

The background of the cover is a stylized illustration. It features a city skyline at night with several skyscrapers. Two ladders are leaning against the buildings, and a person is climbing one of them. A large, black power plug is positioned at the top right, with several black cables extending from it across the sky. A large, bright yellow sun or moon is in the upper right corner. The overall color palette is dominated by blues, yellows, and oranges.

# APD

Asia Pacific Development

**JAN MURRAY, WEC:**  
WHY CLEANER ENERGY  
DOESN'T JUST MEAN  
RENEWABLES

**YOGI GOSWAMI**  
ISES

**INTELLIGENT CONTROL  
SYSTEMS & PROCESS  
AUTOMATION**

# CLIMATE ISSUE HEATS UP

THE NEW INITIATIVE THAT COULD  
ACCELERATE TECHNOLOGY DEVELOPMENT

**KLAUS TOEPFER** UNEP

**ATHENA RONQUILLO** GREENPEACE

# HOW TO..... CHOOSE A SECURITY SEAL

The right choice of sealing system stems from the principle that the value of the losses incurred will dictate the intended level of security and its cost. In the case of the utility companies, a high level of tampering requires a high level of security.

BY ANDRE DE LIMA CASTRO

**A**ny big loss of revenue would point to the necessity and acceptance of a more costly but efficient security system.

Another factor, beside that of cost-benefit, is the social-political, since revenue losses will eventually be passed onto consumers. Big losses could influence the authorities into favouring a company that has placed revenue loss control as a priority team. Greater loss control means reduced tariffs.

## Physical resistance

The most used security seals are of the 'indicative' type for removal by hand or with a simple tool. On inspection they should always indicate whether any tampering has taken place. Unlike stronger cable or bolt seals the indicative type does not offer any kind of barrier or resistance to removal.

## Raw material specifications

If a seal can be opened and reused again without leaving positive signs of tampering its security is questionable. Evidence of any tampering should establish without doubt whether the marks are intentional or accidental. Seals used on meters are sometimes exposed to ultraviolet rays, salinity, etc, which over time may cause chinks or accidental marks. For this reason, many utility companies require polycarbonate seals that last 20 years in temperature climates, and are not prone to accidental damage caused by Mother Nature.

## Numbering/code/logo

In the same way the identification of the seal number/code/logo must also be kept immune to weather conditions and tampering. This is essential in order to guarantee integrity of the seal and avoid hindering tracking or audit trails. This is an important point, because the type of identification process used could make the difference between the right or wrong choice of seal. Safer and more secure methods of identification are:

- High relief numbering, where the seal and number are moulded at the same time and which is as safe, unique and indelible as a human fingerprint.
- Laser numbering/coding, known as 'intelligent' identification, because it is indelible but also allows a fast and correct registration of the sealing operation.

## Locking device

Every security seal will have its 'Achilles' heel' in its locking device, through which it may be tampered with. Although with many seals, tampering would be a remote possibility and only possible using facilities that would make any attempts impractical. Important points are:

- Whether the capsule is open or closed. If closed, the seal will offer greater security.
- Whether the locking device is made of two or more separate pieces. In this case it can only be considered a security seal when all of its separate parts are marked with the same identification.

**"Seals used on meters are sometimes exposed to ultraviolet rays, salinity, etc, which over time may cause chinks or accidental marks"**

## Software follow-up

The need to control the seals, from buying operation right to after sealing inspection, is met by follow-up web-accessed software that allows the virtual tracking of both the seal's and meter's serial number. These are registered in a data bank and shows when a seal was manufactured, supply invoice number and the agent responsible for the sealing.

## Manufacturer's credentials

Finally, in choosing the correct seal it is important to check the technical specifications and manufacturer's credentials. This will discipline production methods and avoid, in the long run, any doubts about the level of security of the seals and also of their origin. ■

Andre de Lima Castro is CEO of ELC Security Products. Established in 1967, as a result of a huge investment and work in R&D, ELC Security Products has become a world leader in the manufacture of security seals, envelopes and bags.

# Help Prevent Energy Waste

Meter tampering leads to Energy waste. Therefore, ELC has developed the FASTLOCK SEAL, based on the formula:

$$TS = P (E + R)$$

(True Sealing = Protection of Environment and Revenue)



Electric Meter



Water Meter



Gas Meter

## Exclusive!

Wire is ultrasonically welded into the seal. If a violation is attempted, by cutting, the seven strands of the wire unravel, announcing tampering.



"Mat form" with 10 seals makes distribution easier

- Laser-printed bar code and numbers with check digit or high relief molded numbers
- Anti-UV additives prolong seal life up to 20 years
- No tools required
- Made of Polycarbonate
- Clear capsule allows easy check of tampering
- Ergonomic
- Optional: web software tracks the seal application and distribution, creating a Security Link: Revenue Protection 100% achieved



See [www.securetrack.com.br](http://www.securetrack.com.br)



**ELC Security Products**

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**NEW**

**Double Anchor Seal  
with tear-off  
receipt**



Laser numbering on the capsule, repeated on the tear-off seal's tab