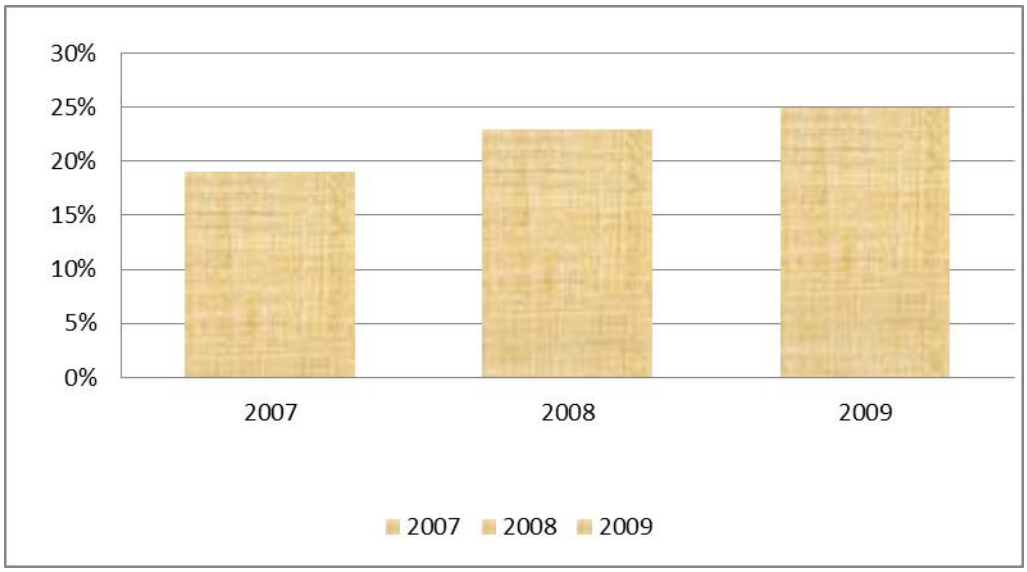
- Operating a zero tolerance policy
- Accepting all de-identified metal from primary SMDs
- Contributing to the de-identifying process by mixing and compressing metals prior to export
- Selling onto organisations in the Greek metal production industry or export to Asia

Stolen metal is generally sold to SMDs, where it becomes legalised, is returned to the local industry or it is exported.

**The case of copper**

The main organisation in Greece which produces copper is ΧΑΛΚΟΡ which belongs in the group of companies ΒΙΟΧΑΛΚΟ. There has been an increasing trend of scrap usage by this company as demonstrated in the diagram below.

**Scrap usage as % of metal used in XALKOR**




| *Year* | *2007* | *2008* | *2009* |
|---|---|---|---|
| **Scrap usage as % of metal used in XALKOR** | 19% | 23% | 25% |
| **Metal** | 81% | 77% | 75% |

Source: Annual report of Halkor, www.halkor.gr

The company in this group that buys and manages the scrap is ANAMET. ANAMET is the leading metal recycling company in Greece and has been processing and trading ferrous and non-ferrous scrap metals since 1966. ANAMET also offers a wide range of integrated waste management services and had a consolidated turnover of 224 million euro in 2010.

With subsidiaries in Bulgaria, FYR of Macedonia, and Serbia the company employs nearly 250 people, handling 400,000 tonnes of scrap metal per year and servicing industrial and corporate clients at home and abroad.

In compliance with the current institutional, regulatory and environmental protection framework for the recycling industry, ANAMET is fully licensed and certified for its environmental performance according to Regulation 2009/1221/EC (EMAS).

The terms of business is stated on the website;
http://www.anamet.gr/contents_en.asp?id=21

**Zero-Tolerance Policy**

With regard to public property, especially with the country's infrastructure, the company dutifully enforces a zero-tolerance policy, aiming at maintaining its excellent reputation, as well as safeguarding its personnel integrity. Namely, any attempt to put up for sale materials of dubious origin, i.e., being part of public infrastructure or private property, unlawfully reclaimed, is immediately reported to the appropriate Authorities by the company.

ANAMET only trades with business entities which are officially registered as traders of scrap metal, and it does not purchase materials for recycling from individuals - with the exception of reasonable quantities originating from business or house renovation activities.

The company is in regular communication with the relevant authorities and institutions, and is able to immediately share information on the technical specifications of suspected material put on the market.

Based on the acquired information, ANAMET is constantly notifying its partners of suspicious materials in an attempt to render illegally possessed material impossible to trade.

