DOI: 10.1002/joe.21930

WILEY

FEATURE ARTICLE

# The Volkswagen emissions scandal and its aftermath

Jae C. Jung | Elizabeth Sharon

The discovery in 2015 that car maker Volkswagen (VW) had installed "defeat devices" into its diesel engines to lower emissions during testing exposed a corporate scandal and resulted in a 40% drop in the company's share price in 2 weeks. Although industry analysts questioned whether VW would survive the fallout, its sales quickly rebounded, and in 2017 the firm was the world's largest auto manufacturer. Although this unexpected surge led some to say that the scandal had blown over, there are indicators that VW has not yet fully recovered from the affair, and several issues stemming from it remain to be resolved. An examination of several reports issued as the crisis unfolded highlights the impact on VW and offers lessons for the firm's leaders and public policy makers.

## 1 | INTRODUCTION

In September 2015, researchers at the University of West Virginia discovered that Volkswagen (VW) had been installing a defeat device in each of its diesel engines. This software enabled the vehicles to pass emission tests under laboratory conditions while emitting 40 times the level of pollution allowed in the United States during normal use. The software was installed in 11 million diesel vehicles worldwide, including 590,000 in the United States.

The disclosure led to one of the most serious corporate scandals in the world. Within 2 weeks, VW's stock lost 40% of its value. Stockholders, consumers, and government representatives were furious over the auto maker's duplicity, particularly when reports contended that the company's senior managers had known about the device all along, and had even rewarded individuals involved with the project (Kieler, 2016; Tabuchi, Ewing, & Apuzzo, 2017). In the United States, several VW executives and employees were charged and imprisoned for conspiracy to commit fraud and violation of the Clean Air Act (Isidore, 2016; Tabuchi et al., 2017). As of autumn 2017, several lawsuits were still in progress in various countries.

In a public apology after the scandal became public, Martin Winterkorn, VW's CEO at the time, did not admit to any wrongdoing. While recognizing the loss of consumer trust, he argued that this trust should be restored because it was unfair to blame 600,000 hard-working individuals for the mistakes of a few people (Campbell, Rauwald, & Reiter, 2018; Groden, 2015). Apologies from other VW executives and corporate ads echoed the same themes, offering little or no acknowledgment of any attempt to deceive (LaReau, 2017). Although recognizing the loss of shareholder trust, the VW 2015 annual shareholder letter focused on setting the direction for the company's recovery in the future (Volkswagen, 2015).

Since then, VW has sought to overcome the negative impacts of the scandal through various means. Although its response has differed from country to country, it has promised to ensure that affected vehicles comply with local emission standards. It has also agreed to settlements with governments and consumers in a small number of countries, while refusing similar settlements in others. VW's other efforts at reconciliation include offering competitive warranties for newly purchased cars, announcing a new focus on electric vehicles, changing its internal organizational structure, and offering additional, though superficial, apologies.

Although some analysts made gloomy predictions about the company's future when the scandal first broke, VW's sales actually increased in 2016/2017. This was primarily due to strong sales in developing economies, such as China and Central and Eastern Europe, which helped to make Volkswagen the world's largest automobile manufacturer in 2017. Given this strong recovery, many consider the worst of the VW emission scandal to be over. However, a counterargument can be made that the firm has not yet fully recovered from the damage caused by the emission scandal, and

  

that many issues remain to be resolved by both VW and public policy makers.

Immediately after the scandal, VW's main objectives were saving financial resources and maintaining stability. It achieved those goals, in the short term, by limiting costs and payouts. The company remains under the shadow of the scandal, however, and is still dealing with various claims and lawsuits in several countries. More important, it still needs to recover the trust of its diverse group of stakeholders, and that will take time.

*Although some analysts made gloomy predictions about the company's future when the scandal first broke, Volkswagen's sales actually increased in 2016/2017.*

As for public policy, although VW did not violate the letter of the law in many countries with emission regulations, this does not mean that the pollution caused by its vehicles was acceptable. Governments need to update their environmental regulations, become more proficient at implementing them, and continue to support studies concerning the effects of the pollution caused by motor vehicles.

## 2 | EXPLORING THE POST-SCANDAL SALES SURGE

Defying pessimistic predictions regarding its survival, VW recorded strong sales in the years immediately following the scandal. The company sold 10.3 million vehicles worldwide in 2016 (a 2.8% increase), and 10.7 million in 2017 (a 4.3% increase). Although its Western European sales, which focused heavily on diesel cars, were sluggish during this period, sales in developing economies increased substantially: by 20% in China and by 21% in Central and Eastern Europe (Boston, 2017; Reuters, 2018). The company's US sales fell by 8% in 2016, but rose by 5.2% in 2017. Several factors beyond VW's control contributed to this unexpected recovery.

### 2.1 | Deflecting attention

Research on crisis management suggests that the public and the media have a short attention span: Interest in corporate scandals tends to surge in the first few weeks, and then disappear once attention is diverted to other events (Mena, Rintamäki, Fleming, & Spicer, 2016; Zavyalova, Pfarrer, Reger, & Shapiro, 2012). The news that many other German and American automobile manufacturers had practiced similar deceptive behaviors helped diminish the attention paid to VW.

Other German automotive companies, such as Audi, BMW, Porsche, and Daimler, were found to have conspired in a variety of allegedly anticompetitive agreements with VW, including one for the development of diesel-emission systems (Atiyeh, 2017; Hawkins, 2017). If found guilty, these companies could face fines of $54 billion under German law, and criminal charges by US authorities. In the United States, Fiat Chrysler was found to have installed software similar to VW's defeat device in about 104,000 vehicles from 2014 to 2016, and General Motors was found to have installed such software in 705,000 trucks sold from 2011 to 2016 (Boudette, 2017).

Further, other corporate scandals, both before and after the VW debacle, had inured consumers to distressing business news. These included Toyota's recall over problems with its accelerators in 2010 and GM's recall over ignition switch defects in 2014, both of which were customer safety issues. In a world where automobile recalls have become commonplace and big corporations are considered untrustworthy, consumers might be less concerned about an emission problem that they do not connect to their immediate well-being (Hennessy, 2015).

