

# Managing Energy Costs At The Dock

Walt Swietlik, Customer Relations Manager, Rite-Hite® Corporation

It's widely acknowledged that energy efficiency offers an opportunity to improve the bottom line. The question, however, is whether decision-makers are aware of all the places they can reduce energy losses and raise efficiency in an industrial facility. Chances are, companies can add tens of thousands of dollars per year to their energy savings by looking in the right places and choosing the right solutions. Here's a look at five hidden, yet expensive energy wasters, and how to gain control of them with relative ease and low upfront cost, with payback periods in as little as a few months to a few years.

### Energy waster No. 1: Trailer door hinge gaps



**A common example** of dock leveler gaps that can be a major cause of energy loss and unnecessary cost.

An energy waster that often escapes notice involves the marriage of loading dock shelters and most semi-trailers at the dock. The problem is that trailers with swing-out doors create 1.5" to 2" gaps on either side of the trailer when they're open for loading and unloading. The gaps are equivalent to a 2.5-square-foot hole that allows air and expensive energy to freely flow in and out.

The obvious solution is to close the gaps with a dock seal or shelter that seals the trailer-door hinge gaps. Yet the enclosure also needs to provide full, unobstructed access to trailer loads. Both objectives can be achieved by installing a soft-sided shelter that incorporates hooks on the shelter's side curtains to seal trailer door hinge gaps and prevent airflow in and out of a facility - while also providing full trailer access.

**The bottom line:** Depending on climate, there is potential to gain \$400 to \$1,000 worth of additional savings per year per dock position, above and beyond what an ordinary shelter can provide. Typical ROI: One to three years.

## Managing Energy Costs At The Dock

Published on Industrial Maintenance & Plant Operation (<http://www.impomag.com>)

---

### Energy waster No. 2: The “fourth” side of the dock opening

Dock seals and shelters are used to seal three sides of the loading dock opening, both sides and on top. Yet many don't realize that heating and cooling energy readily escapes through gaps where the dock leveler, trailer and dock seal or shelter all meet at the bottom of the door opening. In other words, most facilities don't typically consider sealing the “fourth” side of the door opening. In addition to unwanted airflow, heat transfer through the steel leveler deck adds to substantial energy loss.

The good news is that energy misers can install a pit-sealing under-leveler seal to seal this area on virtually any type of leveler. The simple device uses a compressible vinyl sealing curtain and other components to close off the pit area beneath the leveler as well as open air gaps in leveler corners. A separate header curtain constantly maintains the seal when the leveler is in an above-dock position.

**The bottom line:** Savings vary based on climate, but most can save \$200 to \$900 annually per dock position. Typical ROI: Six to 18 months.

### Energy waster No. 3: Dock leveler and door gaps



**An example** of a shelter which seals exposed trailer door hinge gaps.

Another hidden energy waster falls under the category of dock leveler and door gaps. These areas are often overlooked because they involve openings in places like the gaps between the dock leveler, dock pit wall and sectional door bottom; gaps in the perimeter of the sectional overhead door; spaces found on the sides of dock levelers between the leveler itself and the dock pit wall; and gaps at the back of the leveler. Although they might seem harmless, the gaps represent major conduits for lost energy. The space around the sides of a dock leveler alone can equate to a hole as large as 14" by 14" in diameter.

## Managing Energy Costs At The Dock

Published on Industrial Maintenance & Plant Operation (<http://www.impomag.com>)

---

Putting an end to these energy wasters is as straightforward as it gets. An array of energy-efficient dock leveler and door weather seals can solve the problem with relative ease and low cost.

**The bottom line:** Depending on the climate and the number of gaps shut down, annual energy savings per dock opening can range from \$2,000 to \$4,000. Typical ROI: As little as three months.

### Energy waster No. 4: All of the above

It's not uncommon for virtually any loading dock to lose energy through trailer hinge gaps, beneath and around the dock leveler, and the host of other gaps around the dock opening. The energy losses quickly add up.

A solution that addresses them all is a vertical-storing dock leveler, which allows the overhead dock doors to close down tightly to the pit floor when a semi-trailer isn't present. By so doing, the leveler provides more control over interior humidity and temperature at the dock.

#### The five "wasters"

1. Trailer door hinge gaps
2. The "fourth" side of the dock opening
3. Dock leveler and door gaps
4. All of the above
5. Inefficient exterior industrial doors

Some systems also include a "Drive-Thru Application," which allows the truck to back up to the loading dock with its doors closed. The truck driver does not need to get out of the cab. The operator inside the facility opens the overhead door and then opens the trailer doors inside of the building. The leveler is then lowered into position in the trailer. The result is an extra measure of climate control that helps maintain an uninterrupted cold chain, aside from efficiency and security benefits.

**The bottom line:** Because each installation is unique, it's difficult to estimate annual energy savings and payback. However, there's little question that thousands of dollars in annual savings can be achieved along with a quick ROI.

### Energy waster No. 5: Inefficient exterior industrial doors

## Managing Energy Costs At The Dock

Published on Industrial Maintenance & Plant Operation (<http://www.impomag.com>)

---

A common misconception is that industrial doors are all alike. Many also don't take into account recent research that indicates that a door's cycle times (opening and closing) and the seal it provides are more important than R-value when it comes to energy efficiency.

Installing high-speed doors offers great potential to deliver energy savings. The doors allow people and/or equipment to move quickly through openings. Some technically advanced high-speed, roll-up doors are rated to operate up to 100 inches per second - leaving very little time for energy to escape. Well-designed high-speed doors also incorporate a sufficiently weighted soft-bottom edge to provide a tight bottom seal.

**The bottom line:** Depending on the climate, savings of \$400 to \$7,000 per door opening per year are achievable. Typical ROI: One to three years.

**Source URL (retrieved on 09/19/2014 - 10:45pm):**

<http://www.impomag.com/articles/2007/12/managing-energy-costs-dock>