The same strict rules apply for ΣΙΔΕΝΟΡ

SIDENOR SA is a Group of companies, with subsidiaries dealing in the production, manufacture and sales of steel products. The Group, as a whole, employs a total of 3,000 people and is the largest Greek steel producer with a leading position in Greece and the Balkans.

The main areas of activity of the SIDENOR Group are mini mills, pipe manufacturing, downstream operations and product sales and distribution.

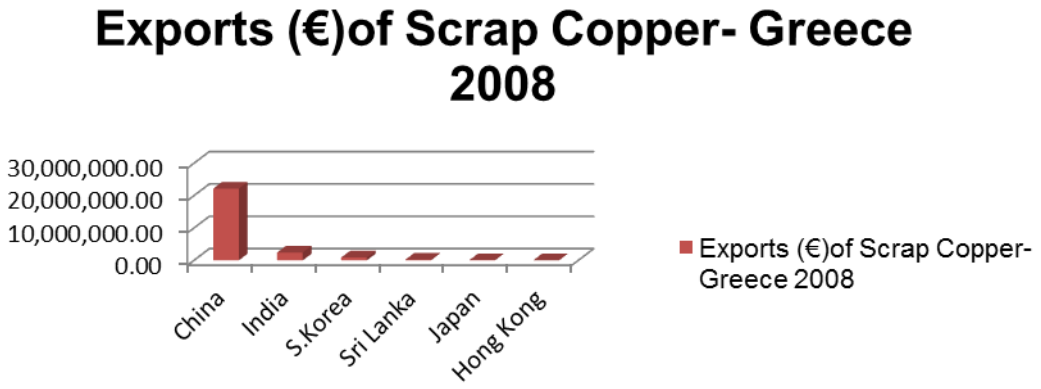
SIDENOR Group is the largest steel scrap recycler in Greece and one of the largest in the Balkans (has a recycling capacity of over 2,400,000 tonnes of steel scrap per year).

SIDENOR has an acceptance term for ferrous and non-ferrous scrap which clearly states the unwillingness to accept materials like copper wires or others that usually are products of criminal activity.

**Sale and export**

Although there is a demand for scrap metal in Greece, the majority of scrap metal is exported. The main reason is believed to be tax evasion as exporting is more profitable than selling scrap metal locally due to the tax system. Most of the exports are directed to China and India. It is assumed that stolen metal is exported with other legal metal in a container to make identification of stolen metal difficult.

| Exports (€) of scrap copper- Greece 2008 | | |
|---|---|---|
| | **Value €** | **Volume kg** |
| China | 22.140.813,00 | 6.155.653 |
| India | 2.413.714,00 | 1.061.150 |
| South Korea | 880.438,00 | 292.950 |
| Sri Lanka | 202.676,00 | 63.980 |
| Japan | 66.063,00 | 23.500 |
| Hong Kong | 50.532 | 70.045 |




Source: Hellenic Statistical Authority http://www.statistics.gr/portal/page/portal/ESYE

**Offender profiling**

According to the findings of the research, metal theft in Greece appears to be a crime prevalently perpetrated by foreigners, but with a significant involvement from Greek nationals.

Amongst the groups represented by the perpetrators, the majority are male, of Roma ethnicity, with the remainder of the group comprising of men from Albania, Bulgaria, Romania and Pakistan. The age ranges from 16 to 50. Minors are also represented among ethnic Roma.

The level of education is basic, with a large section being illiterate and unemployed. Perpetrators of metal theft have often been previously convicted for theft or burglary.

The target for metal theft is most commonly against the electricity grid and railway networks. Perpetrators attacking the electricity grid operate in groups of four, especially in rural or under-populated areas. This is usually close to industrial areas, as the perpetrators need easy access to high voltage electricity to treat the metal they steal. Transformers are the main target. Attacks on the railways are performed at night.

In both cases, offenders use cars or pick-ups, and specialised tools for cutting metal.

The metal stolen is sold quickly, mainly to licensed metal dealers aware of the illegal origins of the commodity. The price paid is often below its market level. The stolen metal enters the legal market only after it has been melted, or exported as elaborated products. The perpetrators operate in a radius of approximately 100km, which is quite remarkable for a country the size of Greece. Some form of cooperation between the offenders and employees of the targeted firms is suspected, especially information leaks.

The offender profile also illustrates there are a large amount of cross border activities related to metal theft which is also linked to OCGs.

The offender profile is at two levels – level 1 individual offender and level 2 OCGs.