Along these same lines, scandals outside the automobile industry—for instance, the Enron accounting scandal in 2001 and the BP Deepwater Horizon oil spill in 2010—had gotten consumers used to the exposure of bad business practices well before VW's problems made headlines in 2015. Public attention in the United States and even abroad was further diverted from VW in the run-up to the 2016 US presidential election, when an unanticipated candidate for president, Donald Trump, began to claim an increasing share of the media spotlight (Campbell et al., 2018).

### 2.2 | The impact on individual consumers

Research on crisis management suggests that the perceived harm an event creates is one of the factors that influence stakeholders' reactions (Mena et al., 2016; Shrivastava, Mitroff, Miller, & Miclani, 1988). As noted, consumers perceived the harm caused to individuals in the VW case as small. Although they were upset about having been tricked into buying what they thought was an environmentally friendly car, for most buyers the inclusion of eco-friendly features had only a small impact on their decision to purchase a VW (Hennessy, 2015). Before the scandal, VW was not particularly known for its environmentalist priorities, particularly when compared to such brands as Tesla and Toyota's Prius.

A survey of 6,300 car drivers in Ireland revealed that more than 75% of VW consumers would purchase from the company again, and that "54% of non-VW owners said the scandal would not put them off buying a VW or one of its brands in the future" (McAleer, 2016b). A survey of 800 US consumers, polled a few months after the scandal became public, showed that only 7.5% had a negative impression of VW. When

identifying first associations, fewer than 3% of them associated the company with the scandal (Hennessy, 2015).

It appears that most consumers were more upset about the effect of the defeat device on their car's performance and the hassle of the recall than they were about the emission of poisonous gases into the environment—the true impact of which was difficult for most people to fully appreciate. The fact that the cause and effects of pollution are not limited to the owners of VW vehicles—polluted air affects everyone, regardless of whether they own a VW—did not seem to register with many consumers.

### 2.3 | The power of environmentally aware consumers

Environmental activists frequently direct attention to corporate scandals in an attempt to force corporations to take corrective actions; however, they often lack the resources to sustain such campaigns (Mena et al., 2016; Taylor, 1989). Regarding corporate transparency and corporate social responsibility issues, millennials are considered most likely to care (Eisenstein, 2014; Revkin, 2016).

*A survey of 800 US consumers, polled a few months after the scandal became public, showed that only 7.5% had a negative impression of VW.*

When purchasing cars, the silent generation (born 1928–1945), baby boomers (born 1946–1964), generation X (born 1965–1980), and millennials (born 1981–1996) manifest different patterns and value different aspects of their vehicles (Harvey, 2016; Serafino, 2018). Millennials spend more time and energy on looking for cars that are fuel-efficient and environmentally friendly (Harvey, 2016), while older generations are less likely to conduct their own research before buying a car and are more likely to remain loyal to a particular brand (Palermo, 2014).

In 2016, baby boomers accounted for 36% of vehicle sales, millennials accounted for 29%, generation X for 25%, and the silent generation for 9% (Kurylko, 2017; Serafino, 2018). Although the proportion of millennials in the automobile market is not small, they have a lower level of disposable income than the other groups. Therefore, VW had only a limited need to appeal to those most concerned with environmental justice and corporate social responsibility.

## 3 | DIVERSE APPROACHES TO LEGAL CHALLENGES

VW's immediate concern as the crisis unfolded was to limit the costs associated with the legal actions that resulted from the discovery of the device. This was a factor over which the company had some direct control. Even though the defeat device affected all vehicles in every country in the same way, VW adopted different response strategies in different countries.

The United States was among the few countries where VW paid out any type of settlement to consumers or government agencies. More than $23 billion in fines and settlements covered consumer compensation (roughly $10,000 each), dealer compensation, environmental settlements, support for research to lower diesel emissions, civil penalties, and additional funds for the repair and buyback of vehicles. In Canada, the government and consumers received substantially less compensation, roughly C$2 billion, with individual Canadians receiving C$5,100–$8,000 (Huffington Post, 2016; Sagan, 2017; Winton, 2017).

*The United States was among the few countries where Volkswagen paid out any type of settlement to consumers or government agencies.*

In Europe, VW refused to settle with governments or consumers in Germany, Ireland, Italy, the Netherlands, Spain, Switzerland, and the United Kingdom, and treated court cases that arose there as a nuisance and waste of time (McAleer, 2016a). In developing countries, such as Brazil, China, and India, VW did not take any substantial action as a result of the scandal.

**Exhibit 1** shows the reported actions and outcomes in various countries as of October 2017. **Exhibit 2** shows the number of cars reported as being fitted with the defeat device, and the total amount of settlements by country as of March 2017. Some of the tactics that VW's leaders used to address the legal ramifications of the emission device scandal and mitigate the aftermath are described below.

*Exploit variations in environmental regulations in different countries.* In Canada, for example, VW's representatives argued that the company did not violate Canada's emission regulations between 2006 and 2010, since Canadian and US standards were not unified until 2010 (Ayre, 2016; Isidore, 2016; McIntosh, 2016). In European countries and Australia, VW asserted that respective laws and standards were either absent or less strict than those of the United States, and that the use of its device did not contravene any laws or regulations that were in force in those countries at the time (Mortimore, 2016). For example, in a court case in Australia, VW insisted that Australia's regulations only required that vehicles pass emission tests carried out in laboratories, and not on the road (Dowling, 2016).

In terms of compensation, VW argued that in Europe, there was no reason for any compensation or settlement beyond the cost of repairing the more than 8.5 million affected vehicles (Boston, 2016; McAleer, 2016a; Swissinfo.ch, 2017). Similar arguments were deployed in developing countries.

*Remove stepping stones to other legal battles.* VW's leaders quickly realized that compensating the government or consumers in one country had the potential to create a stepping stone for claims and lawsuits in other countries when different areas had similar standards, like Australia and the European Union. If VW were to agree to any type of settlement or compensation with the Australian government, this would strengthen any cases against the automaker in the European Union, and vice versa. Thus, the outcomes of lawsuits in Europe, the United Kingdom, and Australia were highly interdependent. A similar situation existed in Ireland where several claimants were waiting for the results of a class-action lawsuit in the United Kingdom before undertaking their own (see Exhibit 1).

*React according to markets.* VW also adjusted its response according to relative and potential market size. For example, the Canadian market was considered small compared to the US market, which had a much larger number of affected consumers (590,000) than Canada (105,000). This led some to argue that even though the legal situation in the United States and Canada was identical after 2010, Canadian consumers were treated less favorably than those in the United States (Ayre, 2016).

