

THE 2016

TIER 4 BENCHMARK REPORT



EquipmentWatch™



AEMP
ASSOCIATION OF EQUIPMENT
MANAGEMENT PROFESSIONALS

THE HEAVY EQUIPMENT INDUSTRY'S
MOST COMPREHENSIVE REPORT



THE 2016 TIER 4 BENCHMARK REPORT

The heavy equipment industry's most comprehensive report

CONTENTS

- OWNING TIER 4
- FINANCING TIER 4
- INSURING TIER 4
- RENTING TIER 4
- OVERALL THOUGHTS AND PERCEPTIONS

In 2004, the Environmental Protection Agency under the Clean Air Act signed the final rule introducing Tier 4 emission standards, a set of ambitious emission reduction standards for off-road diesel equipment to be phased-in over the period of 2008-2015. Last year EquipmentWatch published the first Tier 4 report that measured the overall adoption, acquisition, and practical ownership of Tier 4 assets. Once again, EquipmentWatch and AEMP partnered to survey the heavy equipment community in the interest of gauging how heavy equipment operators are implementing new technology to meet Tier 4 emissions standards, as well as to better understand the reality regarding the regulation's impact on the industry.

As also found in the first annual Tier 4 report, incidence of Tier 4 equipment still remains quite low. While adoption of Tier 4 equipment is growing, the rate at which Tier 4 is being added to fleets is slow at best.

AT A GLANCE

- The **finance world** has seen almost double the amount of Tier 4 equipment than in 2014.
- The **insurance world** has seen almost 3 times the amount of Tier 4 than in 2014.
- The overwhelming majority of **rental companies** still rent Tier 4 equipment, but it no longer comes at an increased cost for customers.
- **Equipment owners/managers** still expect to see increases in purchase prices, maintenance costs, and training costs, but a fuel costs savings.

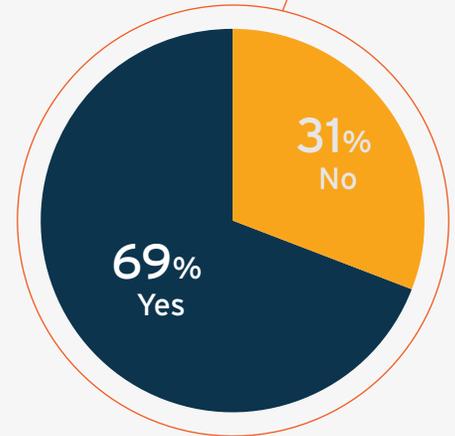
OWNING

TOTAL COST OF OWNERSHIP

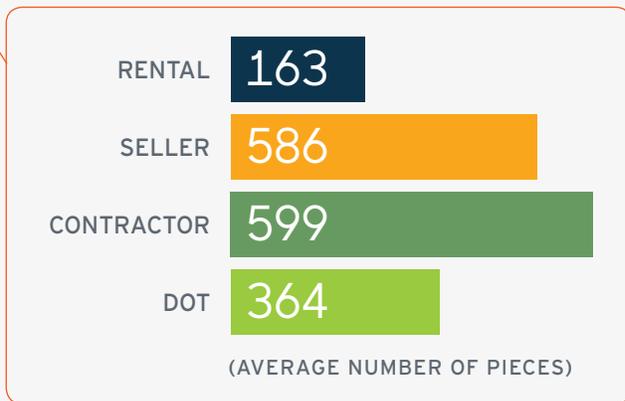
Overview:

The number of survey respondents who claim to own or manage heavy equipment decreased by approximately 20% when comparing 2014 results to now. However, looking at fleet sizes by respondent category we still see a large variance. Contractors and sellers reported owning the largest fleets, followed by DOT's, and rental companies.

DO YOU OR YOUR COMPANY OWN/MANAGE HEAVY EQUIPMENT?



HOW MANY TOTAL PIECES OF EQUIPMENT DOES YOUR COMPANY OWN/MANAGE?



