Methodology
Impact Statement
Focus: Socio-economy

Version 0.1

VBA METHODOLOGY V0.1
Impact Statement

– Topic Specific Method Paper: Socio-economy –

Note on this document

This is the first version of our Impact Statement methodology for environmental aspects. We piloted this version in 2020 and the learnings will inform the further development in 2021.

We are very aware that this is a work in progress. We are still discussing with third-party experts and our members important elements and we will be using a review panel and formal consultation and piloting process to test and improve the standardized approach.

In addition, we have developed a General Methodology that addresses aspects that are applicable across individual economic, environmental and social indicators. Moreover, we have developed a methodology for specific environmental aspects.

Contact

consultations@value-balancing.com

About the Value Balancing Alliance

The Value Balancing Alliance e.V. (VBA) is a non-profit organization that aims to change the way how company performance is measured and valued. The alliance's objectives are to create a global impact measurement and valuation (IMV) standard for monetizing and disclosing positive and negative impacts of corporate activity and to provide guidance on how these impacts can be integrated into business steering.

VBA, which was founded in June 2019, represents several large international companies, including Anglo American, BASF, BMW, Bosch, Deutsche Bank, DPDHL, Kering, LafargeHolcim, Mitsubishi Chemical, Otto, Porsche, Novartis, SAP, Schaeffler and SK. The alliance is supported by the four largest professional services networks – Deloitte, EY, KPMG and PwC – and by the OECD and leading academic institutions, including the University of Oxford and the Impact Weighted Accounts Initiative at Harvard Business School. Furthermore, in partnership with the Capitals Coalition, the alliance receives funding from the EU through its LIFE programme for the Environment and Climate Action[1] and is member of the EU Platform Sustainable Finance.

A global IMV standard is needed not only to foster long-term thinking and performance comparability but also to consolidate the knowledge already available in this field. Therefore, the VBA is building on the work of leading universities and well-known organizations, such as the World Bank, the OECD, the Capitals Coalition, the WBCSD, the Impact Management Project, the GRI, SASB and the IIRC. The envisioned transformation and system change require the cooperation of all players in the business ecosystem. The alliance will make its work available to the public and encourages more companies to join along the way.

[1] The EU has provided the VBA with financial support to develop a first set of accounting principles and guidelines regarding environmental impacts for business. Over the next three years, the VBA (in partnership with the Capitals Coalition) will develop a standard for measuring and valuing companies' environmental impacts in monetary terms.

Table of contents

1. INTRODUCTION

The current economic system focuses on financial value and excludes many of the impacts of business on society, such as environmental and social impacts. These impacts are often referred to as externalities for this very reason. Many of these impacts are directly or indirectly linked to current and future business value, and to stakeholders' interests. Therefore, businesses are becoming increasingly interested in these impacts and ways of taking them into account in their strategies and business decisions.

There are two major perspectives on value. First, the stakeholder perspective focuses on the positive and negative impacts of corporate activities on the environment and, by extension, society. This is known as *the value to society perspective*. Second, a financial view of how these impacts (and dependencies) affect the (longer-term) financial performance of corporations is known as *the value to business perspective*. Both perspectives are inherently connected. As such, they have been widely acknowledged as "double materiality".[2]

The VBA aims to embrace both methodological streams – one focusing on impacts and the other on dependencies – as they are fundamental for understanding a company's long-term value creation.

Our aim is to work towards global standardization. Moreover, our methodology is not limited to environmental impacts – we believe that the same principles should apply to all sustainability impacts.

Value to society – Impact Statement

The General Method paper introduces the calculation methodology for monetary impact valuation and is followed by deep-dive topic papers on socio-economic and environmental impacts. Notably, these papers focus on topics that are already reasonably mature rather than a comprehensive set of impacts:

- General Method paper – sets out the overarching framework as well as the key concepts and process of methodology development,

- Environmental Method paper – explains the IMV details for specific environmental topics and specific sub-indicators, and

- Socio-economic Method paper – explains the IMV details for specific socio-economic topics as well as specific sub-indicators.

