



# Better fuel for cleaner air: Regulation impact statement

## Addendum on implementation of ultra-low sulfur petrol

21 December 2023

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### 1 Purpose

This addendum to the 2018 *Better fuel for cleaner air: Regulation impact statement* provides information on the Government's adjusted implementation strategy of reducing the sulfur limit in Australian petrol to 10 parts per million (ppm) (ultra-low sulfur petrol).<sup>1</sup>

### 2 Background

#### 2.1 Why we regulate fuel quality

The Australian Government regulates the quality of petrol and diesel sold in Australia. Australian fuel suppliers must meet legislative requirements contained in standards made under the *Fuel Quality Standards Act 2000* (FQS Act). The FQS Act seeks to:

- reduce fuel pollutants and emissions
- facilitate the adoption of better engine and emission control technologies
- improve engine operation.

The quality of petrol supplied in Australia is regulated through the Fuel Quality Standards (Petrol) Determination 2019 (petrol standard). The petrol standard describes the technical parameters of 91 Research Octane Number (RON) and 95 RON petrol, which includes limits on sulfur and aromatics levels. 98 RON petrol must meet the 95 RON standard.

In regulating fuel quality, the Government also considers Australia's fuel security and the ability for domestic refineries to supply Australia's fuel needs in the event of a disruption to global fuel supply chains.

#### 2.2 The 2018 RIS

In August 2018, the then Department of the Environment and Energy published the *Better fuel for cleaner air: Regulation impact statement* (2018 RIS). The 2018 RIS examined the costs and benefits of changing fuel quality, including the option of reducing Australia's sulfur limit in petrol to 10 ppm, to align with international best practice.

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<sup>1</sup> A separate impact analysis, *Improving Australia's Fuel and Vehicle Emissions Standards*, analyses the regulatory impact of reducing the aromatics limit in 95 RON petrol.

Sulfur content in petrol leads to sulfur oxide (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOC) and carbon monoxide (CO) emissions from motor vehicles. These noxious emissions have significant health impacts, including causing cancer, eye and throat irritation; and exacerbating cardiovascular diseases and asthma symptoms.

Sulfur is currently permitted to the level of 150 ppm in regular unleaded petrol (91 RON) and 50 ppm in premium unleaded petrol (95 and 98 RON). At high levels, there is a risk of sulfur contaminating vehicles' catalytic converters (catalysts), limiting their ability to convert noxious emissions into less harmful substances.

International vehicle manufacturers design their modern vehicles to meet the more stringent fuel efficiency and emission standards adopted by our trading partners. These vehicles are designed to perform optimally on ultra-low sulfur petrol. Vehicle manufacturers have advised the Department of Climate Change, Energy, the Environment and Water (the department) that Australia's fuel quality must be harmonised with best practice international fuel standards to optimise emission control system effectiveness.

Options B, C and F of the 2018 RIS considered introducing an ultra-low sulfur limit in petrol from either 2022 or 2027. Option F was preferred, with the reduction of sulfur scheduled to be implemented in 2027. The Government concluded Option F provided a balanced path for improving Australia's petrol and committed to ongoing consultation with industry on possible further fuel quality improvements.

After the publication of the RIS, the ultra-low sulfur petrol limit was legislated for 2027 through the petrol standard.

### 2.3 Ultra-low sulfur implementation

In July 2022, the Minister for Climate Change and Energy, the Hon Chris Bowen MP, amended the petrol standard to bring forward the ultra-low sulfur petrol limit from 2027 to 15 December 2024, reducing health costs for the Australian community and aligning Australia's petrol standard with international best practice earlier. Industry supported the change, but both industry and Government acknowledged the timeline to complete the upgrades was ambitious.

## 3 What is changing?

The Government is adjusting the implementation date for ultra-low sulfur petrol by 12 months from December 2024 to December 2025. This maintains the Government's policy of introducing ultra-low sulfur petrol as soon as possible, while ensuring Australia's fuel security, and responding flexibly to the obstacles the fuel industry is facing in completing their infrastructure upgrades.