Currently, market penetration of Tier 4 equipment is relatively low.

Down almost 15% from last year, only 10% of contractors report having no Tier 4 equipment at all. A 5% increase from last year, approximately 40% of contractors report that Tier 4 comprises less than 20% of their fleet.

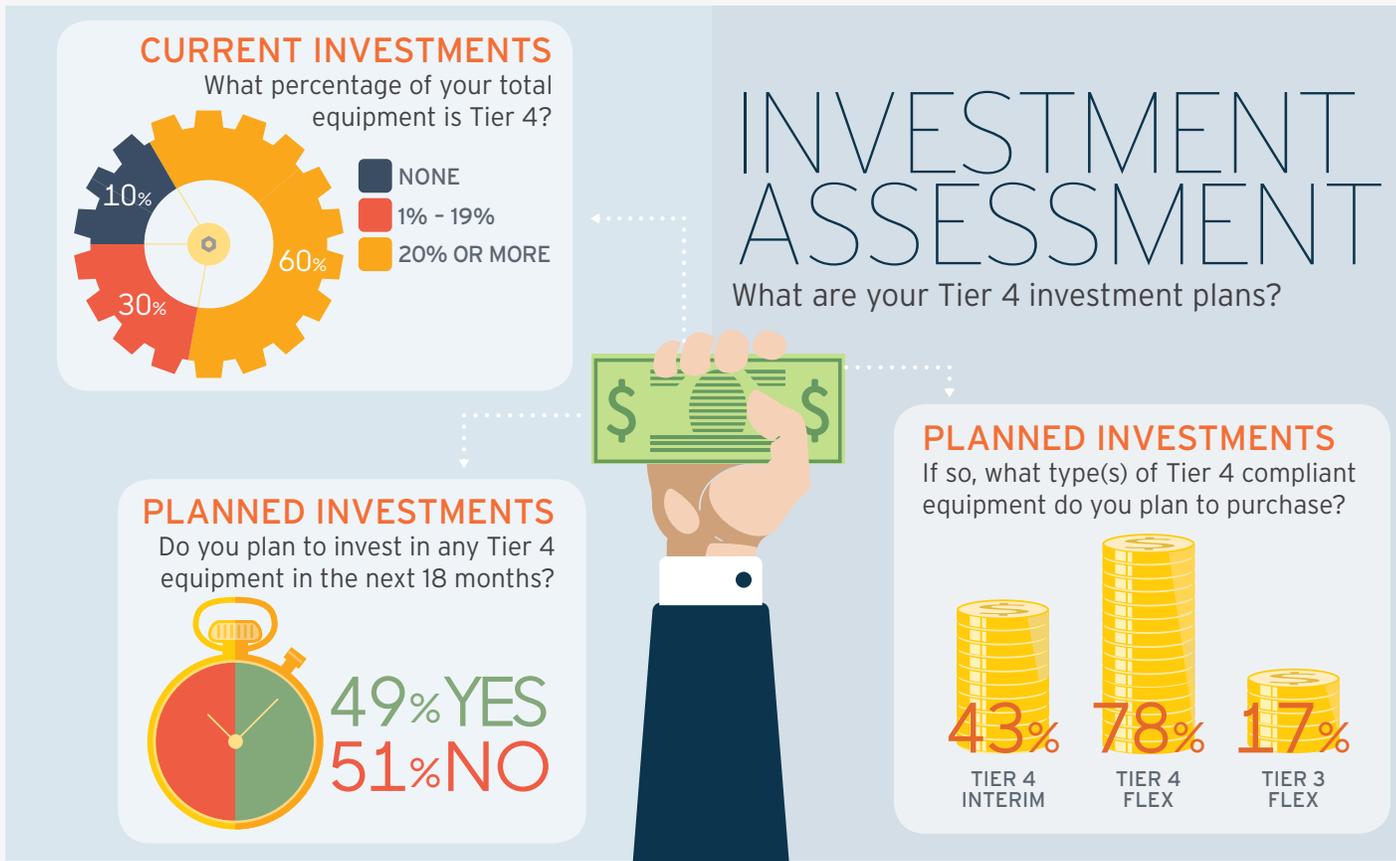


1 in 10
CONTRACTORS
HAVE NO TIER 4 EQUIPMENT

While 40% report tier 4 comprises less than 20% of their fleet.

