Concept Paper

Creating Sustainable Values by Bundling: The Prospect of Climate Change Solutions for the Automobile Industry

Frank Lorne * and Mostafa Purmehdi

Posted Date: 17 March 2025

doi: 10.20944/preprints202503.1140.v1

Keywords: Pigouvian tax; augmented product; CO_2 accounting; voluntary payments

 doi:10.20944/preprints202503.1140.v1

Article

Creating Sustainable Values by Bundling: The Prospect of Climate Change Solutions for the Automobile Industry

Frank Lorne * and Mostafa Purmehdi

New York Institute of Technology—Vancouver, Vancouver, BC V5M 4X5, Canada

* Correspondence: florne@nyit.edu

Abstract: This paper suggests a method of private internalization of externalities via the bundling of new fossil fuel automobile purchases. The bundle encourages and pursues a new quality of life entailing planting trees, a healthy body and mind, and efficient use of new energy usages for the joining of a grassroots environmental club. The work was motivated by the classic article of Ronald Coase, the Problem of Social Cost (1960) in Economics. Marketing plays an important role in this internalization endeavor. Indeed, modern behavioral economics and psychology help inform how creative bundles of a new automobile purchase with sustainable lifestyle elements can effectively formulate some promotional propositions. The pragmatism we are demonstrating in this piece is to show the linkage between theories and marketable directions.

Keywords: Pigouvian tax; augmented product; CO_2 accounting; voluntary payments

1. Introduction

Nobel Prize economist Ronald Coase (1910-2013) had long been doubtful about governments being the only solution to deal with factories emitting smoke as a social problem. In his influential 1960 article, the Problem of Social Cost, he questioned the then-popular notion of the Pigouvian tax as a method to achieve optimal production of factories that have spillover effects. Yet, in an age where competition is often characterized by strategic aggregation of businesses, rather than decisions regarding optimal quantity of production (Lorne & Razzaque, 2023), sustainable values can be created by strategically bundling products or services together. Take climate change solutions, for example; the academic as well as regulatory underpinning has been that climate change was caused by GHG emissions due to humans and businesses overusing natural resources in their self-interest, thus causing externalities on others. The remedies to cope with climate change have concentrated in the direction of regulation and conservation, ignoring the possibilities that creative private mechanisms in the markets can sometimes be designed to void resorting to government regulations and activists' "all-or-nothing" protests to counter "corporate greed". This paper examines the notion of bundling ICE cars with voluntary joining of an environmental club thereby creating sustainability values with new car purchases in the automobile industry.

Concerns and awareness for the environment have drawn extensive attention in the marketing literature (Li, & Kallas, 2021; Li, Li, & Gan, 2022; Öztürk, Öztürk, & Kızılkan, 2024). Ray and Nayak (2023) documented the many studies of sustainable luxury fashion pointing out businesses often adopt innovative marketing strategies to accommodate sustainability objectives in their business models. Thus, profit-making is not necessarily incompatible with social and environmental concerns. Indeed, the vision for sustainability is to achieve a 3-way win-win-win (Li et.al., 2021; Terra dos Santos et. al., 2023). The creation of sustainable values is basic to the proposition of Lorne & Dilling (2012) in that a cross-over of traditional boundaries of firms by bundling and creating new market offerings could very well be aligned with the motive of Corporate Social Responsibility (CSR).

 doi:10.20944/preprints202503.1140.v1

Lorne & Dilling (2012) discussed a concept of "value currency" in building relationships for what is also known among sustainability scholars as "relational contracts" i.e., informal agreements sustained by the prospects of the future (Gibbon & Henderson, 2012). The authors have examined how organizations can effectively integrate sustainability into their operations by engaging stakeholders, aligning incentives, and establishing a common "value currency". Involving stakeholders in decision-making processes and ensuring that incentives are aligned with sustainable outcomes enables organizations to create shared value that benefits both the company and its stakeholders. The concept of a "value currency" is introduced to quantify and communicate the benefits of sustainability initiatives, facilitating a common understanding among diverse stakeholders. Currently and regrettably, there is no value currency with an environmental angle among new purchases of fossil fuel cars anywhere in the world. The industry is either regulated by the government, or activists would look at fossil fuel car drivers with distaste or even disgusted by their purchases.