A similar divergence was found in the treatment of South Korea compared to other emerging economies. VW was extremely compliant in its negotiations with the South Korean government compared to Brazil, China, and India. One possible explanation for this is that VW's revenues from South Korea had tripled in the 5 years before the scandal and, therefore, the company wanted to appease the South Korean government and consumers so that sales would continue to grow (Jin, 2016). The strategy seems to have worked: In the first 4 months following the scandal, sales of VW vehicles in South Korea soared (Choi, 2015).

*Offer competitive warranties.* To win back consumer trust, VW offered competitive warranties for its products. Its 6-year or 72,000-mile warranty on the 2018 Tiguan and Atlas SUVs was twice as long as the 3-year or 36,000-mile warranty for comparable SUVs, such as the Ford Explorer or the Honda CR-V. This gesture of largesse was intended to demonstrate that VW would take care of its customers' needs.

*Shift to electric vehicles.* VW's focus on electric cars was partly intended to emphasize the firm's commitment to building environmentally friendly vehicles. Recognizing that diesel vehicles no longer have the market appeal they used to, VW has planned to fade out production of diesel-fueled vehicles and concentrate on the growing market for electric ones (Ramey, 2016). The company has announced plans to produce 80 models of electric-powered vehicles by 2025 and to spend $62 billion to advance battery technologies (Petroff, 2018). VW has also entered into a partnership with China's Anhui Jianghuai Automobile to develop and manufacture new energy vehicles—both fully electric and hybrid cars (Yu, 2016).

### 3.1 | Seizing the opportunity for radical organizational change

After the scandal, VW implemented a lean organizational structure that would facilitate a direct line of communication to top managers so that fewer errors would slip through the cracks (Kollewe & Ruddick, 2015). Following public outrage over the defeat device scandal, Matthias Müller replaced Martin Winterkorn as VW's CEO in September 2015. In April 2018, Müller was succeeded by Herbert Diess, who had spent nearly two decades at rival BMW. Overall, about half of VW's senior managers were fired after the emission scandal became public.

*The company has announced plans to produce 80 models of electric-powered vehicles by 2025 and to spend $62 billion to advance battery technologies.*

The publicity that followed the discovery of the defeat device was so intense that it convinced VWs stakeholders of the need for a radical restructuring. Before the crisis, VW employed about two-thirds more people than Toyota to produce about the same number of vehicles. After the scandal, the unions and management at VW agreed to reduce the number of employees by 30,000 and to cut expenses (Campbell et al., 2018). Germany's codetermination law, which mandated representation of union members on supervisory boards, would not allow such a large-scale reduction of employees unless there was a strong reason to do so.

VW also streamlined its product lineup. For example, it stopped making the Phaeton, a luxury sedan assembled by hand and priced at roughly $102,000 that was cherished by Ferdinand Piëch, chairman of Volkswagen Group's supervisory board from 2002 to 2015. Considering the authoritarian leadership style at VW (Jung & Park, 2017), the discontinuation of the chairman's pet project was a strong signal of the company's commitment to change.

The momentum produced by such initiatives allowed VW to divert further resources toward new, innovative strategies. For example, the factory that used to build the Phaeton was retooled to produce electric vehicles (Campbell et al., 2018). VW also began emphasizing new methods of transportation—such as ride hailing, car-sharing, and on-demand transport—to attract younger customers. In December 2016, VW introduced a new company, MOIA, to provide services similar to Uber and Lyft. Depending on MOIA's success in Germany, VW planned to launch similar services in China (Etherington, 2016).

**EXHIBIT 1** VW's actions and outcomes (as of October 2017)

| Country | VW's actions | Outcomes | Pending developments |
|---|---|---|---|
| Australia<br>Barber (2016) | Refused any type of settlement with government or consumers | | • Class action lawsuit involving more than 90,000 Australian consumers, seeking approximately $100 million |
| Brazil<br>hani.co.kr (2016) | After negotiation with the government, VW came to a settlement over violating emission standards | • Negotiated settlement, $2.4 million | |
| Canada<br>Huffington Post (2016);<br>Sagan (2017) | Reluctant to grant requests for government and consumer settlements | • Consumer compensation: $2.1 billion (~$5,100–8,000 each)<br>• Civil penalties: $11.2 million | |
| China<br>Amad (2015) | Agreed to fix affected vehicles to align with emission standards | | • Chinese environmental group filed lawsuit |
| Germany<br>Edelstein (2017);<br>Godoy (2016);<br>Pleskot (2016);<br>Rust (2016) | Refused any type of settlement with government or consumers | • 250 consumers reached settlements; amounts unknown | • 1,000 consumers filed for a class action lawsuit, seeking up to $5,200 each<br>• 1,400 investors sued for $9.2 billion<br>• Investors partnering with BlackRock suing for more than $2.1 billion<br>• German state of Bavaria suing for $783,000<br>• German state of Hesse suing for $4.3 million<br>• Germans state of Baden-Wurttemberg suing for $446,000 |
| India<br>Raj (2015) | Agreed to fix affected vehicles to align with emission standards | | |
| Ireland<br>Shannon (2017) | Refused any type of settlement with government or consumers | | • 800 Irish consumers waiting for the results of the UK versus VW case before perusing their own settlement |
| Italy<br>WeClaim.com (n.d.) | Refused any type of settlement with government or consumers | | • Autorità Garante della Concorrenza e del Mercato fined VW for $5.35 million; waiting court decision |
| Netherlands<br>Ridley and Sterling (2017) | Refused any type of settlement with government or consumers | | • Class-action lawsuit involving 220,000 consumers—180,000 Dutch and 40,000 from the United Kingdom—seeking an estimated $4,700–$5,800 per consumer |
| South Africa<br>Holmes (2016) | No action taken, including a recall agreement to fix vehicles | | |

(Continues)

## 4 | BUILDING TRUST AND PUBLIC POLICY

The short attention span of consumers and the media can make it difficult for business practitioners and scholars to evaluate postcrisis actions and improve managerial decision making in the long term (Mena et al., 2016).