The General Method paper is the foundational document. It sets out the guiding objectives, outlines the methodology development process, explains the document's development process, and

[2] On double materiality see, e.g.: Accountancy Europe (2020): Interconnected Standard Setting for Corporate Reporting, https://www.accountancyeurope.eu/wp-content/uploads/191220-Future-of-Corporate-Reporting.pdf;
CDSB (2020): Falling short?, https://www.cdsb.net/sites/default/files/falling_short_report_double_page_spread.pdf; EU Commission (2019) Guidelines on reporting climate-related information, https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelinesen.pdf.
Natural Capital Protocol, p.15

summarises key concepts and general choices that need to be made and that should be common for all economic, environmental, and social impacts.

The aim of the Socio-economic Method paper is to provide specific details for Social and Human Capital Accounting per impact driver and summarises key concepts.

All documents and described methodologies are in an interim state and will be finalized after the piloting and learning in 2023 (expected).

The method is being developed using an iterative process. The methods currently described in this document are version V0.1. The methodology has been piloted with international companies.

2. TOPIC-SPECIFIC DETAILS

2.1. OCCUPATIONAL HEALTH AND SAFETY

- *Topic description*
- *Impact pathway*
- *Quantification and monetary valuation*
  - *Measuring impact drivers*
  - *Environmental outcomes*
  - *Impacts on society and monetary valuation*
- *Sources*

2.1.1. DESCRIPTION OF TOPIC

Incidents can occur during operations and illnesses can arise due to working conditions (e.g. diseases related to dust, noise or ergonomics). Occupational illnesses and incidents can lead to lower productivity, higher costs and reputational damages for the company, all of which are included in the financial results. However, incidents can also affect the employees' families as well as the broader local communities and society through healthcare and administrative costs, lower revenue (and spending), and quality of life.

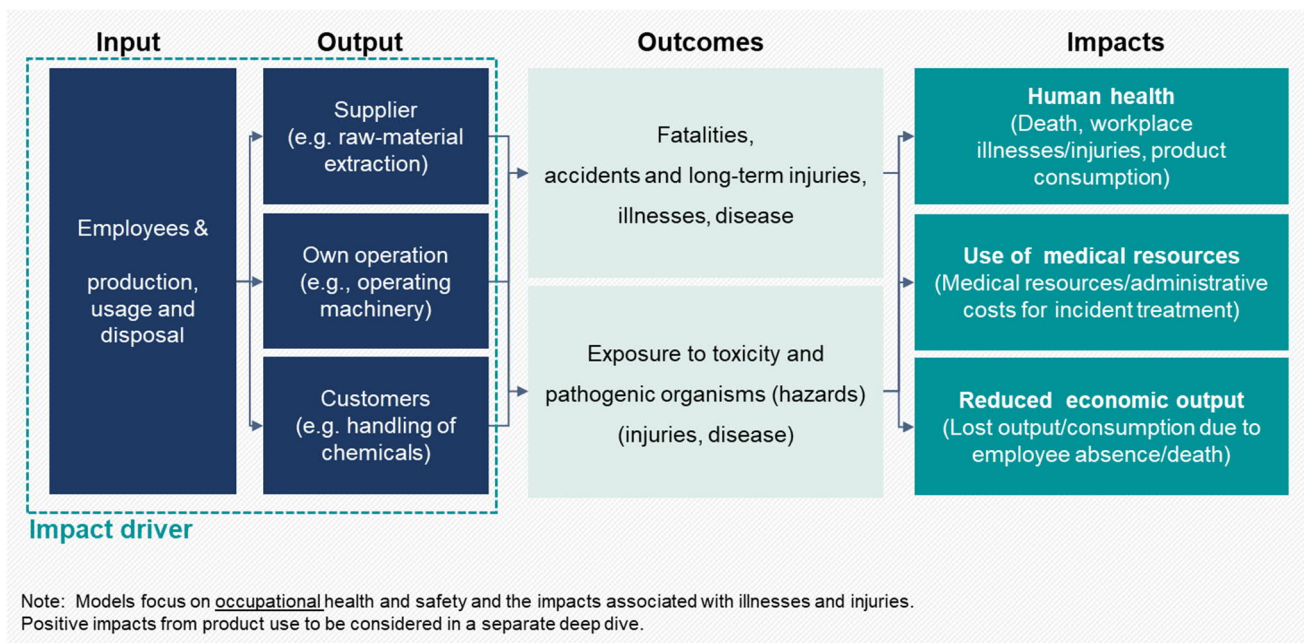### 2.1.2. IMPACT PATHWAY

Figure 1: Simplified impact pathway occupational health and safety

Occupational health deals with all aspects of health and safety in the workplace. It focuses on the prevention of hazards. With this indicator, we concentrate on the societal impacts arising from injuries and illnesses resulting from incidents that happen during the course of employment.[3]