The focus of this paper continues with efforts started by Lai et al. (2023) by examining a method of privatizing the Pigouvian tax (the traditional method of regulation) for fossil fuel vehicles for the automobile industry. The paper suggested the concept of a green certificate as an element in the "augmented product" that is part of a car purchase (Kotler & Levy, 1969; Lai et al., 2023), requiring a smart marketing angle for a creative bundle for those consumers who might perceive CO_2 emissions as an unavoidable add-on, but would rather see it being managed responsibly. The title of the 2023 paper says it all: Walk and Chew Gum. In other words, combating climate change need not be an "all-or-nothing" solution. The discussion in that paper implicitly contrasts government-imposed taxes with voluntary market-based solutions. Furthermore, it showed how the green certificates can be priced in monetary terms as well as in terms of the quantity of trees. Thus, the certificates are privileges to plant trees. This paper emphasizes the creative aspect of the problem in that the process of bundling will not come automatically unless someone is actively promoting it; just as fashion sustainable goods will not be bought unless brand names are willing to stand behind them and push for it to happen.

The two authors from the earlier article of Lai et. al. (2023) is extending the paper here further by examining the possibility of not only bundling the planting of trees but possibly a higher quality lifestyle. We will draw upon studies in sustainable luxury fashion and from Behavioral Economics & Commitment Psychology. Tangential to this element, the paper will also raise the question to what extent is the incentive of flashing social status powerful enough to lend itself to a general lifestyle question and consumer choice?

The rest of the paper is structured as follows: Section I describes how green certificates are priced, relating that to carbon accounting generally. Its plausibility as a business proposition is further examined by numerical examples, assuming that consumers do have an inclination to voluntarily tip for augmented products when purchases are made. Section II describes the bundled features of quality of life with the purchase of new cars, reframing it as a package decision including a currency value for the environment. Section III describes how theories and practices of nudging can help build the creative value of the bundle for the automobile purchase of new cars.

2. Section I: "Tipping" of the Environment

The habit of Tipping, in retail activities, especially In the Western world, is a customer choice to reflect upon. How has the practice come about in the first place? In almost all instances, voluntary tipping is a show of appreciation for services associated with physical items bought. The service associated with the physical items can be included as a price + tip bundle. When people buy a car, are they just paying for fuel efficiency, style, and comfort? Aren't they also purchasing a hidden package of carbon emissions? This package, like associated services in service-type of bundling, has a cost for the environment. Would a mechanism developed to handle that cost be appealing to consumers, who would generally be willing to tip, as a voluntary offer? Just in this case, the tipping is for the environment.

 doi:10.20944/preprints202503.1140.v1

Let's first review how green certificates can provide a transparent way to price the lifetime emissions of CO_2 for new fossil fuel car customers. The numbers presented in the table below (Green Fee and Acreage Tree to be Planted by Vehicle Type adapted from Lai et al. 2023) are engineering calculations based on data from the US Department of Energy's fuel economy web services (Lai et al. 2023). These figures serve as benchmarks, meaning they provide a reliable reference point for assessing the carbon offset needs of different vehicle types. It is important to note that while these calculations are rigorous, they do not include marketing costs. In actual implementation, additional costs such as administration, outreach, and consumer communication would need to be factored in. However, from a managerial accounting perspective, these numbers are critical as they provide a first approximation of the transparency needed for the methodology behind CO_2 offset pricing.