Looking back, VW faced a variety of environmental and civic charges. Claims and lawsuits were filed against VW for unfair commercial practices and false advertising claims (NDTV, 2016; WeClaim.com, n.d.). In the European Union, VW was found to have violated two consumer laws (Reuters, 2016). The first, the Consumer Sales and Guarantees Directive, forbids companies from making false environmental claims. The second, the Unfair Commercial Practices Directive, concerns unfair business-to-consumer commercial practices in the European internal market (Cancian, 2016). Marketed as environmentally friendly, VW's vehicles were emitting up to 40 times more nitrous oxide than advertised; the firm's promotion of its products can be considered "greenwashing"—misrepresenting them as environmentally sound (Siano, Vollero, Conte, & Amabile, 2017; Watson, 2016). Beyond fighting its legal battles, VW now needs to recover consumers' trust, and this can take a long time.

Management research emphasizes the value of trust in crisis situations (Dean, 2004). For example, after Hurricane Katrina devastated parts of the American South in 2005 and led to significant drops in stock prices in the firms that had been affected by it, losses were much smaller among firms that had nurtured trustful relationships with their stakeholders (Muller & Kräussl, 2011). Another study showed that the stock price of firms facing negative legal or regulatory actions fell less if the firms had earned their stakeholders' trust by engaging in activities that demonstrated corporate social responsibility (Godfrey, Merrill & Hansen, 2009). Similarly,

**EXHIBIT 1** (Continued)

| Country | VW's actions | Outcomes | Pending developments |
|---|---|---|---|
| South Korea<br>Choe (2016); Chosunilbo & Chosun.com (2017); NDTV (2016); Seo (2017) | Compliant with requests for government settlements and consumer vouchers | • South Korea Ministry of Environment settlement: $12.7 million<br>• Penalties for forgery: $16 million<br>• Penalties for false advertisements: $32 million<br>• Consumer vouchers: $224.1 million ($830 each)<br>• Consumer compensation of $270 for 4,000 consumers in class-action lawsuit | |
| Spain<br>Munoz (2016); Reuters (2016) | Refused any type of settlement with government or consumers | • One consumer recovered 10% of the vehicle's value ($5,350) | • The Organization of Consumers and Users will file a class-action lawsuit; 5,500 consumers have filed as of October 2016 |
| Switzerland<br>Swissinfo.ch (2017) | Refused any type of settlement with government or consumers | | • Consumer Protection Association for French-speaking Switzerland joined the European class-action lawsuit<br>• Consumer Protection Organization for German-speaking Switzerland suing for $3,000–$7,000 per vehicle |
| United Kingdom<br>Ridley and Sterling (2017) | Refused any type of settlement with government or consumers | | • Class-action lawsuit involving 220,000 consumers—40,000 from the United Kingdom and 180,000 Dutch—seeking an estimated $4,700–$5,800 per consumer |
| United States<br>Cabraser (2016); Tabuchi et al. (2017); United States Department of Justice (2017); Winton (2017) | Compliant with requests for government and consumer settlements | • Consumer compensation: $10 billion (~$10,000 each)<br>• VW dealer compensation: $1.2 billion (~$1.85 million each)<br>• Settlement with the US Environmental Protection Agency and California Air Resources Board: $2.7 billion<br>• Research to lower diesel emissions: $2.0 billion<br>• Civil penalties: $1.5 billion<br>• Additional funds to repair buyback vehicles: $3 billion | |

firms that had developed a positive relationship with and were trusted by their stakeholders recovered more quickly from the 2008 global recession (DesJardine, Bansal, & Yang, 2017).

*The stock price of firms facing negative legal or regulatory actions fell less if the firms had earned their stakeholders' trust by engaging in activities that demonstrated corporate social responsibility.*

Despite the importance of trust, VW has not done much to recover that of its customers. Even though managers issued apologies, they did not take responsibility for or try to explain the company's misconduct. Rather, they emphasized VW's positive characteristics, such as its dedicated workforce. Consumers are likely to perceive such actions as mere attempts to draw their attention away from the negative characteristics of the company that led to the wrongdoing in the first place (Ashforth & Gibbs, 1990; Zavyalova et al., 2012). As a result, the company will be viewed as hypocritical and its efforts to win customers' support could backfire and even decrease their trust in the firm (Desai, 2011; Lyon, Maxwell & Strategy, 2011; Mishina, Block & Mannor, 2012).

VW's sales growth in the short term following the scandal does not guarantee its long-term success. Past research on crisis management (Coombs, 2007; Dean, 2004) points out that in the aftermath of a debacle leaders need to:

- protect stakeholders from harm, not protect their own reputation;
- find relevant information quickly and disseminate it to stakeholders; and
- show their concern for victims.

VW's managers did not adequately execute any of these steps. Whereas past studies have advised companies dealing with a crisis to acknowledge its severity and accept responsibility to improve their corporate image, VW took the opposite approach. Its leaders focused on minimizing public communication and denied any wrongdoing, a strategy that might diminish the company's credibility in the eyes of consumers and stakeholders over time (LaReau, 2017).

**EXHIBIT 2** Worldwide settlements (as of March 2017)

| Country | Number of cars with defeat device | Amount of settlement |
|---|---|---|
| Australia<br>Barber (2016) | 90,000 | |
| Brazil<br>Fox News (2015); Hani.co.kr, (2016) | 17,000 | $2.4 million |
| Canada<br>Huffington Post (2016); Sagan (2017) | 105,000 | $2.11 billion |
| China<br>Zhang (2016) | 1,950 | |
| Germany<br>Edelstein (2017) | 2.5 million | 250 settlements reached—amounts unknown |
| India<br>Raj (2015) | 323,000 | |
| Ireland<br>Boston (2016) | 110,000 | |
| Italy<br>Kollewe and Ruddick (2015) | 650,000 | |
| Netherlands<br>Dutchnews.nl (2016) | 160,000 | |
| South Africa | Unknown | Unknown |
| South Korea<br>Choe (2016);<br>Chosunilbo & Chosun.com (2017); Nam (2016); NDTV (2016) | 200,000 | $284.8 million |
| Spain<br>Munoz (2016); Palacios, (2016) | 700,000 | $5,350<br>(one consumer settlement) |
| Switzerlands<br>wissinfo.ch (2017) | 180,000 | |
| United Kingdom<br>Hotten (2015) | 1.2 million | |
| United States<br>Tabuchi et al. (2017); Winton (2017) | 590,000 | $23 billion |

After dealing with short-term problems, VW would do well to direct its attention to developing a positive relationship with all its stakeholders, including consumers. Studies have shown that maintaining positive relationships with stakeholders can decrease the probability of future crises (Bundy & Pfarrer, 2015; Clair & Waddock, 2007; Coombs, 2007; Ulmer & Sellnow, 2002). In the long term, VW can improve its chances of fully regaining consumer confidence by taking these steps:

- Publicly acknowledge the company's faults. Taking responsibility for any wrongdoing is the first step to recovering stakeholders' trust in the firm.
- Formulate and implement strategies that recognize the roles of diverse stakeholders in VW's future and align them with the new emphasis on electric vehicles. This will help to promote the image of VW as a green company.
- Donate to research on reducing air pollution and other environmental concerns.
- Participate in green energy projects, such as ride hailing and car sharing.
- Work with suppliers to devise environmentally friendly parts and vehicles.
- Improve employee job security to motivate employees.
- Communicate with stakeholders as partners who contribute not only to VW's future, but also to the future of other stakeholders.