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[3] The International Labour Organisation (ILO) has a number of regulatory instruments addressing safety and health at work. However, they are more general in scope than, for instance, the EU Directives. The main relevant ILO instruments are: (1) C155 – Occupational Safety and Health Convention, 1981, (2) R164 – Occupational Safety and Health Recommendation, 1981, which provides a more specific recommendation supplementing C155, and (3) C187 – Promotional Framework for Occupational Safety and Health Convention, 2006, which requires members to establish, maintain, progressively develop and periodically review a national system for occupational safety and health in consultation with the most representative organisations of employers and workers.

- To determine the costs to society, we distinguish between disease and injury, and we include several categories of severity.
- Costs occur on the account of the employer, the worker and the community. As the employer's costs are (directly or indirectly) reflected in the financial statements, they are excluded. The worker and community costs in each severity category are summed.
- The study used as external data source (Safe Work Australia, 2015) is based on costs of work-related incidents in Australia. As such, it is specific to Australia's economic situation and healthcare system.
- Year-on-year adjustments reflect inflation.

Users should:

- Apply the rules outlined in the "general" section of this methodology (e.g. include all relevant value-chain levels)
- Select appropriate data sources for calculating illnesses and injuries by severity.

2.1.3. QUANTIFICATION & MONETARY VALUATION

(i) Measuring impact drivers and (ii) outcomes

The calculation of the impact of occupational health and safety incidents is based on the number of incidents by severity. Our categorizations of severity are based on the Safe Work Australia study:[4]

- Illness by severity: short absence, long absence, partial incapacity, full incapacity, fatality.
- Injuries by severity: short absence, long absence, partial incapacity, full incapacity, fatality.

In line with the approach of Safe Work Australia, we distinguish among five levels of severity and duration in accordance with the definitions provided in conjunction with the Australian National Dataset for Compensation-based Statistics (see Table 1). Company data should be supplied in this format (i.e. as in Table 1) according to the duration of absence and whether the employee is able to return to full duties.

Note that the costs of incidents that do not result in absence from work are assumed to be negligible and are not considered.

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[4] Safe Work Australia (2015): The Cost of Work-related Injury and Illness for Australian Employers, Workers and the Community: 2012-13. https://www.safeworkaustralia.gov.au/doc/cost-work-related-injury-and-illness-australian-employers-workers-and-community-2012-13.

Table 1: Definition and labelling of severity categories.

Category label	Severity Category	Definition
Short absence	*Less than 5 days off work*	*A minor work-related injury or illness, involving less than 5 working days absence from normal duties, where the worker was able to resume full duties.*
Long absence	*Five days or more off work and return to work on full duties*	*A minor work-related injury or illness, involving 5 or more working days and less than 6 months off work, where the worker was able to resume full duties.*
Partial incapacity	*Five days or more off work and return to work on reduced duties or lower income*	*A work-related injury or disease, which results in the worker returning to work more than 6 months after first leaving work.**
Full incapacity	*Permanently incapacitated with no return to work*	*A work-related injury or disease, which results in the individual being permanently unable to return to work.*
Fatality	*Fatality*	*A work-related injury or disease, which results in death.*

* We assume cases in this category results in a return to work on reduced duties or income, with a resumption of normal duties. This category includes permanent incapacities for which a minimal duration of absence from work occurred and therefore the worker was able to return to work in some capacity, or for which a return to work in some capacity is possible.

Source: Safe Work Australia (2015): The Cost of Work-related Injury and Illness for Australian Employers, Workers and the Community: 2012-13. https://www.safeworkaustralia.gov.au/doc/cost-work-related-injury-and-illness-australian-employers-workers-and-community-2012-13

(iii) Applying monetary valuation for value to society

Few studies comprehensively detail the costs for healthcare systems of work-related incidents depending on the type of injury or disease.