Level 1 offenders are generally male, of Roma ethnicity (either Greek or other Balkan countries) and unemployed. They have a good relationship with local SMDs and use shopping trolleys, bicycles or pick up vans to transport stolen metal.

Level 2 offenders are between 20 – 27 years old, of Pakistani origin, unemployed and have a good knowledge of the railway and utility networks. They have access to specialised tools and vehicles and have a strong network for selling stolen metal. It is believed that Pakistani's are becoming involved in metal theft to finance attempts to travel across Europe as illegal immigrants however there is no evidence to support this.

OCGs participating in metal theft mainly target the railway network and PPC. They usually operate in a team of more than two people, have appointed tasks; and acquire their information from cutters, transporters, distributors, traders and exporters. These organisations operate almost exclusively in metal theft perpetrating serious criminal offences and are motivated by the pursuit of profit.

**The case of railway network**

The Greek railway network is 2,500 km long. OSE is a public organisation which is facing significant financial problems. Due to the economic crisis in Greece, there has been pressure for structural reform and privatisation. In the last three years many employees have left the industry and routes have seized operating.

Last year there was a radical reduction in the number of employees and structural reforms (11/2010). This combined with the increase in copper price and the unguarded network led OSE to suffer a significant amount of damage.

The cost from metal theft is estimated at over €25 million for the last three years.

Thieves will cut overhead copper cables, steal batteries and remove telecommunication cables which are used to communicate with the station and train drivers.

The majority of incidents are in the Peloponnesus area. Peloponnesus is a region in Southern Greece which ceased railway operations in 2010 as it was no longer financially viable. Therefore the entire network in this region has no trains operating and the stations are unguarded exposing them to severe damage.

Thieves have insider knowledge and are able to cut electrical wires which are of high voltage. They have access to specialised equipment including metal cutters which can easily cut 1km of cable.

Image 10 Metal Cutter

The Police Press Office quotes

“The criminals are acting mainly at the night. They park in close vicinity to the line with a stolen vehicle and travel on foot for 300-500m. The equipment used is hidden nearby from previous days. They cut the cables usually in length of about 1km with manual cutting tools and collect the material in a pre-determined location. After the first team has completed their work the car collects the stolen item, which is hidden before being sold to SMDs”

**Roma and metal theft**

Across Greece, Roma communities have been connected to criminality especially metal theft. In Greece it is estimated that there is approximately 300,000 Roma people. A large section work on construction sites or as traders of farm products and often have a normal occupation; however the other group live as nomads. Government funding has been directed towards promoting social inclusion but there has been a misuse of these funds and the results have been poor.

Image 11 Collection methods

In addition to the camp in Votaniko, there are similar camps on the islands of Rhodes and Lakonia where Roma individuals work as metal collectors.

**Relationship with other criminality**

Many SMDs and foundry operations operate without a license and outside of the environmental hygiene and tax laws. There are many SMDs situated in populated areas, including the centre of Athens.

These organisations are polluting the air within the highly populated areas causing health and environmental problems. There are growing concerns in these areas and it has angered the local communities (municipality of Tavros- Moschato). The Government has been unable to deal with the problem.

Local authorities will attempt to close the illegal and unlicensed sites; however businesses can delay the closure by utilising bureaucracy and legislation or by opening another business nearby under a different name or owner.


Image 12. Scrap dealer warehouse Source: http://www.clickatlife.gr/movie/cinema/proti-yli?id=5086

The cause of environmental damage is believed to be committed by small SMDs or smelters which work unlicensed. In the case of the Roma communities the metal is usually smelted inside their camps at night, using makeshift foundry equipment and stolen electricity.

**Legislation**

In Greece there is a growing political concern regarding metal theft, as witnessed by the number of questions filed by the Members of the Greek Parliament in recent years. In 2007 only one question was filed; in 2009, three questions and in 2010 it was eight questions.

Concern about this problem has been expressed by all the political parties, even though the opposition has played a more active role in the process.

No new law has been approved to tackle metal theft crime and none appears to be in the pipeline, even though the Government was active in enhancing measures and launching a pilot program to face this emerging problem.