### 4.1 | For policy makers

Air pollution remains one of the world's most serious environmental problems: It caused about 9 million premature deaths in 2015 alone (Das & Horton, 2018). While the United States Environmental Protection Agency considers an air quality index exceeding 300 to be hazardous, in various parts of the world, it is significantly worse. For instance, in New Delhi it ranges between 700 and 1,000 (Prakash, Dolšak, Bernauer, & McGrath, 2017). In November 2017, New Delhi's air quality was so poor that United Airlines canceled flights into the city for 2 days (Meza, 2017). The problem of air pollution is not restricted to developing nations. A recent study conducted in the United Kingdom reported that walking in a highly trafficked street caused harm to respiratory and cardiovascular functions (Sinharay et al., 2018).

Although VW did not break the letter of the law regarding emissions in most countries in which it did business, it clearly acted against the spirit of those regulations, and the level of nitrous oxide released from VW vehicles was,

without doubt, unacceptable. This situation indicates a need for governments to review and upgrade their air quality/pollution regulations and investigation processes, possibly including emission tests on the road.

Reducing pollution and improving air quality is a complex challenge. Many countries prioritize economic development over environmental protection. Enforcing higher compliance rates will impose an additional cost on businesses; for a developing country, this option may not be realistic (Malhotra, 2015). In the case of New Delhi's air pollution, the illegal burning of crops contributed significantly to the city's pollution level, but local politicians did not enforce existing regulations out of fear of losing support among farmers (Prakash et al., 2017).

*While the United States Environmental Protection Agency considers an air quality index exceeding 300 to be hazardous, in various parts of the world, it is significantly worse.*

Developed countries face a similar tangled web of conflicting interests, and need to balance economic benefits, electoral support, special interests, and the concerns of powerful lobby groups. Yet, even those who are primarily attuned to the economic benefits of industry should understand that pollution is not simply an environmental issue, but also an economic issue that costs the world more than $4.6 trillion a year—the equivalent of 6.2% of global economic output (Das & Horton, 2018).

For the sake of global health and welfare, governments must continue to support environmental studies, update regulations, and become more effective at implementing them. Although VW's case was serious from a corporate viewpoint, its impact on the wider health and well-being of the world's population was arguably more severe. If there is one lesson to be learned from the VW emission scandal, it is that governments and regulatory bodies need to be vigilant, and to maintain a proper balance between economic development and the health and well-being of the general public.

## REFERENCES


Amad, A. (2015, December 16). Chinese environmental group sues Volkswagen over emission scandal. *The Science Times.* Retrieved from http://www.sciencetimes.com/articles/7944/20151216/chinese-environmental-group-sues-volkswagen-over-emission-scandal.htm

Ashforth, B. E., & Gibbs, B. W. (1990). The double-edge of organizational legitimation. *Organization Science*, *1*(2), 177–194.

Atiyeh, C. (2017, July 27). Volkswagen, Daimler, and BMW under investigation for alleged diesel cartel. *Car and Driver.* Retrieved from https://blog.caranddriver.com/volkswagen-daimler-and-bmw-under-investigation-for-alleged-diesel-cartel/

Ayre, J. (2016, December 26). Volkswagen agrees to CAD$2.1 billion Canadian diesel TDi vehicle buyback settlement. *Clean Technica.* Retrieved from https://cleantechnica.com/2016/12/26/volkswagen-agrees-cad2-1-billion-canadian-diesel-tdi-vehicle-buyback-settlement/

Barber, L. (2016, January 6). Volkswagen emissions scandal: Australia sues car giant. *Euronews.* Retrieved from http://www.euronews.com/2016/09/01/volkswagen-emissions-scandal-australia-sues-car-giant

Boston, W. (2016, August 23). VW facing uphill battle outside the U.S. in emissions claims. *The Wall Street Journal.* Retrieved from https://www.wsj.com/articles/vw-facing-uphill-battle-outside-the-u-s-in-emissions-claims-1471944601

Boston, W. (2017, January 9). Volkswagen sales rise in 2016 despite scandal. *Market Watch.* Retrieved from https://www.marketwatch.com/story/volkswagen-sales-rise-in-2016-despite-scandal-2017-01-09

Boudette, N. E. (2017, May 23). U.S. sues Fiat Chrysler, accusing it of using software to pass emissions tests. *The New York Times.* Retrieved from https://www.nytimes.com/2017/05/23/business/fiat-chrysler-diesel-emissions-lawsuit.html

Bundy, J., & Pfarrer, M. D. (2015). A burden of responsibility: The role of social approval at the onset of a crisis. *Academy of Management Review*, *40*(3), 345–369.

Cabraser, L. (2016, October 18). *Statement on final approval hearing in Volkswagen and Audi 2.0-liter emissions settlement.* Retrieved from https://www.lieffcabraser.com/2016/10/statement-on-final-approval-hearing-in-volkswagen-and-audi-2-0-liter-emissions-settlement/

Campbell, M., Rauwald, C., & Reiter, C. (2018, March 29). How Volkswagen walked away from a near-fatal crash. *Bloomberg Businessweek.* Retrieved from https://www.bloomberg.com/news/features/2018-03-29/how-volkswagen-walked-away-from-a-near-fatal-crash

Cancian, D. (2016, September 5). European commission finds Volkswagen guilty of breaking law in 20 countries. *International Business Times.* Retrieved from http://www.ibtimes.co.uk/european-commission-finds-volkswagen-guilty-breaking-law-20-countries-1579677

Choe, S-H. (2016, August 2). South Korea bans Volkswagen from selling 80 models in country. *The New York Times.* Retrieved from https://www.nytimes.com/2016/08/03/business/international/south-korea-volkswagen-emissions.html

Choi, S. (2015, December 30). Volkswagen's discrimination irks Korean consumers. *The Korea Times.* Retrieved from http://www.koreatimes.co.kr/www/tech/2017/11/693_194318.html

Chosunilbo&Chosun.com. (2017, January 13). *Volkswagen finally starts recall in Korea.* Retrieved from http://english.chosun.com/site/data/html_dir/2017/01/13/2017011301298.html

Clair, J. A., & Waddock, S. (2007). A total: Responsibility management approach to crisis management and signal detection in organizations. In C. M. Pearson, C. Roux-Dufort, & J. A. Clair (Eds.), *International handbook of organizational crisis management* (pp. 299–313). Thousand Oaks, CA: Sage.

