A roadmap for true pricing

Vision paper – consultation draft

June 2019

True Price™

About True Price

The mission of True Price is to realise sustainable products and services that are affordable to all by enabling consumers to see and voluntarily pay the true price of products they buy.

1. Introduction: if true costs are the problem, then true prices are the solution

1.1. True costs

The world has gone through an extraordinary phase of economic growth over the last decades. This has benefited many, including some of the world's poorest: since 1990, the number of people living in extreme poverty has dropped by almost 1.1 billion.[1] However, economic growth has also been a key driver behind some of today's largest societal problems. Production and consumption of our goods and services have led to so-called negative externalities such as the emission of greenhouse gases, declining biodiversity, and water pollution; occupational accidents and underpayment are also frequently seen in many sectors. All member states of the United Nations have agreed to solve many of these problems by 2030 through the Sustainable Development Goals. However, we are far from achieving them.[2]

The key issue often behind many of these problems is that those that contribute to them do not bear the costs of these problems. In other words, the costs of the negative externalities are not internalised. The costs of negative externalities are also referred to as external costs or, colloquially, true costs.

The social and environmental costs that arise during production are not paid by the manufacturer, the consumer or other buyers, but instead by individuals affected along the value chain (e.g., underpaid workers in offshore factories), taxpayers and future generations. For instance, emitting greenhouse gases is still more or less free of charge, but future generations will bear the external costs through the effects of climate change. Underpayment of workers may lower the purchasing price, but the true costs are borne by those workers in the value chain who must subsequently live in poverty.

1.2. True prices

If true costs are the problem, then true prices are the solution. The true price is the sum of the market price and the true costs. This provides a representation of the internal and external costs of the production of a product or service.

The true costs of a product are called the *true price gap* and includes all major external costs, such as contribution to climate change, water pollution and occupational accidents. All external costs are expressed in the same (monetary) unit. In that way, they can be compared to each other, as well as to conventional prices. A simplified example is given in Figure 1.

1.3. Three obstacles to internalisation: information, remediation and incentives

It is desirable that external costs are internalised. The process of internalisation entails the degree to which a public cost is a private cost. For example, the costs of one tonne of CO_2 emitted is estimated at €110.[3] When the European ETS trading system values one tonne of CO_2 at €27,50, 25% of the external cost is internalised. It is forecasted that the EU ETS price of CO_2 will increase, which will lead to more internalisation of the cost of CO_2 emissions. Internalisation can be the result of endogenous market incentives, such as consumer preferences for sustainable products, or exogenous government incentives such as taxation.

Three obstacles, however, prevent the internalisation of external costs: lack of

[1] World Bank (2019)
[2] United Nations Statistics Division (2017)
[3] Interagency Working Group on Social Cost of Carbon, United States Government (2013). Note that significantly higher and lower estimates are also regularly published.

transparency, lack of remediation and lack of incentives:

- First, internalisation is prevented by a lack of transparency, for internalisation requires the identification of external costs and information on where and how large these external costs are. Without this information, consumers, businesses and governments willing to internalise these costs cannot do so. The lack of transparency also entails asymmetric information, which in turn leads to a lower willingness among buyers to pay for costs that are internalised.
- Second, there is a lack of remediation. Currently, avoiding the external costs appears to be the only option, but such measures are often very costly or even impossible in the short run. Alternatively, external costs can be remediated, for instance by restoring all damage, or compensating affected people. In our current systems, this is done very rarely.
- Third, there is a lack of incentives. There are currently only few market or regulatory incentives that are sufficiently effective to persuade businesses, consumers or others to avoid or remediate external costs. Organisations that do make an effort are faced with higher costs than competitors: hence, there is no level playing field.

1.4. Three phases towards internalisation

True pricing can be implemented in three phases: providing transparency on the sustainability of products and services, enabling a market for remediation of the true costs, and creating a level playing field where incentives stimulate the transformation of production. These opportunities enable internalisation of the true costs, as organisations can pay for the external costs.