OWNING

The growth in ownership of Tier 4 equipment was expected given that in the 2014 survey, half of all contractors indicated that they planned to invest in Tier 4-compliant equipment within the next 18 months.



ON AVERAGE, HOW LONG DO YOU EXPECT YOUR EQUIPMENT TO LAST IN TOTAL?



Life Expectancy:

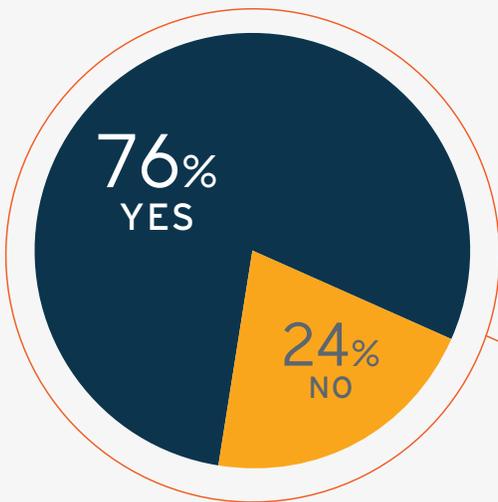
Down about 10% from last year, respondents expect their tier 4 equipment to yield 1,355 more hours on average than their Tier 3 equipment.

However, due to the fact that most Tier 4 equipment hasn't hit the end of its economic life, these expectations have yet to be seen.

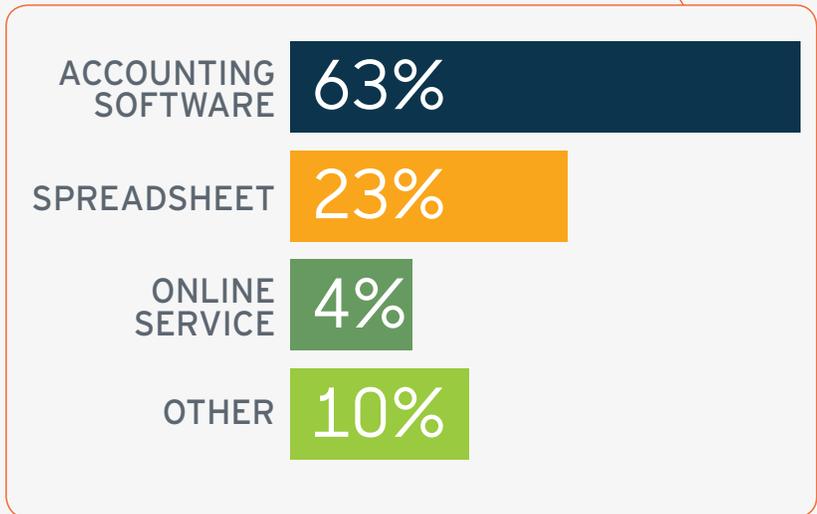
OWNING

Tracking Total Cost of Ownership:

Only down 3% from last year, 76% of respondents track their equipment-related ownership costs. How these companies are tracking their costs hasn't really changed from year to year with accounting software still being the overwhelming majority (63%).



WHAT DOES YOUR COMPANY USE TO TRACK EQUIPMENT-RELATED OWNERSHIP COSTS?



DOES YOUR COMPANY CURRENTLY TRACK EQUIPMENT-RELATED OWNERSHIP COSTS?

Annual Maintenance Costs:

An increase over last year, 96% of respondents expect maintenance costs for Tier 4 assets to either increase or remain on par with Tier 3 maintenance. Only 4% expected maintenance costs to decrease when compared to Tier 3 equipment.