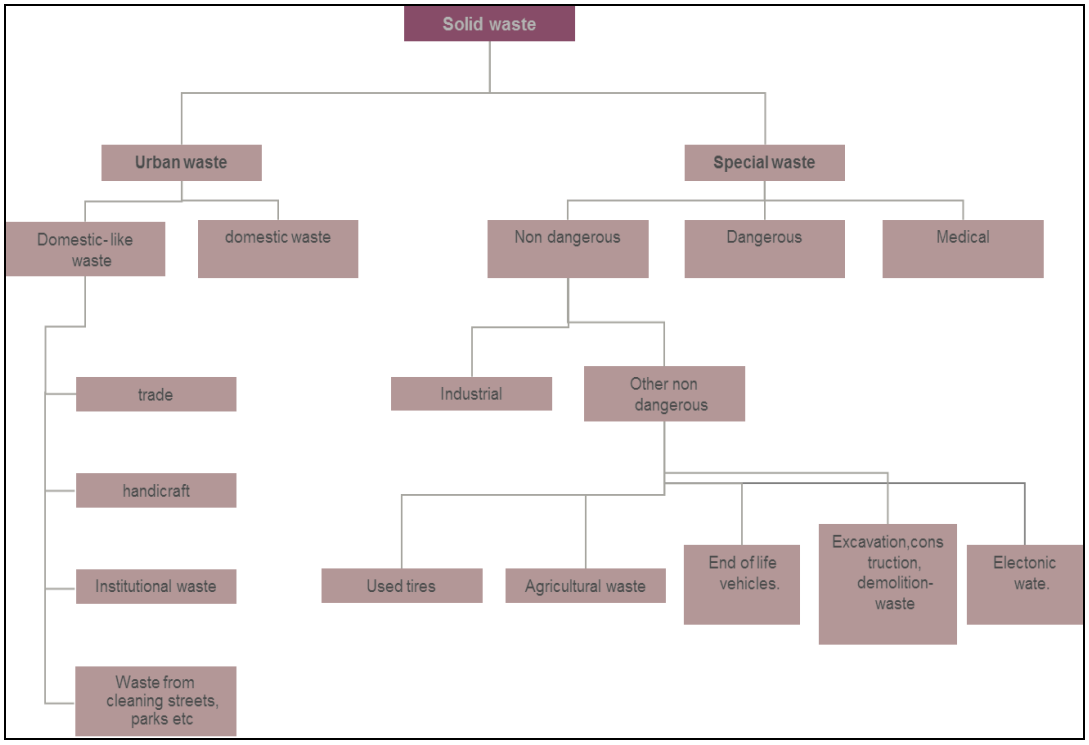
Prior to 2001 Greece had no proper legislation for the viable management and recycling of waste.

In 2001 and in compliance with EU Directives for waste management, Law 2939/2001 was passed.

Political management of solid urban waste in Greece is in compliance with European legislation which states:

- Prevention of waste production
- Reuse materials wherever possible
- Recycling of materials and production of secondary materials and recovery of waste for energy production
- Safe disposal in organised landfills

Transactions involving scrap metal are considered waste and regulated under the Law 2939/2001, Government Gazette A 179 / 06.08.2001 "Alternative Management of Packaging and Other Products" which sets the terms and conditions for the alternative management of packaging waste. This law defined the basic pillars for the management of a range of other products after use (such as used tyres, vehicles, end-of-life waste, electrical and electronic equipment, spent batteries and accumulators, used lubricating oils, debris, etc.).




The application of this law relates to:

- Industries - that produce or manage materials (primary or secondary) for the manufacture of packaging and other products
- Producers and converters of packaging or other products (manufacturers)
- Importers (suppliers)

- Those who bring the products into packaging (wrappers, fillers, formulators)
- Those who have products on the market (importers, smugglers)
- Consumers
- Public authorities
- Local authorities (OTA)
- Waste managers
- Levy

**Levy**

Participation in collective alternative management is accompanied by payment to the scheme by the principal manager and financial capital, which is intertwined with the principle 'the polluter pays'. The amount of the levy specified in the contract system entitles the participant administrator to identify the products with a special label as proof of participation in the system, thus fulfilling his obligations.

**Validity of approval**

The approval of schemes by the National Organisation of Alternative Management of Packaging and Other Products (EOEDSAP) is valid for six years and may be renewed by amendment or revision of an operational plan under the then existing data. These proceedings allow the supervisory authorities to assess the systems and their effectiveness. They may then incorporate any revisions to national and EU legislation which arise as a result of technological advances, economic conditions and changes in policies surrounding alternative waste management.

Amendments to Greek legislation are being discussed. Scrap metal regulations are mainly considered under the waste management acts.In August 2001, the law 2939/01 on "Packaging and alternative management of packaging and other products", which essentially regulates the recycling industry in Greece was amended to link national legislation to the relevant EU legislation
All businesses operating in Greece which produce or import packaged products and distribute them domestically now have to collect and recycle the packaging of their products.