One of the most comprehensive studies was published by Safe Work Australia (2015). In this study, the direct and indirect costs of such incidents were calculated for Australia (see Table 2). These costs were categorized by:

- Severity of the incident: short absence, long absence, partial incapacity, full incapacity and fatality,

- Bearer of the costs: employer, worker or community, and

- Type of incident: injury or disease.

Our approach is to:

- Sum the costs for the worker and community after excluding the employer's costs, as those costs are already accounted for in financial statements.

- Multiply these costs by the respective number of incidents (disease and injury) in each severity category to obtain an Australia-centred estimate.

- Extrapolate these costs to the appropriate countries via GDP per capita.

- Correct for inflation since the study's base year (2012).

Table 2: Average costs ($ per incident) for work-related incidents, Australia, 2012-13*

		Short absence	Long absence	Partial incapacity	Full incapacity	Fatality	Average
Employee	Injury	700	8 800	16 400	13 400	26 600	*4 400*
	Disease	700	11 200	12 100	31 900	72 400	*9 600*
Worker	Injury	300	4 500	696 900	2 154 200	1 728 700	*52 000*
	Disease	400	4 200	681 800	1 912 000	1 185 500	*189 200*
Community	Injury	3 200	22 800	95 400	1 578 800	585 100	*19 100*
	Disease	5 200	15 200	44 700	956 000	212 700	*24 800*
All	Injury	4 200	36 200	808 600	3 746 400	2 340 400	*75 400*
	Disease	6 300	30 600	738 700	2 899 900	1 470 600	*223 600*
	All cases	*4500*	*34 100*	*766 300*	*3 496 100*	*1 597 100*	*116 600*

Source: ASCC Estimation of indirect cost items. * Unit costs are rounded to the nearest $100

Source: Safe Work Australia (2018)

Note that this approach implicitly assumes similarity among healthcare systems in Australia and other countries. However, societal costs are likely to differ depending on healthcare systems and broader social security systems. Our methodology does not currently address this issue.

Users should

- Apply the rules outlined in the "general" section of this methodology.

2.1.4. SOURCES

DAC/OECD (2010): Glossary of Key Terms in Evaluation and Results Based Management. Available from https://www.oecd.org/dac/evaluation/2754804.pdf

Gold, M. R., Stevenson, D., Fryback, D. G. (2002): HALYS AND QALYS AND DALYS, OH MY - Similarities and Differences in Summary Measures of Population Health. Annual Review of Public Health; Vol. 23; pp 115–134. Available from https://www.annualreviews.org/doi/pdf/10.1146/annurev.publhealth.23.100901.140513

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Peace, D., Atkinson, G. & Mourato, S. (2006): Cost-Benefit Analysis and the Environment; recent developments, OECD.

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WHO (2020): Years of life lost (percentage of total). Available from https://www.who.int/whosis/whostat2006YearsOfLifeLost.pdf?ua=1

Topic-specific details

2.2. TRAINING

- *Topic description*
- *Impact pathway*
- *Quantification and monetary valuation*
  - *Measuring impact drivers*
  - *Environmental outcomes*
  - *Impacts on society and monetary valuation*
- *Sources*

2.2.1. TOPIC DESCRIPTION

The skills and capabilities of a firm's employees are essential for the firm's value preservation and the development of future revenue streams. Employee development and retention are beneficial for the company, the individual and society. Although employee training has a cost, it affects employees' employability, earnings, skills and knowledge in key ways. It also affects softer aspects, such as self-confidence, self-awareness and active listening. This might, in turn, result in macro-level effects, such as greater emotional capacity, that benefit the immediate social environment, social and civic engagement, and democracy.[5]

This paper focuses on how to measure these social impacts of increasing employees' skills and capabilities. Note, however, that there is no consensus yet on how to measure the impact of employee development upstream or downstream. Therefore, this document focuses on the impact of employee education/training of own operations only.