1. The first phase provides transparency on the external costs. Information on true prices leads to increased transparency on how sustainable a product is. Businesses can use this information to produce products and services at the lowest true price possible. This means lower carbon emissions, less water pollution, and fewer occupational accidents. When this such improvements can be credibly communicated, consumers can make a more informed choice of the products and services they buy, and organisations products and services they procure. Such choices lead to fewer external costs, as they serve as an inherent incentive for businesses and others to reduce their impact.
2. The second phase enables the creation of voluntary remediation markets. For instance, where the first phase can lead to lower emissions, zero net emissions may not be feasible. Fortunately, external costs can be remediated. In a remediation market, consumers, other buyers and businesses pay the value of the remaining external costs. These funds can then be used for remediation measures. In the case of greenhouse gas emissions, these measures can take the form of reforestation or direct air capture at a large scale.
3. The third phase creates a level playing field. This is where the entire economy is incentivised to transform to a more sustainable one, mainly through government measures. Here, the incentives are applied to all market players, creating a level playing field for sustainability. How many extra government incentives are needed, will depend on the strength of the endogenous market incentives created in phase 1 and 2.

1.5. Overview of this document

This document sets out True Price's vision for true pricing. Section 2 explains how true pricing can drive the transformation to a more sustainable economy. Section 3 shows how to assess the true price of a product or service.

Section 4 details why true pricing is an effective solution towards a more sustainable economy. If true pricing is to become widely practised, its implementation should satisfy three conditions: (1) it removes the barriers to internalisation, (2) it is feasible to implement, and 3) it is socially

acceptable; in other words, costs are fairly distributed.

Full implementation of true pricing is a long-term goal. Section 5 offers ways to start with true pricing in the short term. Section 6 outlines the subsequent steps towards its full development.

The true price (a hypothetical example)

Imagine a product that costs €5.00 in the shop. If you buy it, the price you pay is simply €5.00. But that is not the true price.

Assume that you know that to make the product, 10 kilograms of CO_2 has been emitted. In addition, 50 litres of water are polluted, and for every 30,000 products made, one occupational accident occurs. There are no other external costs.

Assume that you also know that the carbon emissions can be reversed through carbon capture and storage for € 0.10 per kilogram. Polluted water can be cleaned after discharge for € 0.01 per litre, and the sum of medical costs and the loss of well-being is € 15,000 per accident.

What is the true price of the product? This can now be calculated.

Market price				€5.00
True price gap: carbon emissions	10 kg	x	0.10 €/kg	€1.00
True price gap: water pollution	50 L	x	0.01 €/L	€0.50
True price gap: occupational accidents	1/30,000 acc	x	15,000 €/acc	€0.50
Total true price gap				€2.00
Total true price				€7.00

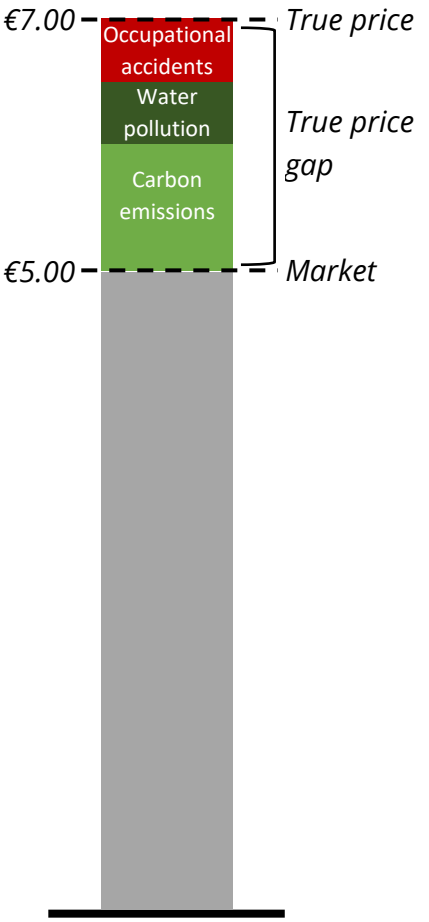
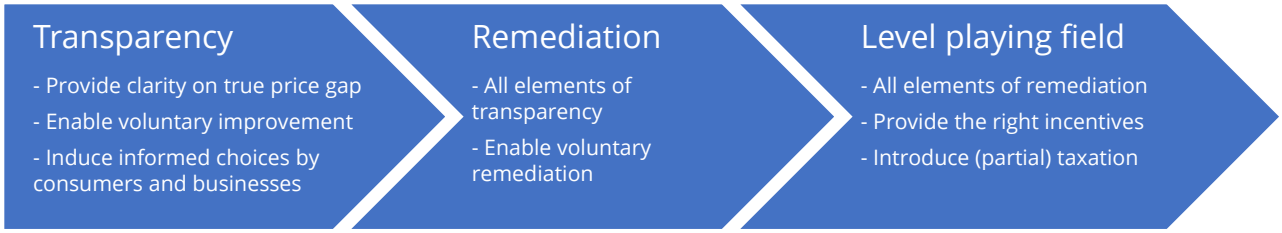