The method uses a CO_2/mile rating (or emissions factor) stipulated by the Environmental Protection Agency (EPA) in the USA, which is published data the agency collected based on its engineering studies. The calculation is specific to brand, model and type, based on new cars from manufacturers around the world for sale in the US market. The table above shows the average of all brands, models and types categorized into vehicle types. The MPG method of calculation depicts how one can start with the statistics of CO_2 emitted per mile for different types of cars and arrive at the green fees per car. The calculation is, first, in terms of a nominal fee for the social cost of CO_2, using the official social cost of CO_2 that government public projects used in that year; second, and more importantly, when such monetary estimates are translated in terms of the cost of tree planting, based on forestry research referenced in the 2023 article, the required acres of trees to be planted in order to offset the emitted CO_2 were calculated.

The application of engineering calculation in Table 1 is critical in explaining the positioning of this approach, in line with the concept of Material Accounting (or CO_2 accounting). Unlike vague sustainability claims, material accounting ensures that every ton of CO_2 emitted is matched with a tangible offset solution—such as planting trees. By using precise numbers, one could avoid arbitrary estimates and create a structured framework for tracking emissions and offsets. Material accounting aligns with scientific and financial principles, ensuring that: (a) Emission values are quantifiable and not just theoretical assumptions; (b) Offsets are clearly measured in terms of acreage needed to neutralize emissions; (c) Long-term sustainability is considered, as tree planting contributes to a real and lasting reduction in atmospheric CO_2. This methodology is also in line with material disclosure advocated by the SEC in the USA (Lorne & Li, 2024). CO_2 accounting, however, varies depending on the industry sector and the technology being evaluated, which can be a much broader area of inquiry dealing with carbon credit exchanges. Here, the mechanism described is specific to fossil fuel cars and primarily focused on planting trees, as both technologies are well-established having been practiced for many years. The estimates are built on prior knowledge and studies done in the field as well as by the government over the years. This type of setting is most suitable for implementing what is known as the Coasean framework of environmental exchanges articulated by Ronald Coase's classic article on the problem of social costs: or in more modern terminology, internalizing "externalities".

Table 1. Green Fee and Acreage Tree to be Planted by Vehicle Type adapted from Lai et al. 2023.

Vehicle Type	MPG	Real-World CO_2 (grams/mi)	Acres of Trees per Car	Green Fee per Car ($)
All	25.38	348.77	488.28	2.44
All Truck	22.37	397.47	556.46	2.78
All Car	30.66	286.66	401.32	2.01
Truck SUV	23.75	373.89	523.45	2.62
Sedan/Wagon	31.73	276.71	387.39	1.94
Pickup	19.19	464.56	650.38	3.25

 doi:10.20944/preprints202503.1140.v1

Car SUV	28.38	310.32	434.45	2.17
Minivan/Van	23.35	379.32	531.05	2.66

The approach of green certificates offers a pragmatic and structured way for consumers, businesses, and policymakers to engage in meaningful carbon reduction efforts while maintaining financial and environmental integrity. The numbers in the reported table provide a precise and benchmarked approach to managing vehicle emissions through CO_2 offsets. While marketing and administrative costs are not included, these calculations serve as a strong foundation for implementing real-world carbon accountability measures. By adhering to Material Accounting principles, this methodology strives for transparency and credibility—fundamentally different from the greenwashing tactics seen in some corporate sustainability programs.

Realistically, the implementation of green fees will entail significant marketing costs. Yet, if Coase's insight is correct, i.e., the concept of externalities was "neither here nor there", created values of a bundled product have to be treated with an entirely different lens, as service-bundled products. In North America, the cultural norm for tipping is conservatively at 15%. Taking that as a ceiling, the engineering calculation in the table above, therefore, can serve as a lower bound of Coasean marketing (not bargaining) against a 15% cultural norm. For example, take an average Internal Combustion Engine (ICE) sedan in the USA that has a manufactured suggested price of US 50,000; the engineering calculation in Table 1 shows a green fee of US $387.39. If we consider the purchase of a "sinless" car (to the environment) is worth a customary tip of 15%, an upper ceiling of green fee could be around $7500.