2.2.2. IMPACT PATHWAY (OVERVIEW)

In order to value corporations' human impacts on society, the link between corporate training and impacts on humans via societal outcomes must be established. This is reflected in the impact pathway shown in Figure 2.
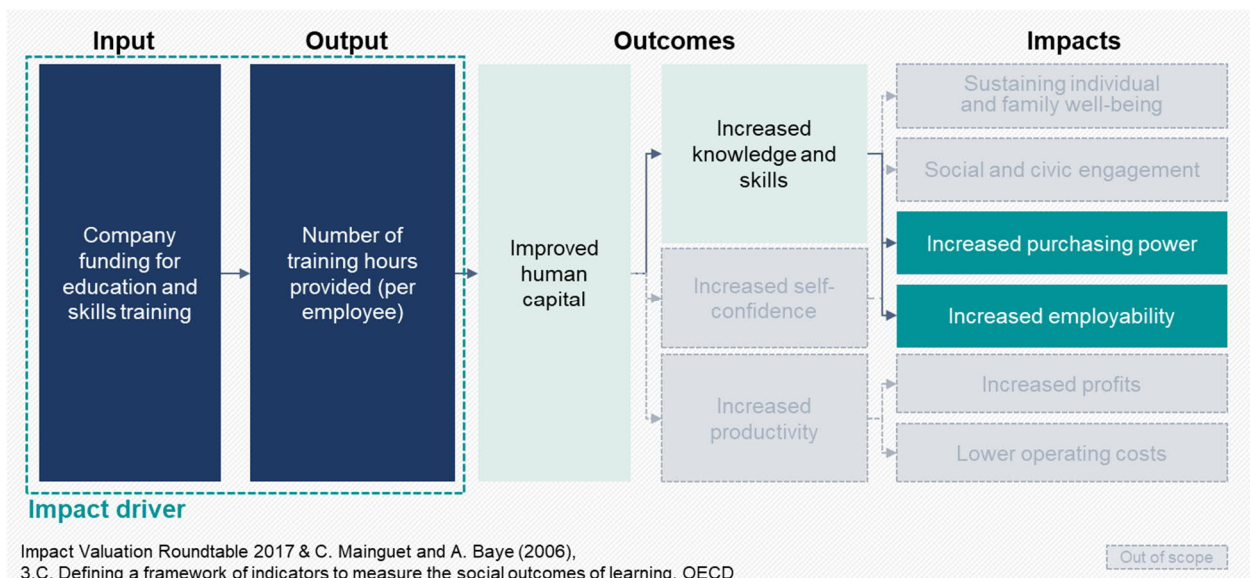

Impact Valuation Roundtable 2017 & C. Mainguet and A. Baye (2006),
3.C. Defining a framework of indicators to measure the social outcomes of learning, OECD

Figure 2: Impact pathway training

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[5] Mainguet & Baye (2006): 3.C. Defining a framework of indicators to measure the social outcomes of learning, OECD.

Impact drivers

Three impacts are associated with employee development: a direct positive impact on the employee, a positive impact for the employer in the form of increased productivity, and impacts on wider society when the employee moves on and other employers benefit from his or her improved productivity. The impacts for the employer providing the training are reflected in the company's financial statements (i.e. as profitability) and are, therefore, not included in our approach.

Impacts on society are driven by the change in employees' earnings and, therefore, purchasing power, and by the contributions that more highly skilled individuals make to society. These impacts only become external to the company providing the training if the employee leaves the company.

In order to quantify and value the benefits to society of improving human capital, in-house corporate-development programs and education funding are taken into account. Improved experience and skills lead to higher wages either at employees' current employers or at future employers. The projected future additional earnings of trained employees after leaving the organisation are expected to benefit society through higher purchasing power and higher income taxes. These benefits are projected into the future using country-specific wage-growth rates and discounted to their current value.

Notably, compliance training is not considered in this increase of human capital. While the same beneficial mechanisms may be at play, compliance is an operational and legal imperative for companies. Companies with the greatest deviations from established rules have to invest the most in compliance training. Hence, it is cynical to claim social benefits from training that seeks to remediate violations of social norms.
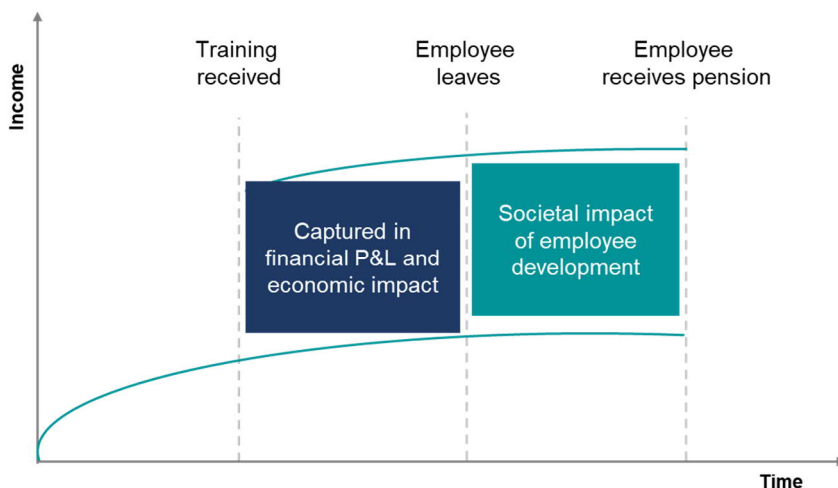