Figure 1: Left: a hypothetical example of the true price of a product. Calculations have been simplified and all numbers provided are for illustrative purposes only. Right: a visual representation of the true price. The convention has been followed to present environmental external costs in green, and social external costs in red.

2. True pricing can drive the transformation towards a more sustainable economy



True pricing leads towards a more sustainable economy in three phases: (1) providing transparency, (2) enabling remediation, and (3) creating a level playing field. Each phase enables the economy to use market mechanisms such as pricing and incentives to stimulate sustainability. In the first phase, true prices offer transparency in decision-making and communication about sustainability. In the second phase, information on true prices enables transactions to remediate and compensate for the external costs. In the third phase, true prices provide the right incentives to transform to more sustainable production and other practises. The first seeds of each step are already visible in today's economy, but the full form is not present yet.

2.1. Providing transparency

In the transparency phase, transparency on true prices is created by producers to the buyers of their products and services. This provides consumers, businesses, investors, governments and other stakeholders information on the amount and value of the external costs of a product or service.

As an increasing number of companies show the true price, consumers, as well as purchasers at businesses and governments, can compare the sustainability of products and services much more clearly. When the true prices of a majority of products and services are known, consumers and other buyers can choose between products and services with different amounts and weights of external costs. In addition, producers and other buyers can stimulate suppliers to improve sustainability upstream in the value chain. Governments can urge market players to communicate the true prices, push for standardisation of methods, and use true prices in their procurement policies. Investors can drive investees towards more sustainable production and re-evaluate their investment portfolios based on expected repercussions in the market.

True pricing also generates so-called endogenous market incentives to internalise external costs; when buyers prefer products and services with lower external costs, this creates an inherent incentive for producers. Moreover, as credible information on sustainability becomes more readily available, buyers' willingness to pay increases.

The process of assessing the true prices of products and services presents producers with clear insights into the steps in their value chains that are least sustainable – in other words, the steps that should be improved first. In many cases, these improvements can be realised in a cost-neutral manner or even at a positive return. Where measures to improve sustainability are not cost neutral, explicit communication of the effects on the true price opens up opportunities for a communication and marketing strategy, as sustainability improvements are now easier to quantify and more credible to consumers.[4]

By providing information on the external costs to consumers, businesses, investors and

[4] Consumers appear to be willing to pay more for credibly sustainable products (ABN AMRO, 2019)

governments, true pricing solves the first problem of internalisation: lack of transparency. It also standardises the metrics: currently, the information offered by the wide range of certifications and labels available hinders any adequate comparison of sustainability.

2.2. Enabling remediation

Transparency on true prices alone is not sufficient for mitigating external costs. A key obstacle to internalisation is the short- or medium-term costs involved in avoiding external costs. Therefore, the second phase creates remediation markets that enable transactions to remediate these.

The remediation market functions as follows. The true price gap shows the monetary value of existing external costs. This information allows consumers, producers and procurers to pay the true price gap to an external party that remediates the external costs. This also allows businesses to communicate the new sustainability of their products and services. As the remediation market grows, businesses, NGOs and social enterprises can offer and compete with increasing numbers of remediation services and activities. To some degree, remediation markets already exist; carbon offsetting is an important example. The more true prices are paid, the bigger the remediation market opportunities become – and, in turn, the fewer external costs persist.

This solves the second problem of internalisation: lack of remediation. Consumers and other buyers can voluntarily remediate the external costs of the products and services they buy. Organisations can stimulate the use of remediation markets and ensure they function well using regulation of the market and certification of elements of remediation. Investors can optimise their portfolios based on the expected repercussions in the market, as the growing internalisation of external costs will benefit some investees and reduce the market values of others.