Overall, people are reporting slightly lower maintenance costs this year when compared to last year. Respondents report spending a yearly average of \$4,637.00 on Tier 3 equipment, and an average of \$6,493.00 to maintain the average piece of Tier 4 equipment.

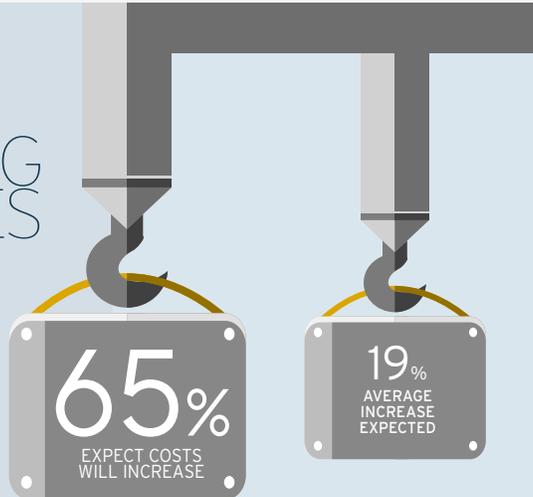
▶ OWNING TIER 4

OWNING

EXAMINING EXPENDITURES

OVERHAUL COSTS >

Do you expect to pay more for Tier 4 overhauls relative to Tier 3 equipment?



< MAINTENANCE COSTS

How do you expect costs of Tier 4 equipment to compare to that of Tier 3 equipment?

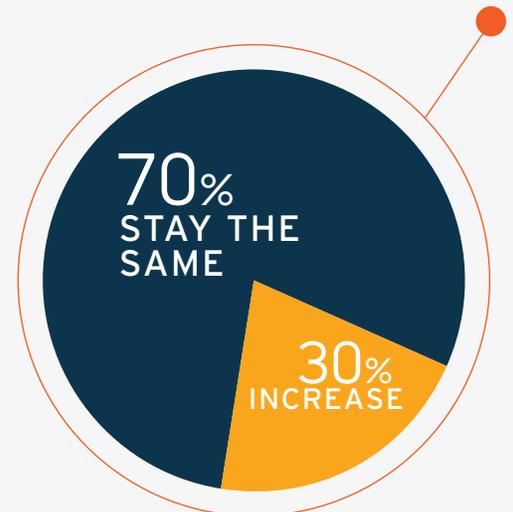
Equipment Overhaul:

Due to its recent entry into the marketplace, most Tier 4 equipment has not yet had the chance to age to a point requiring overhaul. However, most respondents expect Tier 4 equipment overhaul to be more expensive than that of Tier 3 equipment (65%). The typical respondent expects to spend an average 19% more (7% more than last year) to overhaul a piece of Tier 4 equipment. Respondents are reporting an average of \$21,621.00 (significantly higher than last year) to overhaul a piece of Tier 3 equipment. This means that equipment owners can expect to pay approximately \$25,729.00 on average to overhaul a typical Tier 4 asset.

Mechanic Wages:

We learned last year that many equipment owners were taking extra steps to train their mechanics on Tier 4 equipment, which in turn increases their wages as well as maintenance costs. A 3% decrease from last year, 70% of respondents expect mechanics wages to stay the same for those working on Tier 4 equipment. Mechanics wage is currently at \$47.00 per hour, only \$1.00 less than what was reported last year for those working on Tier 3 equipment. The respondents who do pay their Tier 4 mechanics more are averaging \$75.00 per hour, \$20 more than what was expected for Tier 4 mechanics last year.

HOW DO YOU EXPECT HOURLY WAGES TO CHANGE FOR MECHANICS WORKING ON TIER 4 EQUIPMENT?