Coombs, W. T. (2007). Protecting organization reputations during a crisis: The development and application of situational crisis communication theory. *Corporate Reputation Review*, *10*(3), 163–176.

Das, P., & Horton, R. (2018). Pollution, health, and the planet: Time for decisive action. *The Lancet*, *391*(10119), 407–408.

Dean, D. H. (2004). Consumer reaction to negative publicity: Effects of corporate reputation, response, and responsibility for a crisis event. *The Journal of Business Communication*, *41*(2), 192–211.

Desai, V. M. (2011). Mass media and massive failures: Determining organizational efforts to defend field legitimacy following crises. *Academy of Management Journal*, *54*(2), 263–278.

DesJardine, M., Bansal, P., & Yang, Y. (2017). Bouncing back: Building resilience through social and environmental practices in the context of the 2008 global financial crisis. *Journal of Management*, *45*(4), 1434–1460.

Dowling, J. (2016, December 4). Volkswagen recalls 61,000 cars in Australia to fix diesel emissions cheating software. *The Courier Mail.* Retrieved from http://www.couriermail.com.au/news/national/volkswagen-recalls-61000-cars-in-australia-to-fix-diesel-emissions-cheating-software/news-story/d240a87068c6645a78bc6e9bbc330869

Dutchnews.nl. (2016, December 19). Dutch consumers investigate Volkswagen. *Dutch News.* Retrieved from http://www.dutchnews.nl/news/archives/2016/12/dutch-consumers-authority-investigates-volkswagen-emissions-scandal/

Edelstein, S. (2017, January 5). Diesel owners in Germany who sue VW face significant hurdles. *Green Car Reports.* Retrieved from https://www.greencarreports.com/news/1108158_diesel-owners-in-germany-who-sue-vw-face-significant-hurdles

Eisenstein, P. A. (2014, August 3). How millennials are reshaping car buying. *CNBC*. Retrieved from https://www.cnbc.com/2014/08/13/how-millennials-are-reshaping-car-buying.html

Etherington, D. (2016, December 5). Volkswagen launches MOIA, a new standalone mobility company. *Tech Crunch.* Retrieved from https://techcrunch.com/2016/12/05/volkswagen-launches-moia-a-new-standalone-mobility-company/

Fox News. (2015, November 12). *Brazil fines Volkswagen $13 million.* Retrieved from http://www.foxnews.com/world/2015/11/12/brazil-fines-volkswagen-13-million-over-emissions-cheating-scheme.html

Godfrey, P. C., Merrill, C. B., & Hansen, J. M. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic Management Journal*, *30*(4), 425–445.

Godoy, J. (2016, September 16). German state to sue Volkswagen for €4m stock loss. *Law 360.* Retrieved from https://www.law360.com/articles/840897/german-state-to-sue-volkswagen-for-4m-stock-loss

Groden, C. (2015). Volkswagen CEO issues video apology for emissions cheating scandal. *Fortune.* Retrieved from http://fortune.com/2015/09/22/volkswagen-apology-emissions-cheating/

Hani.co.kr. (2016, December 8). Volkswagen slapped with historic fines. *The Hankyoreh.* Retrieved from http://english.hani.co.kr/arti/english_edition/e_business/773861.html

Harvey, B. (2016, November 7). Here's what you need to know about millennial car shopping habits. *Auto Guide.* Retrieved from http://www.autoguide.com/auto-news/2016/11/here-s-what-you-need-to-know-about-millennial-car-shopping-habits.html

Hawkins, A. J. (2017, July 24). German automakers formed a secret cartel in the '90s to collude on diesel emissions: Report. *The Verge.* Retrieved from https://www.theverge.com/2017/7/24/16021292/german-car-companies-cartel-diesel-emissions-90s

Hennessy, J. (2015, October 9). VW messed up, but the emissions scandal won't turn off customers. *Fortune.* Retrieved from http://fortune.com/2015/10/09/volkswagen-emissions-scandal-wont-turn-off-customers/

Holmes, T. (2016, July 12). VW fights to survive after emissions scandal, but it's business as usual in SA. *Mail & Guardian.* Retrieved from https://mg.co.za/article/2016-07-11-vw-fights-to-survive-after-emissions-scandal-but-its-business-as-usual-in-sa

Hotten, R. (2015, December 10). Volkswagen: The scandal explained. *BBC News.* Retrieved from http://www.bbc.com/news/business-34324772

Huffington Post. (2016, December 19). VW offers $2.1 billion to Canadian drivers. *The Canadian Press.* Retrieved from http://www.huffingtonpost.ca/2016/12/19/vw-canada-settlement-offer_n_13725998.html

Isidore, C. (2016, September 9). Volkswagen engineer pleads guilty to criminal charges in emissions cheating case. *CNN.* Retrieved from http://money.cnn.com/2016/09/09/news/companies/volkswagen-engineer-emissions-scandal-guilty-plea/index.html

Jin, H. (2016, June 24). South Korea court issues arrest warrant for VW official in emissions scandal. *Washington Post.* Retrieved from https://www.washingtonpost.com/business/economy/south-korea-issues-warrant-for-arrest-of-vw-official-in-emissions-scandal/2016/06/24/43552e18-3a1d-11e6-a254-2b336e293a3c_story.html

Jung, J. C., & Park, S. B. (2017). Case study: Volkswagen's diesel emissions scandal. *Thunderbird International Business Review*, *59*(1), 127–137.