2.3. Creating a level playing field

In the first two phases, the problems of lack of transparency and lack of remediation are solved, enabling at least partial mitigation of external costs. The third problem of internalisation, lack of incentives, might be innately solved as well to some extent, as some endogenous market incentives are created in the first phase. However, this may not be sufficient for full internalisation of external costs.

Several possibilities for stronger incentives exist. When these incentives apply to all market players, a level playing field on sustainability is created. Most notably, governments can use tax and subsidy frameworks to stimulate businesses to transform their activities, products and services. Such measures already exist to some extent, such as for CO_2 reduction and various forms of carbon taxes. When taxes impose too large a burden for less prosperous consumers, the government can play a role in creating a fairer distribution of costs. Investors, the general public and other stakeholders can also provide incentives through investment strategies and applying public pressure. In this new level playing field, a business with lower external costs than its competitors has a clear competitive advantage.

Figure 2 summarises the opportunities that arise for various stakeholders in the three phases of the implementation of true pricing.

	Providing transparency	**Enabling remediation: all activities under 'providing transparency', plus**	**Creating a level playing field: all activities under 'enabling remediation', plus**
Businesses directly responsible for production	• Identify most urgent external costs • Innovate effectively to reduce most important external costs • Clearly and credibly communicate about sustainability	• Voluntary remediate the true price gap by supporting remediation markets (and communicating the product or service's new sustainability)	• Benefit from a clear competitive advantage if external costs are lower than the competition
Businesses and other procurers with suppliers	• Identify most pressing external costs in value chain • Change or influence suppliers to improve sustainability based on most pressing external costs	• Voluntary remediate the true price gap (together with business partners) by supporting remediation markets (and communicating the product or service's new sustainability)	• Benefit from a clear competitive advantage if external costs are lower than the competition
Consumers	• Choose the most sustainable product if presented with multiple options	• Voluntarily pay remediation	
Governments	• Push for standardisation of true price assessments • Inform and urge/require market players to communicate true prices in a standardised way • Use true pricing in own procurement policy	• Regulate the remediation market (e.g., through certification) • Stimulate business and consumer use of remediation markets (through soft measures) • Pay remediation in own procurement process	• Set incentives (e.g., taxes and subsidies) to facilitate reduction of external costs
Investors (and other parties that can influence businesses)	• Urge investees to measure and position themselves • Re-evaluate the portfolio	• Optimise portfolio based on expected repercussions in the market (internalisation of external costs will benefit some investees and reduce the market values of others)	• Invest in new market leaders (those businesses that have the highest valuation after internalisation of external costs)

Figure 2: An overview of the opportunities arising for various stakeholders per phase in the implementation of true pricing

3. How to determine the true price?

A rights-based approach underlies the method to determine true prices. The method uses generally accepted sets of rights, such as the Declaration on Human Rights and the Declaration on the Human Environment. For these rights, it is understood that there is an underlying principle that businesses and consumers have a responsibility to respect the rights and restore all damage if it occurs. The responsibility holds even when there is no legal obligation.

This approach provides a firm basis for answering the following key methodological questions: Which external costs should be in scope of the true price gap? How should the magnitude of external costs be determined? And how should these external costs be monetised? In addition, this approach has several advantages: it enables monetisation of social costs, prevents netting, avoids arbitrary scoping, and creates market values for external costs.

3.1. Which external costs should be in scope of the true price gap?

The true price is the sum of the market price of a product and the true price gap. The true price gap is the sum of the external costs in the value chain of that product. But how to determine which costs should be in scope?

The rights-based approach offers a clear scope of external costs to consider, as it identifies generally accepted rights that should be respected. It includes several natural, social and human external costs. Natural external costs in scope are pollution of the living environment, depletion of scarce abiotic resources, contribution to climate change, and degradation of land, biodiversity and ecosystems. External costs regarding social and human capital include child labour, forced labour, occupational accidents, and living income and wages, amongst others.

The appendix contains a full list of all of the external costs in scope for the true price.

3.2. How to quantify negative externalities?

To quantify the negative externalities, existing research and methods can be used in most cases. Key methods include life-cycle assessment (LCA), social life cycle assessment (sLCA) and natural capital accounting. These provide a structured approach to assess the quantitative impact of product lifecycles.[5]

3.3. How to monetise negative externalities?

After quantifying the negative externalities, monetisation reveals the size of the external costs. Monetisation entails valuing and converting the negative externalities to a monetary unit. The approach to monetise negative externalities includes restoration and compensation costs. For example. contribution to climate change can be restored by capturing atmospheric carbon. Water pollution can be restored through cleaning. For occupational accidents, covering the medical costs can restore part of the damage. If externalities cannot be fully restored, often the case for negative social externalities, then also compensation and/or penalties are required.