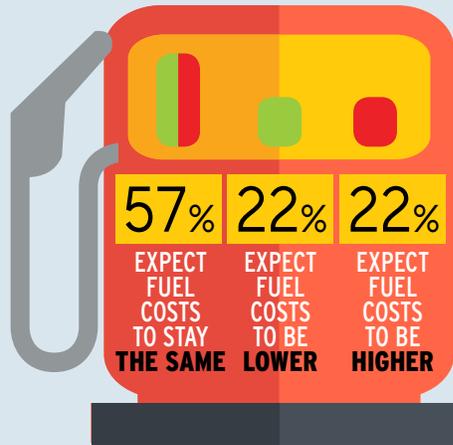


► OWNING TIER 4

OWNING

GAUGING EXPECTATIONS

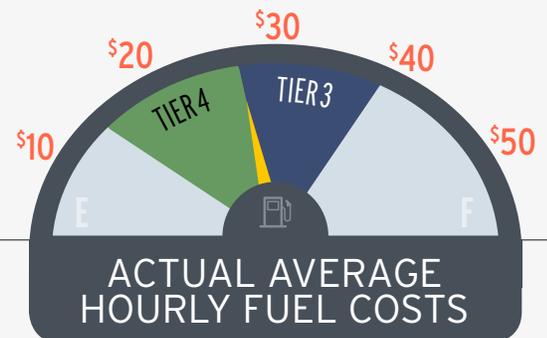
A 4% drop from last year reveals that 57% of respondents expect hourly fuel costs to remain the same when making the transition from Tier 3 to Tier 4.



Fuel:

Staying constant from last year, only 22% of respondents expect the hourly fuel costs to decrease for the supposedly more fuel efficient equipment. Last year we revealed about a \$12.00 per hour difference with Tier 4 equipment having lower hourly fuel costs.

This year, respondents are reporting a fairly equal hourly cost with **TIER 3 BEING \$23.95 PER HOUR**, and **TIER 4 COSTING \$23.40 PER HOUR**.



FINANCING TIER 4

Reflecting drastic change, Tier 4 equipment now accounts for a majority of new heavy equipment acquisitions, which is unsurprising since newly manufactured heavy equipment must meet the EPA's Tier 4 emission standards; approximately 63% of the heavy equipment financed or leased in the past 12 months is Tier 4, compared to 35% in 2014. On average, businesses can expect to pay 15% more for financing Tier 4 equipment compared to Tier 3.

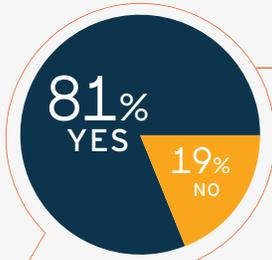
INSURING TIER 4

Increased acquisition of Tier 4 equipment has impacted the insurance world as well. On average, approximately 43% of the policies written in the past 12 months have been for Tier 4 equipment. Predictably, the higher costs of Tier 4 equipment are associated with increased insurance rates. Businesses can expect to pay an average 30% more to insure their Tier 4 equipment relative to Tier 3 equipment.

RENTING

RENTING TIER 4

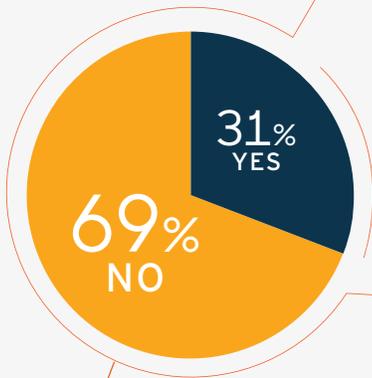
DO YOU RENT OUT TIER 4 EQUIPMENT? >



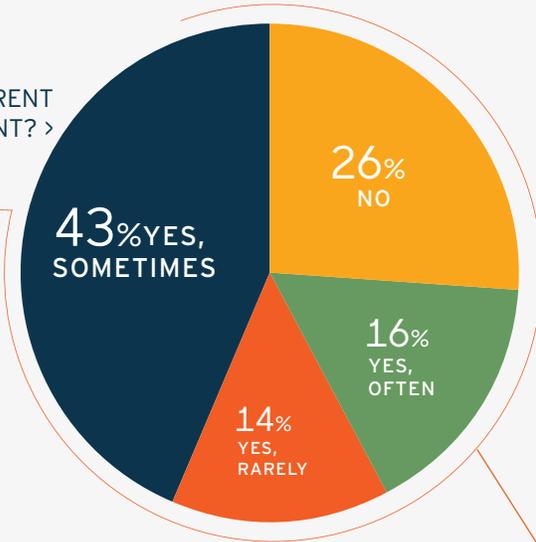
What Rental Companies Say:

Our recent survey revealed the vast majority of rental companies (81%) currently rent out Tier 4 equipment, down 11% from last year.

DO YOU CHARGE MORE FOR TIER 4 EQUIPMENT RENTAL? >



DOES YOUR COMPANY RENT TIER 4 EQUIPMENT? >



Approximately 31% (a decrease from last year) of those who do rent out Tier 4 equipment charge more, **reporting a 21% increase in rental costs for Tier 4 equipment (up from 13% in 2014).**

What the Renters Say:

A growing majority of contractor respondents report that their companies rent Tier 4 equipment 74% (a 16% increase from last year). Contractors can expect Tier 4 equipment rental costs to be either on par or slightly more expensive than Tier 3 equipment rental. Contractor respondents experiencing increased Tier 4 rental costs reported an average 12% increase over Tier 3 equipment.

OVERALL THOUGHTS + PERCEPTIONS

Summary:

Unlike our previous survey when more than half of respondents indicated an initial disappointment in the performance of Tier 4 equipment, it appears that the fears of equipment managers and operators have been allayed somewhat since then. Several factors are likely contributing to higher TCO for some heavy equipment including increased purchase price, increased maintenance costs and additional training for employees and mechanics, as well as increased downtime for their Tier 4 equipment, which obviously negatively impacts their bottom lines.

HOW HAS THE TOTAL COST OF OWNERSHIP FOR TIER 4 EQUIPMENT COMPARED TO YOUR EXPECTATIONS?

44% ON PAR WITH EXPECTATIONS

31% SOMEWHAT MORE EXPENSIVE

16% MUCH MORE EXPENSIVE

IMPLICATIONS OF IMPLEMENTATION

How will the increased original equipment cost of Tier 4 equipment affect your decisions in 2016?

▲ 5%
BUY MORE EQUIPMENT

BUYING

50%
NO EFFECT

RENTING

▼ 16%
BUY LESS EQUIPMENT

▼ 3%
RENT LESS EQUIPMENT

(6% OF RESPONDENTS SELECTED "OTHER")

▲ 21%
RENT MORE EQUIPMENT

The impact of Tier 4 equipment's increased original equipment costs on 2016 buying decisions varied among respondents. Half report it has no effect on 2016 buying decisions while one in five (21%) will be renting more equipment in 2016.

OVERALL THOUGHTS + PERCEPTIONS

Last year half of respondents had no plans to invest in Tier 4 equipment within the next 18 months -- regardless of industry segment (e.g., contractors, DOTs, rental companies). For those who are planning to invest in Tier 4 equipment, this year's responses indicate a shift in preference for Tier 4 F equipment compared to Tier 4I equipment, which was most popular in the previous survey. In 2016, 78% of respondents who are considering investing in Tier 4 equipment indicated that they will be investing in Tier 4F equipment, with 43% preferring Tier 4I equipment. Overall preference for Tier 4F equipment is driven primarily by contractors and sellers, with DOT's and rental houses leaning towards Tier 4I and Tier 3 Flex equipment. Following any planned Tier 4 equipment purchases, 38% of respondents overall still expect the Tier 4 saturation in their fleets to be less than 10%. While higher than the current rate of ownership, market saturation is likely to remain quite low through mid-2016.

FOLLOWING YOUR COMPANY'S PLANNED TIER 4 EQUIPMENT PURCHASES, WHAT PERCENTAGE OF YOUR EQUIPMENT WILL BE TIER 4?