Figure 3: Spill-over effects from training

Users of this methodology should:

- Include all material impact drivers and impacts listed above, and
- Include additional impacts if material.

2.2.3. QUANTIFICATION AND MONETARY VALUATION

This section covers the three steps in more detail: (i) measuring impact drivers, (ii) measuring societal outcomes and (iii) valuing impacts. For guidance on actions, see the Social & Human Capital Protocol (2019).

(i) Measuring impact drivers

The calculation of the social impact of employee training requires company data on training and employees as well as external valuation factors related to the social return rate on education. Specifically, the following company information is needed on a country level:

- Number of training hours in the focal year,

- Average wage of employees,

- Average age of employees and

- Turnover rate calculated using:

   - Total employees at the beginning and end of the year, and

   - Total employees leaving in the focal year (to work elsewhere).

Note that a more granular approach is possible if more detailed information is available. To achieve the highest granularity, the analysis could be performed on an individual level by collecting training hours over the last year, age, country and wage for each individual.

Guidance on data sources[6]

The data points listed above should be available in companies' human resource systems, such as:

- Training systems and platforms,

- Human resource management and administration systems, and

- Payroll systems.

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[6] Limited information is available on how corporations measure the social impact of their education and training programs. Several organizations have measured this impact using methodologies similar to the one described above, including Novartis, LafargeHolcim and BASF.
The social capital protocol provides good insights into best practices:
- Social Capital Protocol (2017): Making companies that truly value people more successful, WBCSD.
- Jongbloed. (2018): Higher education for happiness? Investigating the impact of education on the hedonic and eudaimonic well-being of Europeans.
- Mainguet & Baye (2006): Defining a framework of indicators to measure the social outcomes of learning, OECD.

(ii) Societal outcomes and (iii) impacts

Psacharopoulos and Patrinos (2004) provide insights into the returns on investments in education. These returns are used as training coefficients per country.

As these factors assume a return based on another year of education, we correct the outcomes by dividing the actual hours spent on training by the training norm hours in that country. These country norms are obtained from an OECD database. In the case of non-OECD countries, extrapolations can be made from the available country-level data based on common characteristics between countries.

The wage increase is determined using the following formula in which the years that the individual derives benefits from increased earnings are calculated until the point of retirement. The retirement age per country is based on data from OECD and Pension Watch.[7]

$$\sum_{j=1}^{n} \sum_{i=0}^{m} \frac{\left(e^{\alpha \frac{Tc}{Tn}}\right)i,j}{(1+\beta)i} \, wj\gamma j$$

where:

α = training coefficient in country j,

β = discount rate1

γj = turnover rate in country j,

Tc = training hours in country j,

Tn = training norm in country j,

i = time periods,

j = countries in which training is conducted,

m = pension age – average age of employees in country j,

n = total number of countries and

wj = total wage in country j.

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[7] OECD (2020): Training norms per country (upper secondary). https://data.oecd.org/eduresource/teaching-hours.htm.
Retirement ages:
- OECD (2019): "Current retirement ages", in Pensions at a Glance 2019: OECD and G20 Indicators.
- Pension Watch (2019): Social Pensions Database, available at: www.pension-watch.net.

Users of this methodology should include:

- All material impacts.

For each of these, users should:

- Apply the rules outlined in the "general method paper" and
- Select appropriate sources/studies to model these impacts.

2.2.4. SOURCES

Mainguet, C. & Baye, A. (2006): 3.C. Defining a framework of indicators to measure the social outcomes of learning, OECD.

