More than $1.5tn (£1.2tn) in company profits worldwide could be erased by taxes required to meet the Paris climate agreement, according to analysis by Schroders.

Urging investors to back more sustainable companies, the fund management group said total earnings of 12,500 global companies could fall by 20% if the world aims, with the aid of higher taxes, for the 2°C temperature rise target agreed in Paris.

Schroders found prices in emissions trading would need to rise to “well over” $100 a tonne of carbon dioxide equivalent (CO2e) from the current level of about $5 to encourage the move away from fossil fuels on the scale that was needed.

The analysis points to the scale of the challenge to curb the effects of climate change and warns intensive users of natural resources that their profits are at risk. Such companies, including those in the construction, steel and commodity chemicals sectors, could see profits fall by 80%.

Andy Howard, the head of sustainable research at Schroders, said investors should focus on picking companies that could survive in a low-carbon economy. “The debate about whether climate change is something we should be worrying about has passed. You need to do something and here’s what it is, and it helps to pick relative beneficiaries,” he said.

Higher taxes to discourage heavy use of fossil fuels have come in the form of carbon pricing. Many schemes, such as those in Britain and Europe, involve quota systems, whereby companies are given pollution permits that can be traded on an exchange.

The European Union’s emissions trading system (ETS) is the world’s biggest scheme for trading greenhouse gas emissions allowances. It covers 11,000 power stations and industrial plants in 30 countries, whose carbon emissions make up almost 50% of Europe’s total.

But the ETS has come under fire for being overly lenient on heavy users, while the EU has been accused of giving away too many permits, leading to low prices. The value of carbon credits in the EU is about €5.80 ($6.90) a tonne, which could make it cheaper for companies to pollute than change their behaviour.

Schroders estimates the current global price to be about $1.60 a tonne, valuing the amount of CO2e produced by a barrel of oil at less than $0.70, or under 2% of the average Brent crude price over the past year.

Howard said that, at $100 a tonne, the value of carbon in barrel of oil would be closer to $40, more like a level that was commensurate with the value of oil itself.

The fund manager estimates the move to $100 carbon pricing across various global schemes will probably happen over the next three decades. But the hit to earnings might not come if companies cut
their reliance on fossil fuels, while the decline in global profit could be offset by new ecofriendly companies filling in the gaps.

The change is not going to be easy, as new companies emerge and traditional ones change or disappear.

“Cutting emissions is hard enough and far enough, to get to 2% is going to be disruptive, there’s really no way around that,” said Howard. “There will, though, be opportunities in other parts of the market, for new companies that may or not even yet exist.”

More countries are adopting carbon pricing. President Xi Jinping has announced that China is to launch the world’s largest market for emissions permits this year. When the Chinese scheme goes ahead, almost a quarter of the world’s emissions will have a price attached.

Donald Trump has rejected calls to introduce a carbon tax in the US, saying it would cost jobs.

Philip Hammond, the British chancellor, is expected to give more details about carbon pricing in Britain for the 2020s in his autumn budget.

A group of leading economists warned this year of catastrophic global warming within 13 years unless countries raise taxes on carbon emissions to as much as $100 a tonne. The economist and Nobel laureate Joseph Stiglitz and the former World Bank chief economist Nicholas Stern were among those urging governments to introduce taxes on carbon dioxide at $40-$80 a tonne by 2020.

Many economists have described climate change as an example of market failure, when free markets do not maximise society’s welfare, since unbounded capitalism has failed to curb pollution.