The exact determination of the green fee, however, is not determined through bargaining. A competitive market of selling green certificates will bring down the actual green fees to much lower than $7500, but inclusive of all the marketing and administrative costs of running a tree-planting NGO or partnering with a network of such NGOs. Moreover, point-of-sale percentages given to the point-of-sale salesmen at the auto dealer showrooms can also be competitively determined. Assuming the administrative costs of green certificates are roughly equal to the cost associated with tree planting, set at, let's say, US $387.39 × 2=US $774.78, with a 15% service tip going to the salesman, the green certificate fee of a fossil fuel sedan with a manufactured suggested price of US $50,000 will be priced at $890.99. This is far below the upper 15%-benchmark of $7500; and indeed, equals a very modest tipping percentage of around 2%. Where will the difference go? Economists call that difference the consumer surplus, which is what free market competition will bring. We now turn to the real marketing question: Can a business convince the buyers that they are getting a huge consumer surplus by buying green certificates bundle?

3. Section II: Reframing the Purchase of a Car: Buying a Product, a Lifestyle, or Both?

Linking green certificates to specific car models and production years offers a decentralized way to privatize the Pigouvian tax—not through government mandates, but through innovative marketing strategies. Green certificates serve two major purposes:

1. *Promoting Social Responsibility:* Encouraging participation by: (a) Offering social status incentives (stickers or other visible signs of commitment); (2) Raising awareness of the real cost of fossil fuel cars versus greener alternatives; (3) Supporting green dealerships that prioritize sustainability.
2. *Empowering Consumers:* Voluntary shifting of the responsibility for carbon offset payments from manufacturers to buyers, giving individuals a chance to actively contribute to climate solutions.

Green certificates can be integrated into the "Augmented Product" concept, where additional features and benefits (warranty, after-sales service, private club memberships, etc.) enhance the core product. By including carbon offsets in the bundle, automakers and dealers can create a new selling point that aligns with growing environmental awareness among consumers.

 doi:10.20944/preprints202503.1140.v1

The augmented product feature can be implemented via a "New Car Buyer Social Club" that aims to promote a higher quality of life in the following lifestyle dimensions:

a. *Carbon Offsetting Through Tree Planting:* Purchasing a green certificate alongside a new vehicle ensures that an equivalent amount of CO_2 emitted during the car's lifetime is captured through afforestation efforts. Trees serve as natural carbon sinks, absorbing CO_2 and promoting biodiversity while improving air quality. Displaying membership in such programs not only fosters individual accountability but also promotes a culture of shared responsibility towards climate action. These initiatives exemplify how sustainable consumer choices can directly contribute to environmental conservation. Buying a green certificate with the purchase of your new car, indirectly plants trees that will capture your car's lifetime emission of CO2. Displaying your membership proudly shows you've participated in efforts of Driving-to-Zero.
b. *The Role of a Healthy Lifestyle in Sustainable Living:* Sustainability should be understood as a holistic concept that includes both planetary and personal well-being. From a marketing perspective, once we recognize that Sustainability extends beyond environmental conservation to encompass personal well-being (incentive for sustainability), driving your ideal car should not come at the cost of physical exhaustion (i.e., excessive driving). Customers who see a mutual benefit with the environment will respect it more. Thus, integrating lifestyle with sustainable transportation practices strengthens an individual's capacity to engage in environmental action effectively.
c. *The New Energy Ecosystem and Industrial Transformation:* When you think about it, everything we do is related to how we use energy. Energy consumption patterns influence every aspect of modern life, from daily transportation choices to large-scale industrial operations. Technological advancements in clean energy, electric vehicles, and smart grids are at the forefront of this transformation. Participating in this evolving energy ecosystem is not merely a choice but a necessity for remaining relevant in the rapidly changing economic and environmental landscape.