Local Authorities (OTA), which regulates the recycling of municipal waste packaging enforces the Act which sets out the major principles for cooperation between local authorities and businesses.


**Use of recycled metal in Greece, Source: Ministry of Environment**

**Legal definition of metal theft**

In Greek legislation there are no particular laws concerning metal theft. This type of theft belongs in the same category as a common theft.

**Notices to the existing legislation**

- Existence of loopholes in legislation
- Delays in completing the implementation of the operational framework for the CCA waste
- Lack of specific provisions in the institutional framework of the sector to support investment through development laws
- Delayed integration streams of alternative management of EECCA (rubble)
- A significant proportion of waste escaping from the official registration and management which deprive the system of revenue
- Inadequate control over compliance obligated producers creating unfair competition
- Deprivation of significant growth opportunities in the country and the wider Balkan region
- Deprivation of business opportunities which seriously impacts on the environment and spatial planning
- The high number of unregistered producers makes it necessary for effective control of all producers involved in waste management.

**Laws regulating the sale of metal for recycling in Greece**

There is no specific legislation which describes the sale of metal for recycling. The laws applicable are:

- Licensing a company to accept collected metal and the laws applicable to the economic transaction
- The company that collects should be licensed
- The laws describing the transportation of the goods

**1. Economic transaction**

a) There are the laws that are being applied to ensure that all transactions are documented with invoices and tax documents

b) All companies must keep the proper tax documents for warehouses

**2. License to collect metal waste**

The company which buys from the metal collectors must be licensed to collect and manage waste (in most cases SMDs have licenses for collecting but not managing metal).

Requirements for a company to be licensed to collect metal

Have a contract with an alternative management system

The operator determines the sorting points

The infrastructure and equipment must be suitable for wastes that are the subject of activity.

The licensed company must keep records. The register shall indicate the quantity, nature, origin, destination facility, transfer date, frequency of collection and method of transportation of the waste. The register is maintained for at least two years. The licensed company must provide the above information to the licensing authority when requested.

There are extra restrictions for companies including the volume of waste they are accepting.

Apart from the licensing of waste management there is an additional license for the right of ownership and use of heavy manufacturing equipment such as cranes and cutters.

There are also restrictions on where waste management companies can operate (i.e. industrial areas)

**3. Transportation of waste**

**i) Tax laws for transportation of metal which is not hazardous**

a) There are laws describing the transport of metal. The vehicle used for the transportation has to be registered as vehicle for public transport, or has to be owned by either the buyer or the seller.

b) The transportation should be accompanied with the proper tax documents describing the volume and type of load

**ii) Tax laws for transportation of metal which is considered hazardous**

There are separate laws, including 115/2004 for batteries, describing the container used for transportation and the characteristics of the vehicle in order to safeguard the public health.

The amended law 2939/2001 aims to correct this, but it is estimated that the real solution lies in establishing effective operational structures for each waste stream, where it is impossible to systematically monitor debtors and administrators. This is demonstrated by the successful operation of certain streams of alternative management.

## Activities since 2010/2011

The Metal Theft Toolkit produced by Pol-PRIMETT has been shared with Hellenic Police to raise awareness of how to tackle metal theft.

The Greek government has increased raids of SMDs to regulate the industry and target unlicensed dealers. Additionally there will be an increased police presence and patrolling around vulnerable sites and the creation of metal theft SPOCs within the police force.

Incidents of metal theft are reported in the press on a daily basis, especially in rural parts of Greece. The sale of copper guttering has dramatically reduced following media coverage of them being stolen. Questions are regularly raised in parliament and the government is responding through frequent press statements.

In an attempt to respond to the increase in metal theft the Greek government is considering introducing a pilot project named ‘Green Point’.

On the border of Athens there is a Roma camp with over 450 occupants who regularly burn stolen cables polluting the surrounding area with dangerous gases. Nearby SMDs then purchase the cabling at reduced prices.

In order to tackle this problem, the Green Point project will:

- Enable anyone to sell metal (even stolen metal) at market prices without any tax documents or licences
- The sellers name will be registered, a photograph taken of them and they will be provided with a card of cooperation
- Metals will be stored in a designated area and transported to licensed businesses
- Illegal SMDs in the region will be targeted and closed to promote licensed dealers

**Media coverage**

There are many metal theft articles especially in local press. There is a concern regarding the thefts from the railway networks and pumping stations.