### 3.1 Rationale

Unavoidable disruptions in global supply chains are impacting completion timeframes for the Australian refineries' infrastructure upgrades works to produce ultra-low sulfur petrol.<sup>2</sup> The refineries will be unable to supply ultra-low sulfur petrol on to the Australian market until these upgrades are

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<sup>2</sup> Ampol Limited, [2023 Half Year Results Presentation](#), Ampol Limited, 2023, accessed 8 December 2023, p 25.

complete.<sup>3</sup> The planned upgrades are large and complex, and projects are subject to planning and environmental approval processes under state legislation.

To account for the changed circumstances, the Government is adjusting the start date by 12 months to December 2025. For capital and cost efficiencies, terminal infrastructure is often shared between fuel suppliers. Major petroleum marketers typically source some of their product from other oil companies and competitors seek out efficiencies through co-freighting imported product. Therefore, an industry-wide adjustment (for refineries and importers) is needed to avoid market distortion and impacts to supply and fuel quality compliance. This will ensure that consumers are assured of the quality of petrol they are purchasing no matter where they choose to refuel.

This adjustment will align with the Government's proposed reduction of the aromatics limit in 95 RON petrol and introduction of Euro 6d noxious emissions standards for light vehicles on 15 December 2025.<sup>4</sup> Introducing all changes at the same time will be simple for motorists to understand and ensure a seamless transition to improved fuel quality and noxious emissions standards. It will reduce costs and regulatory burden, as fuel suppliers will only need one flush out of their petrol supply chain.

## 4 Consultation

There has been longstanding and continual consultation with stakeholders regarding the sulfur level in Australian petrol.

- In 2023, the refineries have stated they are facing potential unforeseen delays to capital works projects needed to produce ultra-low sulfur petrol with one refinery confirming delays into 2025. The department has engaged extensively with the fuel industry (refineries and importers) to understand the impact of this problem on fuel security and the fuel supply chain.
  - The broader fuel industry is supportive of the adjustment to commencement noting that no real alternative options exist and the change would not adversely affect them.
- At the time the decision was made to bring the implementation date forward to 2024, there was unanimous support from industry (both the fuel and vehicle industries). The Federal Chamber of Automotive Industries endorsed the changes, stating that the sulfur reduction was a 'very important step' towards the regulation of Australian fuels in line with advanced global automotive markets.
- Extensive consultation in 2016–2018 with the fuel, vehicle, and community health sectors informed the development of the 2018 RIS.

## 5 Regulatory impact

The 2018 RIS quantified the net benefit and regulatory burden for a range of implementation dates between 2022 and 2027, and all dates tested within this range in the cost-benefit analysis (CBA) yielded a positive net present value (NPV). A 2025 implementation provided a NPV of \$428.7 million<sup>5</sup>

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<sup>3</sup> Viva Energy Australia, [2023 Half Year Results Presentation](#), Viva Energy Australia, 2023, accessed 8 December.

<sup>4</sup> For more information on these changes, see the *Improving Australia's Fuel and Vehicle Emissions Standards Impact Analysis*.

<sup>5</sup> In 2017 dollars.

to 2040.<sup>6</sup> As such, no additional quantitative analysis was prepared as part of this addendum. The CBA in the 2018 RIS remains accurate.

## 5.1 Other impacts

The adjustment to implementation will have minor impacts on the Australian community by:

- delaying costs borne by motorists due to the price increase associated with ultra-low sulfur petrol (0.6–1 cpl price increase<sup>7</sup>)
- foregoing a small portion of the health savings associated with ultra-low sulfur petrol implementation.<sup>8</sup>

## 6 Next steps

The Minister for Climate Change and Energy will seek to legislate this change at the same time as legislating a reduced aromatics limit in the 95 RON grade of petrol, by remaking the petrol standard in 2024. As is required under the FQS Act, the Minister will consider the recommendations of the Fuel Standards Consultative Committee before a final decision on making the petrol standard.

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<sup>6</sup> Department of the Environment and Energy (DOEE), *Better fuel for cleaner air: Regulation impact statement*, DOEE, Australian Government, 2018, p 34.

<sup>7</sup> DOEE, *Better fuel for cleaner air*, p 37.

<sup>8</sup> DOEE, *Better fuel for cleaner air*, p 58.