This idea of integrating sustainability with consumer products has previously been adopted in the marketing of fashion products. Fashion promotes continuous change and consumption, which is problematic in achieving sustainability, net zero, and various other voluntary carbon credit schemes (akin to cars emitting CO_2 every time they are on the streets). That similarity drawn, addressing the bundling problem purely from a fashion motivation can fall into the trap that they do not sufficiently induce a commitment on the part of the buyers. Also, sustainable fashion aims to signal more than substance, addressing this by artificially making fashion products more socially and environmentally responsible. The innovative marketing of sustainable fashion, of course, can ensure that more people consume sustainable fashion. However, is fashion a suitable foundation to build an attitude or true awareness of climate change needs? Over the last three decades, sustainable fashion research has made considerable progress, evident from the number of papers published in leading journals (Ray and Nayak, 2023), but bundling of green certificates could go beyond what's achievable by fashion.

Are Voluntary Green Certificates Viable Marketable Products?

Voluntary payments are an integral part of economic and social systems, manifesting in various forms such as tipping at a restaurant, church donations, and other charitable contributions. The concept is deeply rooted in economic theory through the principle of willingness to pay. These payments are often influenced by societal norms, where individuals feel compelled to contribute even when there is no legal obligation. This point has been stated in the earlier section. Ultimately, this is a cultural phenomenon; the product will not sell by itself. Nevertheless, various bundling has happened in different places and different times everywhere in the world. Considering the habit of consumer recycling, it takes a lot of effort to adopt that habit. Yet, it is now practiced widely in a voluntary way.

 doi:10.20944/preprints202503.1140.v1

From an economic perspective, voluntary payments, whether for green certificates, church activities, or cultural traditions, offer a viable and adaptable mechanism for addressing complex economic and social challenges that fall outside the realm of explicit government regulations. The flexibility of these payments—spanning from monetary transactions to non-financial contributions—demonstrates their potential in creating sustainable business models and fostering community engagement. Economists like to call this shadow pricing, as it provides a valuable tool for understanding voluntary payments across different domains. Shadow pricing captures the implicit value people assign to non-monetary contributions, such as time, effort, and social capital. (Bertrand 1979)

Lai et al. (2023) explored how shadow pricing can become explicit pricing as well. The intersection of economics, marketing, and cultural behavior highlights the potential for voluntary payments to drive consumer engagement in various industries, including sustainability and education. One promising application of voluntary payments is in environmental responsibility, particularly in the context of carbon offset programs. Such demand-side initiatives differ from manufacturer-driven supply-side solutions, as they empower individual buyers to offset their vehicles' emissions. The question remains: how much are consumers willing to pay for such a bundled option? Existing voluntary payment behaviors suggest that structured incentives, transparency, and social norms can significantly influence adoption of voluntary payments. Thus, we argue that the feasibility of this approach rests on consumer perception—whether buyers view green certificates as a meaningful contribution to their sustainable lifestyle. Otherwise, the certificates are simply unnecessary costs!

Green Certificates: Is It Greenwashing?

Greenwashing is a common concern with carbon offset initiatives—a practice where companies make misleading environmental claims without substantial action. Greenwashing often involves vague promises, exaggerated sustainability efforts, or symbolic gestures with little real impact.

When is it Greenwashing? When brands bundle their core products with "sustainability elements" to appear greener without addressing the real issue—overproduction, fast fashion waste, and unsustainable products. Examples of greenwashing tactics include emphasizing sustainable packaging or "carbon-neutral" shipping but still mass-producing synthetic, non-biodegradable clothing in the fashion industry, or offering free repairs for fast fashion pieces that aren't designed to last. Regarding the CO_2 offset, there are examples where some brands promise to plant a tree or donate to environmental causes with every purchase, but they don't change their core practices. H&M's "Conscious Collection" initiative, for example, only included a small line of eligible "sustainable" items while much of the business follows the fast fashion model.

