



## The Business Case for Sustainable Air Leak Programs in Ontario's Mines

Compressed air optimization is an ongoing process. At first it may seem like a daunting task to get started with a compressed air optimization program. However, once initiated the accrued cost savings can be developed into a sustainable air leak management program. Implementing the business case for air leak management should be phased in over several months and sustained over the life of the mine. It is best to start with low cost, or no cost, measures that have quick paybacks. This includes fixing air leaks, lowering system pressures and optimizing control settings. The figure below shows the actual or estimated cost and benefit (simple payback) of common measures that have been implemented at Ontario mines.

### Typical Cost and Benefit Estimates of Compressed Air Leak Measures

Action	Approximate Capital Cost	Simple Payback	Ease of Implementation	Energy Savings Impact
Purchase and Use Ultrasonic Leak Detector	\$4k	< 2 months in most cases	An "out of the box" solution. See more details on Detectors and Gaskets Fact Sheet.	High
Implement Leak Tag System with Database	\$1k for tags, \$1k for time to develop and operate database	<2 months in most cases	Leak tags are simple to produce, but training needs to be provided regarding how to use tags and how to track and prioritize repairs using a database.	High
Consider using "T" gaskets in place of "E" gaskets for compressed air Victaulic couplings.	Price for either gasket is the same. <sup>1</sup>	Benefit from fewer air leaks occurs about 5-10 years in the future	Engineering procedures and purchasing practices may need to be changed. See more details on Detectors and Gaskets Fact Sheet.	High
Install and close isolation valves for compressed air pipes that are not in use.	\$1-2k per valve including installation downtime	<3 months	Safety review needs to be done to ensure that compressed air to refuge stations is not inadvertently isolated.	High
Use timers to shut off equipment	\$2k-\$10k	<6 months	Timers are applicable in situations where compressed air is used to power pumps, atomizers or to "ventilate" residue gases.	Medium
Upgrade flow meters and pressure transducers	\$5-10k per point	<1-2 years	Flow meters need to be strategically installed at main air header and underground levels. Data needs to be transmitted to information system	Medium
Upgrade PLC and Computer management information systems	\$50-200k	<3-5 years	The benefit from an upgraded compressed air information system only accrues if it is actively used to monitor and manage compressed air.	Medium

<sup>1</sup> communications with Victaulic Canada

You can make a difference. Fix Leaks. Cut Costs. Save Energy.