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Psacharopoulos, G. & Patrinos, H. A. (2004): Returns to Investment in Education: A Further Update. Available from https://www.researchgate.net/publication/24079155_Returns_to_Investment_in_Education_A_Further_Update

Safe Work Australia (2015). The Cost of Work-related Injury and Illness for Australian Employers, Workers and the Community: 2012-13. https://www.safeworkaustralia.gov.au/doc/cost-work-related-injury-and-illness-australian-employers-workers-and-community-2012-13

Social & Human Capital Coalition (2019): Social & Human Capital Protocol. Available from https://social-human-capital.org/wp-content/uploads/2020/01/Social-Human-Capital-Protocol_26.02.19.pdf

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WHO (2020): Years of life lost (percentage of total). Available from https://www.who.int/whosis/whostat2006YearsOfLifeLost.pdf?ua=1

Topic-specific details

2.3. GVA

- *Topic description*
- *Impact pathway*
- *Quantification and monetary valuation*
  - *Measuring impact drivers*
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- *Sources*

2.3.1. TOPIC DESCRIPTION

Gross Value Added (GVA) is a measure of the contribution to Gross Domestic Product (GDP) made by an individual producer, industry or sector. GDP is an aggregate measure of the market value of goods and services a country produces to satisfy the needs of final consumers. It is used to express the wealth of a country.

GDP has long been used to measure the economic performance and societal progress of nations and, ultimately, wealth. At a sub-national level, governments have historically used GVA to assess the value of interventions or investments.

As the sum of the private sector's GVA constitutes the private sector's share of national GDP, GVA is often referred to as the GDP contribution of a company.
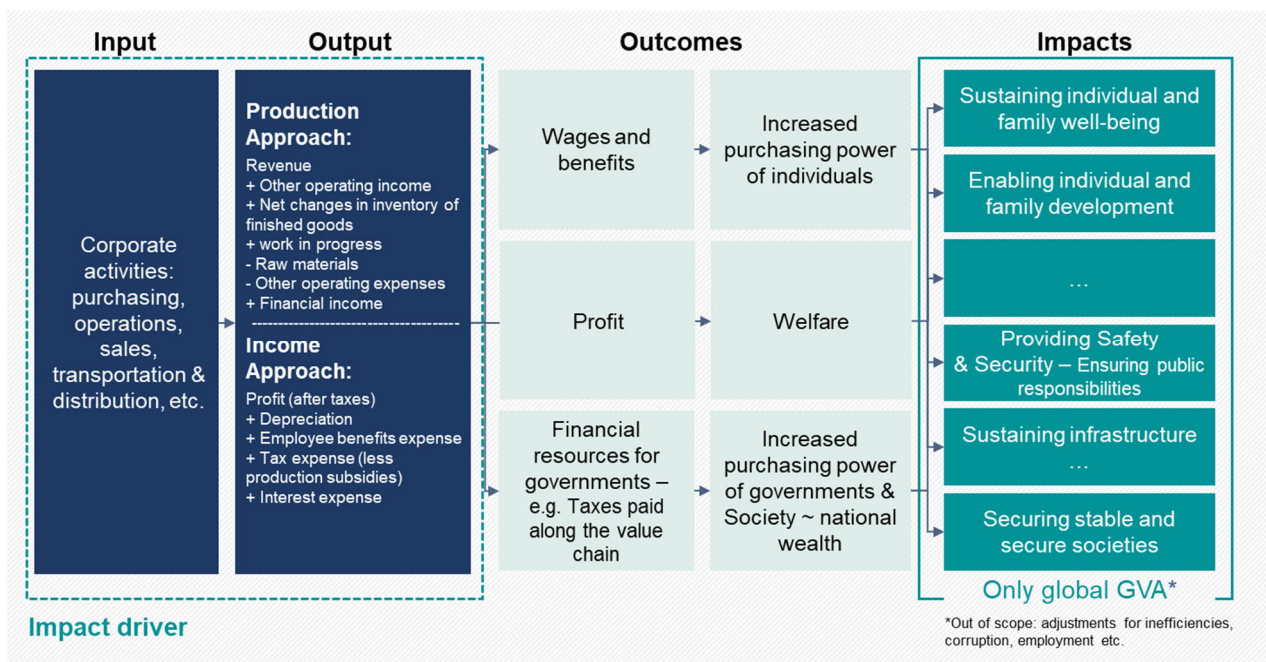
2.3.2. IMPACT PATHWAY

Figure 4: Impact pathway GVA

Impact drivers

- The size of a company's direct GDP contribution is driven by its profits, sales, wage volume, depreciation and taxes in a given time period.