Bundling sustainability-driven elements into car purchase decisions may move beyond greenwashing into genuine impact at the individual action level, if they change consumer behavior and habit changes:

1. Create real behavior change (Self-Perception Theory, Commitment & Consistency Theory)
2. Integrate sustainability into consumer identity (Extended Self Theory)
3. Shape long-term sustainable habits (Practice Theory, Nudge Theory)

All in all, the approach of *Walk and Chew Gum* carrying over to this paper is different: (a) It is not just hand-waving; instead, it relies on quantifiable, benchmarked data that ties emissions directly to offset costs; (b) The methodology is rooted in material accounting, ensuring that offsets are meaningful and proportionate to emissions; (c) Transparency in cost breakdowns and benchmarks makes it clear what is required to neutralize a vehicle's CO_2 impact, rather than just making broad, unverifiable claims.

 doi:10.20944/preprints202503.1140.v1

4. Section III: Behavioral and Psychological Considerations That Can Nudge Bundling

In this section, we will review some theories and studies from psychology, marketing and branding bodies of literature, that can further explain how to nudge the bundling of new car purchases with new quality of life. Bundling is a core marketing tactic. When seemingly unrelated products are bundled together, it's often a strategic decision driven by marketing, consumer psychology, or logistics: for cross-promotion & brand awareness, to encourage impulse purchases, or sometimes theme-based bundling such as items in a traveler's survival kit or a date night box. Richard Thaler at University of Chicago and his colleagues have started a series of studies on behavioral economics describing how habits can form over time (Thaler, 2008). Thus, there is a theoretical basis to support how a creative bundle can become sustainable in the sense of consumer acceptance of it as a point-of-sale matter or as themes. Likewise, Daniel Kahneman, a psychologist, won the 2002 Nobel Prize in Economic Sciences for his work on integrating psychology into economics. His research focused on how people make decisions, especially when there's uncertainty. The prize was shared with Thaler. In this section, we demonstrate how these theories can lead to marketing pitches for the bunding idea for the automobile industry:

1. Self-Perception Theory (Bem et al., 1972)—Psychology

What It Says: Self-Perception Theory, proposed by psychologist Daryl Bem and others in 1972, suggests that people often infer their own attitudes and beliefs by observing their own behavior, particularly when their internal cues about their feelings are unclear, essentially acting like an outside observer trying to understand their own actions and motivations; meaning people "learn" about themselves by watching what they do, rather than the other way around.

How It Applies: When brands bundle a product with sustainability-related elements (e.g., a green certificate), customers engage in sustainable behaviors. Over time, they internalize these behaviors as part of their identity (e.g., "I feel ownership or contribution in the offsetting efforts of the pollution bundle, so I must care about sustainability (identity))". The joining of an environmental club reinforces this identity with physical symbols like badges for attending social gatherings and meetings that enhance the goal of achieving sustainability. (Belk, 1988)

Example in other industries: Patagonia's Worn Wear program encourages customers to repair and reuse clothing, leading them to perceive themselves as sustainable consumers, reinforcing long-term eco-friendly behaviors. (Batten 2020; Khalid 2023). In other words, buying a Patagonia wear is packaged with a habit of repair and reuse rather than a wasteful habit of buying something and only wearing it once or not at all. It's a self-declaration of unpretentiousness.

Marketing Pitch: "It's Not Just a Car, it's a Lifestyle: Green Certificates Reshape Ownership"

2. Commitment and Consistency (Cialdini, 1984)—Behavioral Economics

What It Says: When people make a small commitment, they are more likely to remain consistent with that behavior. E.g., when a person joins a health club, the person is likely to exercise more because of the initial commitment to join the club.

How It Applies: If a consumer initially engages in sustainability through a car's bundled offering (e.g., receiving a green certificate to acknowledge their contribution), they are more likely to maintain sustainable behavior across future actions. In this respect, the one-time purchase model—aligning with loss aversion and commitment theory--- getting buyers to pay upfront rather than relying on periodic offset purchases may be more effective, like a tax. The carbon credit funds generated by green certificates could be a more significant declaration of environmental commitment beyond greenwashing.