Kieler, A. (2016, July 19). Three states accuse Volkswagen of committing fraud. *Consumer Reports.* Retrieved from https://consumerist.com/2016/07/19/three-states-accuse-volkswagen-of-committing-fraud/

Kollewe, J., & Ruddick, G. (2015, December 17). VW makes management changes following emissions scandal. *The Guardian.* Retrieved from https://www.theguardian.com/business/2015/dec/17/vv-management-changes-emissions-scandal-german-carmaker

Kurylko, D. T. (2017, February 27). The millennials are coming: Slow to recover from recession, but fast becoming a major buyer segment. *Auto News.* Retrieved from http://www.autonews.com/article/20170227/RETAIL/302279963/the-millennials-are-coming

LaReau, J. (2017, April 8). How VW fared with its no-apology ads: At height of diesel scandal, spots stayed focused on product. *Auto News.* Retrieved from http://www.autonews.com/article/20170408/RETAIL03/304109995/how-vw-fared-with-its-no-apology-ads

Lyon, T. P., Maxwell, J. W., & Strategy, M. (2011). Greenwash: Corporate environmental disclosure under threat of audit. *Journal of Economics*, *20*(1), 3–41.

Malhotra, M. (2015, November 4). *Bharat stage norms too low for Volkswagen* [Blog post]. Retrieved from https://nickledanddimed.wordpress.com/2015/11/04/bharat-stage-norms-too-low-for-volkswagen

McAleer, M. (2016a, June 28). Calls for payout to Irish motorists as Volkswagen reaches €13.9bn deal in us. *The Irish Times.* Retrieved from https://www.irishtimes.com/business/manufacturing/calls-for-payout-to-irish-motorists-as-volkswagen-reaches-13-9bn-deal-in-us-1.2702580

McAleer, M. (2016b, January 20). Majority still loyal to VW despite emissions scandal. *The Irish Times.* Retrieved from https://www.irishtimes.com/life-and-style/motors/majority-still-loyal-to-vw-despite-emissions-scandal-1.2498516

McIntosh, J. (2016, October 25). Volkswagen diesel owners in Canada await compensation as U.S. Deal approved. *Automotive News Canada.* Retrieved from http://canada.autonews.com/article/20161025/CANADA/161029908/volkswagen-diesel-owners-in-canada-await-compensation-as-u.s.-deal

Mena, S., Rintamäki, J., Fleming, P., & Spicer, A. (2016). On the forgetting of corporate irresponsibility. *Academy of Management Review*, *41*(4), 720–738.

Meza, S. (2017, November 11). New Delhi air pollution causes united airlines flight cancellations. *Newsweek.* Retrieved from http://www.newsweek.com/united-cancel-flights-delhi-air-pollution-708961

Mishina, Y., Block, E. S., & Mannor, M. J. (2012). The path dependence of organizational reputation: How social judgment influences assessments of capability and character. *Strategic Management Journal*, *33*(5), 459–477.

Mortimore, A. (2016, September 5). Why the ACCC is unlikely to secure compensation for VW customers. *Smart Company.* Retrieved from https://www.smartcompany.com.au/business-advice/legal/accc-unlikely-secure-compensation-VW-customers/

Muller, A., & Kräussl, R. (2011). Doing good deeds in times of need: A strategic perspective on corporate disaster donations. *Strategic Management Journal*, *32*(9), 911–929.

Munoz, R. (2016, December 27). VW wins 9 out 10 court cases in Spain over emissions claims. *El País.* Retrieved from https://elpais.com/elpais/2016/12/26/inenglish/1482742041_942004.html

Nam, I. (2016, August 2). VW faces South Korea sales ban. *The Wall Street Journal.* Retrieved from https://www.wsj.com/articles/volkswagen-faces-south-korean-ban-on-vehicle-sales-1470105191

NDTV. (2016, December 7). South Korea fines Volkswagen $32 million. *Agence France-Presse.* Retrieved from https://www.ndtv.com/world-news/south-korea-fines-volkswagen-32-million-for-false-advertising-1635126

Palacios, J. (2016, July 12). Judge pulls parent VW into Spanish 'dieselgate' inquiry. *Wards Auto.* Retrieved from http://wardsauto.com/engines/judge-pulls-parent-vw-spanish-dieselgate-inquiry

Palermo, N. (2014, January 14). Buying a car: How millennials do it differently. *Auto Trader.* Retrieved from https://www.autotrader.com/car-news/buying-a-car-how-millennials-do-it-differently-218419

Petroff, A. (2018, April 12). Volkswagen names new CEO in sudden shift. *CNN.* Retrieved from http://money.cnn.com/2018/04/12/investing/volkswagen-new-ceo-management/index.html

Pleskot, K. (2016, September 21). VW slapped with 1,400 investor lawsuits in Germany. *Mobile Trend.* Retrieved from http://www.motortrend.com/news/vw-slapped-1400-investor-lawsuits-germany/

Prakash, A., Dolšak, N., Bernauer, T., & McGrath, L. (2017, November 11). Delhi is blanketed with toxic smog: This is why. *The Washington Post.* Retrieved from https://www.washingtonpost.com/news/monkey-cage/wp/2017/11/11/delhis-been-hit-with-toxic-smog-why-its-political/

Raj, A. (2015, December 2). VW to recall 323,000 cars in India. *Live Mint.* Retrieved from http://www.livemint.com/Industry/OtJNzpgTnLMERoJzEpcJzI/VW-to-recall-323-lakh-vehicles-in-india.html

Ramey, J. (2016, July 20). VW will slowly back away from diesels. *Auto Week.* Retrieved from http://autoweek.com/article/vw-diesel-scandal/vw-will-slowly-back-away-diesels

Reuters. (2016, September 5). *EU finds that VW broke consumer laws in 20 countries.* Retrieved from https://www.reuters.com/article/VW-emissions-eu/eu-finds-VW-broke-consumer-laws-in-20-countries-die-welt-idUSL8N1BG0TF

Reuters. (2018, January 14). *VW brand car sales hit record 6.23 million in 2017.* Retrieved from https://www.reuters.com/article/us-autoshow-detroit-VW-vehiclere/VW-brand-car-sales-hit-record-6-23-million-in-2017-idUSKBN1F30WT

Revkin, A. C. (2016, January 25). With imposed transparency and concerned millennials, a boom in corporate responsibility. *The New York Times.* Retrieved from https://dotearth.blogs.nytimes.com/2016/01/25/with-imposed-transparency-and-concerned-millennials-a-boom-in-corporate-responsibility/