In turn, the monetisation of negative externalities fuels the prioritisation of the negative externalities that businesses create. And it even informs the remediation markets mentioned in section 2.2: the monetised cost

[5] LCA: ISO 14040 and ISO 14044 (2006); World Business Council for Sustainable Development (WBCSD) (2016); Natural Capital Coalition (2016); Greenhouse Gas Protocol (2011)

gives an approximation of what needs to be paid to remediate.

3.4. Advantages of this method

This approach to true pricing has several advantages:

- It enables monetisation of social costs. While there are many initiatives monetising environmental costs, monetising social costs has proven very difficult to do in another way.
- It prevents netting. Netting positive and negative externalities is not possible in this approach. Although creating positive externalities is clearly good, it does not offset the creation of negative externalities. For instance, € 1,000 of extra job creation does not offset € 1,000 of forced labour.
- It avoids arbitrary scoping. As the method is rights-based and directly uses generally accepted conventions, it avoids arbitrary scoping of costs, e.g., although relevant from a purely economic perspective, financial damage to competitors is not in scope, as it does not follow from generally accepted rights.
- It creates market values for external costs. In the second phase of true pricing, a remediation market arises. This market produces empirical economic values for external costs in the form of market equilibria.

4. Why is true pricing an effective solution?

True pricing is not only a feasible, but also an effective solution towards a more sustainable economy. Its implementation satisfies the three conditions discussed in the introduction: (1) it removes the barriers to internalisation, (2) it is feasible to implement, and 3) it is socially acceptable, as costs can be distributed fairly. The benefits of internalisation for society outweigh any costs of the implementation of true pricing and subsequent innovations to reduce external costs.

4.1. It removes the barriers to internalisation

True pricing solves the problems that block the internalisation of external costs. First, it provides the required information about the scope and size of these costs. Second, it enables a remediation market to remediate them. Third, it incentivises producers to lower their impact. Strong incentives can be provided by governments, investors, the public and other organisations, e.g. through taxes, subsidies and public pressure.

4.2. It is feasible to implement

Calculating the true price of a product is more feasible than ever. Companies and researchers have an increased focus on sustainability, which has yielded more and continuously improving production data.[6] Technological developments such as satellites, sensors, drones, blockchain and AI enable better measurement of the data. In addition, stakeholders increasingly participate in various forms of alliances to develop open standards and public tools for true pricing methods.[7]

4.3. It is socially acceptable

A large part of the true price gap can be reduced through innovation and cost-effective measures throughout the value chain. For the remaining true price gap, voluntary payment is fair already (i.e., individuals are not forced to pay). Governments can encourage remediation through subsidies for individuals as well as businesses, and with budget-neutral, value-added taxation (i.e., keeping the overall price level constant, but making unsustainable products more expensive and more sustainable products cheaper).

[6] GRI (2019)
[7] Deloitte, EY, PwC & True Price (2015)

5. Getting started with true pricing

Over the coming years, true pricing will likely develop along the phases discussed above. However, full implementation of true pricing is still a long-term goal. In the short term, stakeholders can already take concrete steps towards true pricing.

5.1. Businesses

Businesses can start exploring true pricing by focusing on externalities that are easily measured, quantifying their external costs and experimenting with monetisation. For example, many businesses already measure their CO_2 emissions. Carbon pricing can now be used to assign a price to those emissions. This information can then be used in internal decision-making and sustainability communication.

When committing to true pricing, businesses can take the following steps, as shown in Figure 3. First, the complete true price of a product or service is calculated. Second, an improved product or service with a lower true price gap is determined. Third, the business plans how to achieve the target product or service. Fourth, the plan is implemented. This can include identifying hotspots in the value chain, considering sourcing options, transforming production or transforming the value chain. Fifth, progress is monitored and improved. Marketable improvements and results can then be communicated.