Marketing Pitch: "Fueling the Future: Turning Car Purchases into an Eco-Conscious Lifestyle Decision"

 doi:10.20944/preprints202503.1140.v1

3. The Extended Self (Belk, 1989)—Consumer Psychology

What It Says: People see possessions as extensions of themselves and their identity.

How It Applies: If a brand bundles sustainable accessories (like a shoe-cleaning kit with Veja sneakers), it signals that taking care of the product is a natural part of ownership. This enhances attachment and prolongs product lifespan, leading to actual sustainable behavior rather than just signaling. Joining an environment club with green certificate as an entry commitment will allow individuals to extend themselves to other members of the club, as the individuals will see how their purchases could be extended to other aspects of their lives such as being more nature-conscious, healthier, and a wiser user of energy.

Marketing Pitch: "A Car is More Than Transportation—It's a Statement on one's (OR your) Quality of Life"

4. Practice Theory (Shove* et al., *2012)—Sociology

What It Says: People's behaviors are shaped by practices (routines, materials, meanings) rather than just attitudes.

How It Applies: Bundling sustainable reminders (signals like badges or alike) with a product helps embed sustainability into everyday lifestyle, making sustainable consumption a part of it.

Example in other industries of engaging customers, e.g., recycling in Fashion: MUD Jeans' lease model integrates circular economy principles into a normalized fashion consumption routine, rather than expecting consumers to make drastic behavioral shifts. By joining an environment club, individuals will get reinforcement from their peers in practicing a different lifestyle.

Marketing Pitch: "Cars, Carbon, and Conscious Choices: The New Standard for Quality Living"

5. Nudge Theory (Thaler & Sunstein, 2008)—Behavioral Economics

Last but not least, people can be guided toward better choices through subtle environmental cues rather than forced regulations. If auto dealerships include a sustainability bundle with the purchase of a car, they nudge consumers toward sustainable choices without coercion. Existing examples in the car market are car *Trade-In* programs at auto dealerships, which make it easier for customers to replace their old cars with new ones. Unlike fashion clothes, most people would not own more than one car. Likewise, in making a big item decision such as a new car purchase, the buyers' mindsets are opened to different new lifestyle change decisions also. This can be a decision moment where a subtle green wave can be brought into the automobile industry.

Marketing Pitch: "From Roads to Responsibility: Nudging Car Buyers Towards a Greener Lifestyle"

5. Conclusions

The mechanism outlined in this paper extend beyond merely achieving zero emissions; it presents a broader framework for creating value as a means of addressing environmental challenges. The concept of leveraging value creation for conservation purposes is already widespread. For instance, endangered species such as the burrowing owl in North America are being integrated into commercial and conservation initiatives. Similarly, in Africa, Sitatunga and other species inspire consumer products that support wildlife preservation efforts. Around the world, institutions have adopted diverse environmental programs, such as "Adopt a Tiger" or "Adopt an Elephant", demonstrating how creative solutions can foster a balance between human activity and nature.

The approach presented in this paper is one of many aiming to restore harmony between environmental conservation and economic development. In marketing such value creation, institutions must identify fertile ground—opportunities where their initiatives can take root and thrive. Environmental advocacy has successfully engaged people by focusing on birds, plants, animals, and other natural elements, effectively turning them into symbols of sustainability.

 doi:10.20944/preprints202503.1140.v1

Building on this idea, the mechanism proposed here recognizes the global market for fossil-fuel cars as a potential avenue for environmental action. Since it appears converting the whole purchasing population of cars to electric or alternative renewable-energy-driven cars is not a viable option (There are features in fossil-fuel cars that remain to have a large number of buyers), with millions of new cars purchased each year, this vast consumer base provides a significant opportunity to integrate sustainability into purchasing decisions, transforming car ownership into an active contribution to climate solutions as part of the consumer's lifestyle. By aligning conservation efforts with a significant big purchase decision, such as a new automobile purchase, the approach may foster engagement in environmental responsibility among all car buyers.