Ridley, K., & Sterling, T. (2017, June 13). Dutch, English drivers team up to sue VW over 'dieselgate'. *Reuters.* Retrieved from https://uk.reuters.com/article/us-volkswagen-emissions-claims/dutch-english-drivers-team-up-to-sue-vw-over-dieselgate-idUKKBN1940NL

Rust, S. (2016, September 19). Blackrock joins legal action against Volkswagen over emissions scandal. *IPE.* Retrieved from https://www.ipe.com/news/asset-managers/blackrock-joins-legal-action-against-volkswagen-over-emissions-scandal/10015181.article

Sagan, A. (2017, April 27). Volkswagen emissions lawsuit in Canada reaches $2.1b settlement. *The Star.* Retrieved from https://www.thestar.com/business/2017/04/27/volkswagen-emissions-lawsuit-in-canada-reaches-21b-settlement.html

Seo, Y. (2017, June 7). Court rules in Audi Volkswagen's favor in emissions case. *The Hankyoreh.* Retrieved from http://english.hani.co.kr/arti/english_edition/e_business/797869.html

Serafino, J. (2018, March 1). New guidelines redefine birth years for millennials, gen-x, and 'post-millennials'. *Mental Floss.* Retrieved from http://mentalfloss.com/article/533632/new-guidelines-redefine-birth-years-millennials-gen-x-and-post-millennials

Shannon, O. (2017, January 10). Irish owners in Volkswagen action. *Shannons.* Retrieved from http://www.shannons.ie/irish-owners-in-volkswagen-action/

Shrivastava, P., Mitroff, I. I., Miller, D., & Miclani, A. (1988). Understanding industrial crises. *Journal of Management Studies*, *25*(4), 285–303.

Siano, A., Vollero, A., Conte, F., & Amabile, S. (2017). "More than words": Expanding the taxonomy of greenwashing after the Volkswagen scandal. *Journal of Business Research*, *71*, 27–37.

Sinharay, R., Gong, J., Barratt, B., Ohman-Strickland, P., Ernst, S., Kelly, F. J., … Chung, K. F. (2018). Respiratory and cardiovascular responses to walking down a traffic-polluted road compared with walking in a traffic-free area in participants aged 60 years and older with chronic lung or heart disease and age-matched healthy controls: A randomised, crossover study. *The Lancet*, *391* (10118), 339–349.

Swissinfo.ch. (2017, September 11). Switzerland class action lawsuit. *Swiss Info.* Retrieved from https://www.swissinfo.ch/eng/business/diesel-scandal_swiss-take-part-in-volkswagen-class-action-suit/43510168

Tabuchi, H., Ewing, J., & Apuzzo, M. (2017, January 3). Six Volkswagen executives charged as company pleads guilty in emissions case. *The New York Times.* Retrieved from https://www.nytimes.com/2017/01/11/business/volkswagen-diesel-vw-settlement-charges-criminal.html

Taylor, V. (1989). Social movement continuity: The women's movement in abeyance. *American Sociological Review*, *54*(5), 761–775.

Ulmer, R. R., & Sellnow, T. L. (2002). Crisis management and the discourse of renewal: Understanding the potential for positive outcomes of crisis. *Public Relations Review*, *28*(4), 361–365.

United States Department of Justice. (2017, January 11). Volkswagen pleads guilty. *Press Release.* Retrieved from https://www.justice.gov/opa/pr/volkswagen-ag-agrees-plead-guilty-and-pay-43-billion-criminal-and-civil-penalties-six

Volkswagen. (2015). *The emissions issue: Annual Report 2015.* Retrieved from http://annualreport2015.volkswagenag.com/group-management-report/the-emissions-issue.html

Watson, B. (2016, August 20). The troubling evolution of corporate greenwashing. *The Guardian.* Retrieved from https://www.theguardian.com/sustainable-business/2016/aug/20/greenwashing-environmentalism-lies-companies

WeClaim.com. (n.d.). *Italy fines Volkswagen for cheating emissions control systems.* Retrieved from https://www.weclaim.com/en-GB/actions/volkswagen-group-volkswagen/volkswagen-held-liable-of-unfair-commercial-practice-by-italian-antitrust-authority

Winton, N. (2017, September 29). Volkswagen shocks investors with extra $3 billion dieselgate hit. *Forbes.* Retrieved from https://www.forbes.com/sites/neilwinton/2017/09/29/volkswagen-shocks-investors-with-extra-3-billion-dieselgate-hit/

Yu, F. (2016, September 11). VW pivots to China as emission scandal cools global outlook. *The Epoch Times.* Retrieved from https://www.theepochtimes.com/vw-pivots-to-china-as-emissions-scandal-cools-global-outlook_2153450.html

Zavyalova, A., Pfarrer, M. D., Reger, R. K., & Shapiro, D. L. (2012). Managing the message: The effects of firm actions and industry spillovers on media coverage following wrongdoing. *Academy of Management Journal*, *55*(5), 1079–1101.

Zhang, B. (2016, October 17). One country has kept Volkswagen's global sales from cratering after its emissions scandal. *Business Insider.* Retrieved from http://www.businessinsider.com/volkswagen-sales-increased-after-emissions-cheating-scandal-china-2016-10

## AUTHOR BIOGRAPHIES

**JAE C. JUNG** is an associate professor of strategy and international business at the Henry W. Bloch School of Management, University of Missouri-Kansas City. His research and teaching interests are centered on corporate social responsibility and joint ventures/alliances in international business. Dr. Jung uses diverse methods in his research, such as case studies, interviews, and archival data analysis, and his regional specialties include Asia (China, Japan, and Korea) and North America. He received his doctoral degree in strategy and international business from Ivey Business School, University of Western Ontario, Canada. He can be reached at jungjc@umkc.edu.

**ELIZABETH SHARON** is the partnership coordinator for Heart to Heart International, a humanitarian nonprofit organization based in Lenexa, Kansas, where she focuses on community development and global health. Ms. Sharon is also a student in the master of public administration program at the Henry W. Bloch School of Management, University of Missouri-Kansas City. She can be reached at eszy4@mail.umkc.edu.

**How to cite this article:** Jung JC, Sharon E. The Volkswagen emissions scandal and its aftermath. *GBOE.* 2019;38(4):6–15. https://doi.org/10.1002/joe.21930