5.2. Governments

On the government level, four concrete options can support true pricing:

- Gradual implementation of regulations that require the disclosure of true prices.
- Supporting the establishment of a broadly accepted method for true pricing by investing resources in standardisation and improvement methodologies. For example, a technical expert group could be installed on the European level to develop a unified and broadly accepted true pricing standard based on existing work, similar to the European Commission's Technical Expert Group on Sustainable Finance (TEG).
- Adjusting taxation policies based on information on external costs.
- Using true pricing in organisational decision-making, e.g. in procurement.

5.3. Consumers

Consumers can contribute to true pricing by buying products with lower external costs. Purchasing decisions can be based on already available information on true pricing and existing certifications for the reduction of external costs.

5.4. Investors

Using true pricing and other information, investors can start re-evaluating their portfolios to decrease their own roles in external costs. Such a step will in turn incentivise businesses to experiment with true pricing and to lower external costs. In addition, investors can finance projects that substantially improve true prices.

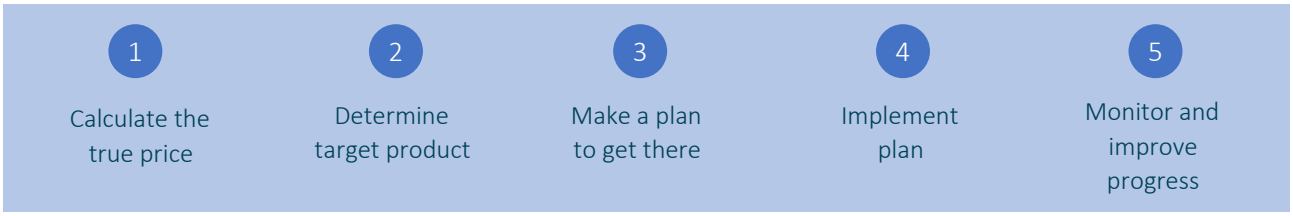


Figure 3: An overview of the five steps business can take when committing to true pricing

6. Next steps

Today's economy is far from sustainable. We have a challenging task ahead of us if we are to achieve the Sustainable Development Goals by 2030. The broad implementation of true pricing, however, can accelerate the transition to sustainability by offering transparency on external costs, enabling the remediation of these costs, and incentivising the fundamental transformation of production and consumption. Making use of the market, true pricing offers a unique chance to realise sustainable economic growth and reach the Sustainable Development Goals by 2030.

To realise true pricing at a large scale, several steps should be taken, as summarised above. Importantly, to enable the first phase of providing transparency, the general acceptance and standardisation of methodologies is essential. Detailed guidance on how to determine true prices will emerge in the years to come and is to follow a participatory process. Input from all key stakeholders and groups of projected users is required if the standard is to be comprehensive and effective.

To contribute to this, True Price is developing a standard for true pricing with its partners. True Price is also developing the required information infrastructure to efficiently share true pricing data and training programs to teach the required skills to calculate true prices. Lastly, True Price is working together with governments to support experimentation in true pricing.

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Appendix: The external costs in scope for the true price

Environmental impacts

Effect on	Impact categories	Environmental impacts
Local and global community	Pollution of the living environment	Air pollution Soil pollution Water pollution
	Depletion of scare abiotic resources	Fossil fuel use Scarce water use Other non-renewable material use
	Contribution to climate change	Contribution to climate change
	Degradation of land, biodiversity and ecosystems	Land use Land transformation (Other) loss of biodiversity (Other) loss of ecosystem services

Social impacts

Effect on	Impact categories	Suggested social impacts
Workers	Occupational health and safety risks	Occupational health and safety risks Harassment
	Non-guarantee of a decent living standard	Insufficient wages Insufficient income Excessive and underpaid overtime Lack of social security
	Discrimination	Gender inequality Other forms of discrimination
	Forced labour	Forced labour
	Child labour	Child labour
	Lack of union rights	Lack of freedom of association Denied collective bargaining
Local and global community	Public health and safety risks	Public safety risks Public health risks
	Breach of land rights and indigenous rights	Breach of indigenous rights Breach of land rights
	Illegal business conduct	Occurrence of corruption Tax evasion Deliberate misinformation
Consumers	Consumer health and safety risks	Consumer health and safety risks
	Breaches of privacy	Breaches of privacy
	Misinformation and lack of transparency	Deliberate misinformation Lack of transparency

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