correspondence requested might be used merely to inform and educate the incoming administration — but at this stage it is getting harder to give Donald Trump the benefit of what little doubt remains about the kind of US president he will be.

Opponents and critics of Trump — including many scientists — who were urged to judge him on his actions, rather than on his campaign rhetoric, are seeing their worst fears realized. Trump, they had been reassured, is a closet pragmatist whose pursuit of "the deal" will pull him towards the political centre.

Instead, as he builds his government, Trump is surrounding himself with like-minded idealogues who harbour extreme views on everything from national security and global warming to law enforcement, immigration and social policy. The Republican establishment that Trump bested during the primaries — already radicalized by the Tea Party and itself institutionally opposed to climate science — has fallen either in line or off the radar.

Trump's nomination of Oklahoma attorney general Scott Pruitt to lead the Environmental Protection Agency (EPA) is particularly worrisome. The EPA regulates pollution and chemicals at home, and it must play a powerful part in the United States' efforts to reduce greenhouse-gas emissions, which affect the entire planet. Yet Pruitt has won the affection of industry and Trump precisely because he has opposed such policies, time and time again.

Pruitt claims that the EPA has an activist agenda that threatens jobs and economic development. As attorney general, he challenged a federal rule intended to expand protections for waterways and wetlands. He fought a regulation that was designed to reduce the amount of mercury and other pollutants emitted by power-plant smokestacks. He was also among the state leaders who filed lawsuits against President Barack Obama's power-plant regulations. He disputed the landmark EPA judgment that climate change poses a danger to public health and welfare.

The content and language of these challenges focus on the legal tension between federal and state oversight. But written clearly between the lines is hostility to policies that dare to put the needs of the environment above the profits of industry.

Pruitt has demonstrated a wilful disregard for science, and has repeatedly put the interests of fossil-fuel companies ahead of those of his own constituents.

In at least one case documented by *The New York Times* last year, he used his office to help Devon Energy, an oil and gas company based in Oklahoma, challenge the EPA's estimates of methane emissions from natural-gas wells. Devon penned a letter in 2011, and Pruitt signed it and sent it to the agency. In a response to the *Times*, Pruitt acknowledged as much, but said it was the content of the letter, not the source, that mattered. "The oil and gas industry has been targeted unfairly by this administration," Pruitt wrote. "The AG's office has particular interest in weighing in whenever any federal agency oversteps its authority to implement devastating policies."

"To make Scott Pruitt the head of the EPA would be a huge backward step."

In fact, the US oil and gas industry has enjoyed an unparalleled resurgence during Obama's tenure. In large part, that's why natural gas is pushing coal out of the US electricity market, and why the price of oil has crashed. The spike in oil and gas activity is even causing earthquakes in Pruitt's home state. Nor is the EPA out of bounds in regulating methane emissions — that's the agency's job. More to the point, there were no policies to dispute, devastating or otherwise. Pruitt and the natural-gas industry just didn't like the data that were coming from EPA scientists, or its implications.

In 2012, he accused EPA officials of possible deception over measurements of methane emissions, and complained of a "wayward federal agency arbitrarily using unsubstantiated, inaccurate and flawed data to achieve a specific policy objective". Pruitt has taken a similar attitude to climate science, which he has described as contested and uncertain.

To make him the head of the EPA would be a huge backward step, and one that should be opposed by scientists, policymakers and all who value the contribution of research to the public good. It is not yet a done deal. The US system demands that such appointments are confirmed by a vote in the Senate.

Senators must cast their votes — and make clear what they stand for — next year. Moderates across the political spectrum have a responsibility to make their voices heard to try to influence the outcome. This includes scientists and scientific organizations such as the National Academy of Sciences and the American Association for the Advancement of Science. The cause may seem forlorn, but it is not lost yet. ■

Symbolic sea horse

The genome sequence of this unusual creature offers clues to its unique traits.

The gods of Greek mythology were busy people. Poseidon, as well as having dominion over the sea and sending earthquakes, had a sideline in creating animals. His most celebrated design was the horse. Poseidon was so keen on his horses that he held onto some to pull his chariot through the waves. These first sea horses — called the hippocampi or, loosely, horse-monsters — had the tails of fish and two front hooves. They could be seen on a windy day, racing across the foam and waves of the sea's surface. That's why ocean breakers are still called white horses.

The sea horse, in other words — or its name at least — has a complicated origin story. Whereas Poseidon's mythical horses were considered the most beautiful creatures of the ancient world, the real sea horse has a tale of wonder of its own to tell. These fragile, elegant animals look like almost nothing else on Earth (except, naturally, a horse, and a distinctive part of the human brain). They are fish without scales and the usual fins. They are covered in bony plates. They swim upright. They form monogamous pairs. And most famously, the male sea horse experiences pregnancy — well, the closest that fish get to pregnancy — as he holds and nurtures the developing embryo in a special pouch.

In a paper this week, scientists explore the bizarre features of the sea horse from the inside out (Q. Lin *et al. Nature* **540,** 395–399; 2016). They describe how they sequenced and analysed the genome of *Hippocampus comes*, the tiger tail sea horse (just to add to the morphological mix). The results offer some clues to the genetic basis of their unique traits.

A gene family with a role in embryo hatching shows high expression in the male brood pouch, the scientists say. And some potential regulatory elements are missing, which might help to explain the evolution of the sea horse's strange body shape. The animals eat through a tubular snout (no teeth) and, sure enough, the genome showed a lack of genes for enamel proteins, needed to make teeth. The absence of a gene called *tbx4*, a known regulator of limb development, may have contributed to the loss of pelvic fins. And to the unusual features of the sea horse we can add a relatively high evolutionary rate in their genes as compared to other fish.

As we gain understanding of what makes the sea horse so special, its future is far from assured. Many of the 46 or so known species are on the endangered list: drained from the sea as by-catch and sent around the world as live pets or as dried food and medicine. The sea horse is a powerful symbol, and one that has been used to catalyse conservation efforts, such as the creation of protected marine zones in places such as the Philippines. But pollution and habitat loss are also taking their toll — as they are on much of the wider ocean environment. The white horses may still skim across the surface, but the world of Poseidon is losing its magic. ■