References

1. Batten (2020). Patagonia's Worn Wear Collection Is Saving the Planet. Accessed 25 November 2020 at:https://www.themanual.com/outdoors/oatagonia-worn-wear-collection-recycled-recommerce/
2. Belk, R. W. (1989). Extended self and extending paradigmatic perspective. Journal of consumer research, 16(1), 129-132.
3. Bem, D., Christensen, M. J., Brayden, R. M., Dietrich, M. S., McLaghlin, F. J., Sherrod, K. B., Altemeier, W. A., ... & Nature, H. (1972). "Self-Perception Theory." In Advances in Experimental Social Psychology, ed. L. Berkowitz. New York: Academic Press.
4. Bertrand, T. J. (1979). Shadow pricing in distorted economies. The American Economic Review, 69(5), 902-914.
5. Cialdini, R. B. (1984). Influence: The new psychology of modern persuasion. Morrow.
6. Gibbons, R., & Henderson, R. (2012). Relational contracts and organizational capabilities. Organization science, 23(5), 1350-1364.
7. Khalid, A. (2023). Sustainable Marketing and its Impact on Society: A Study of Marketing Strategies and Opportunities Promoting Eco-Friendly Lifestyle. Available at SSRN 4570227.
8. Kotler, P., & Levy, S. J. (1969). Broadening the concept of marketing. Journal of marketing, 33(1), 10-15.
9. Lai, L. W., Lorne, F. T., Purmehdi, M., Grozdanic, K., Aldad, A., Joshua, T. G., ... & Lai, M. (2023). Walk and chew gum: A demand and supply illustration of macro and micro net-zero initiatives for the automobile industry. Sustainable Production and Consumption, 35, 421-430.
10. Li, X., Cheng, B., Hong, Q., & Xu, C. (2021). Can a Win–Win Situation of Economy and Environment Be Achieved in Cities by the Government's Environmental Regulations? Sustainability, 13(11), 5829. https://doi.org/10.3390/su13115829
11. Li, S., & Kallas, Z. (2021). Meta-analysis of consumers' willingness to pay for sustainable food products. Appetite, 163, 105239. https://doi.org/10.1016/j.appet.2021.105239
12. Li, Y., Li, J., & Gan, L. (2022). A Meta-Analysis of the Relationship between Environmental Regulations and Competitiveness and Conditions for Its Realization. International journal of environmental research and public health, 19(13), 7968. https://doi.org/10.3390/ijerph19137968
13. Lorne, F. T., & Dilling, P. (2012). Creating values for sustainability: Stakeholders engagement, incentive alignment, and value currency. Economics Research International, 2012(1), 142910.
14. Lorne, F. & Razzaque, A. (2023). The New Industrial Organization: Ecosystem Competition. International Journal of Innovation and Economic Development, 9(1), 7-17.
15. Öztürk, R., Öztürk, M., & Kızılkan, Z. (2024). Meta-Analysis of the Relationship Between Green Entrepreneurial Orientation and Sustainable Firm Performance. Sustainability, 16(24), 11224. https://doi.org/10.3390/su162411224
16. Ray, S., & Nayak, L. (2023). Marketing Sustainable Fashion: Trends and Future Directions. Sustainability, 15(7), 6202. https://doi.org/10.3390/su15076202
17. Shove, E. (2012). Putting practice into policy: reconfiguring questions of consumption and climate change. Contemporary Social Science, 9(4), 415–429. https://doi.org/10.1080/21582041.2012.692484
18. Thaler, R. H., & Sunstein, C. R. (2008). Nudge: The final edition. Yale University Press.

 doi:10.20944/preprints202503.1140.v1

19. Terra dos Santos, L. C., Frimaio, A., Giannetti, B. F., Agostinho, F., Liu, G., & Almeida, C. M. V. B. (2023). Integrating Environmental, Social, and Economic Dimensions to Monitor Sustainability in the G20 Countries. Sustainability, 15(8), 6502. https://doi.org/10.3390/su15086502