The awareness for the problem is shown by the fact that people are refusing to buy copper gutters for their houses as they believe it will be stolen.

**Parliament Awareness**

Ten questions concerning metal theft have been raised in parliament from parliamentary members (PM) of all parties.

These questions can be grouped into three categories:

- What happens following a theft from an important public utility
- The role of the Roma community in metal theft
- Questioning the process of the scrap metal industry

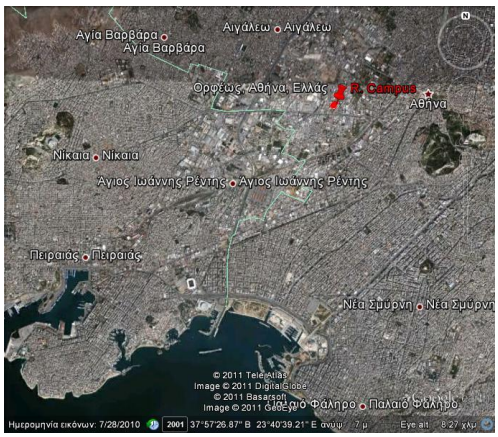
**CASE STUDY**

**Green Point – the case of Votanikos**

On the outskirts of Athens in Votanikos there is an area of 22 acres which is illegally occupied by Albanian Roma's. The camp is not easily accessible and therefore a no-go zone has been created.

The Roma community has turned the area into a self-made foundry, where cables are smelted in order to extract the copper inside. This process has disastrous effects on the health of the Roma population and the inhabitants of the wider region.

The Roma community is accused of stealing chemicals from nearby, abandoned chemical factories which they use in the production process. The Roma have no skills or knowledge regarding the handling of these chemicals resulting in a very high risk of toxic pollution.





Images 13 & 14 Location of Roma camps

SMDs take advantage of the Roma community by offering to purchase the burnt cabling at ridiculously low prices indirectly forcing them to extract the copper from the cabling. SMDs override governmental control procedures as they do not hold licenses. This creates two problems: the first is that the Roma community is driven to participate in illegal activities, to ensure their livelihood, and therefore creating significant pollution of the atmosphere and soil.

Additionally this practice poses serious risks to the health of the Roma community and other nearby citizens. Burning plastic sleeves of the cables generates black smoke containing dangerous toxic substances such as dioxins and furans

Image 15 Burning of cables in Roma campus Source: Moschato-live.blogspot.com

Of the thirty thousand or more Roma citizens living in Attica, around 450 Albanian Roma live in the Orpheus camp in 100 makeshift shelters. This is according to a detailed study by the ΑΣΠΑ (Urban Environmental Reformation).


Image16 Arial map of camp

### Relocation

The continuing protests of Taurus inhabitants over the toxic air pollution from burning cables led to the study to identify alternative sites to relocate. Scientific research shows dramatic findings about the Orpheus camp in the Eleonas, and concludes that the priority area for relocation is the region of Mesogea, as there are already a large number of Roma communities in urban areas and social problems remain unsolved.

**Measures for improving the health conditions**

The conditions that Roma communities are living in are extreme. They do not have access to clean water or electricity. There have been cases of cholera inside the camps.

For this reason it has been decided to create a basic infrastructure using government funds including chemical toilets, water and electricity.

Furthermore, efforts have been introduced to inform the Roma communities about the health impact of burning cables.

**Control and closing of illegal SMDs**

There has been a special unit created including a range of LEAs (tax, environmental, hygiene, police) in order to control SMDs in the region and close illegal SMDs.

Problems arise as SMDs can claim for interim measures and it is easy to open new businesses registered under a different owner i.e. their wife or child

**Establishment of "A Green Point"**

A Green Point will be an environmental area where anyone will be able to sell any metal at market prices. Initially they will not be concerned if the metal is stolen or if the person has a license or tax documents. The aim is to promote "social inclusion" with simplified procedures to make the metal collector be legally rewarded for the collection of metal. Metal collectors will register their name and be photographed at the time of sale.

This will:

- Address the damage to personal health following pollution
- Improve social inclusion of the Roma community including them in the legal employment system
- Improve their living conditions
- Disrupt the illegal circuit of SMDs, making it harder to make a profit from criminal action

The first Green Point pilot will be near the camp of Roma.

The citizens of nearby municipalities have agreed to a trial period of six months for this project on the condition that there will be no burning of cable.

If this project is successful, it will be transferred to other regions.