- In the value chain, upstream GVA creation is typically linked to the scale of a company's procurement spending and the resulting activity in the wider economy. Such spending acts as production inputs or intermediate consumption.

- GVA generated downstream can be understood as the economic activity enabled by the goods and services sold by the company.

- The balance of a business's GDP contribution among its upstream, downstream and own operations reflects that business's position along the value chain from raw-material extraction to final consumer demand.

- When measuring GDP contribution, the granularity required depends on how the results will be used. Data should be collected at the level of the organisational units relevant for the decision.

2.3.3. QUANTIFICATION AND MONETARY VALUATION

For both the production approach and the income approach, the key elements of direct GVA should be available from the company's financial reports

The selection of an input-output model should reflect the ability to estimate GVA components across the value chain. The minimum input in this regard is the company´s spending per industry sector and country.

(i) Measuring impact drivers

There are two principal methods for calculating GVA at the company level: the production approach and the income approach.[8]

The production approach treats GVA as the difference between a company's outputs (sales or production value) and its intermediate inputs (purchases). Outputs include the total value of:

- Sales,

- Goods manufactured but held in inventory,

- Work in progress and

- Items of a capital nature created in-house for a company's own final use.

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[8] The Scottish Government, Input-Output Methodology Guide, https://www.gov.scot/binaries/content/documents/govscot/publications/statistics/2019/08/supply-use-and-input-output-tables-1998-2016/documents/sut-methodology-guide/sut-methodology-guide/govscot%3Adocument/input-output-1998-2016-methodology-guide.pdf.

GVA can be calculated using the following Profit & Loss (P&L) items (oriented at IAS 1.102, illustrative example):[9]

Table 3: GVA calculation – production approach

GVA calculation – production approach
Revenue
+ Other operating income (including items created in-house for own use, excluding subsidies)
+ Net changes in inventory of finished goods
+ Work in progress
= Company performance
- Raw materials and consumables used
- Other operating expenses
+ Financial income (interest income and investment income)
= GVA

The net value added (NVA) can be calculated by deducting all depreciation and impairment expenses from GVA.

Intermediate inputs, measured at purchasers' prices (inclusive of taxes), are the goods or services that a business requires to produce its output.

The income approach directly calculates the components of the difference between intermediate inputs and outputs taking into account remuneration for primary inputs of production (labour and capital) and other taxes less subsidies for production. These components are:

- The costs of employment (wages and other benefits),
- Production taxes (less subsidies) and
- Gross operating surplus (profit).

GVA can be calculated using the following P&L items:[10]

[9] Note that the structure of the P&L is entity specific.
[10] Please note that the structure of the P&L is entity specific.

Table 4: GVA calculation – income approach

GVA calculation – income approach
Profit (after taxes)
+   Depreciation/impairment expenses
+   Employee benefits expenses
+   Tax expenses (less production subsidies)
+   Interest expenses
= GVA

The NVA can be calculated by deducting all depreciation and impairment expenses from GVA.

For the GVA generated through companies' research and development (R&D) activities, a variation of the income approach is used, in line with the OECD's Frascati Manual.[11]

Note that taxes and subsidies on products (such as VAT) are not taken into account in either approach. These taxes are collected by businesses but are typically borne by the final consumer,[12] and they represent the difference between the sum of national GVA (in basic prices) and the nation's GDP (in market prices).

The income approach neatly divides the components of GVA into the different stakeholder groups that stand to benefit from the company's economic performance. Employees experience an improvement in their material conditions from receiving wages and benefits. Production taxes flow to the wider society and allow the state to improve the quality of life of its citizens. Gross operating surplus affects the material conditions of the company's shareholders.

As both approaches are equivalent, the choice largely depends on data availability. For specific topics, like the calculation of the GVA associated with R&D, a variation of the income approach is the only approach available.

(ii) Quantifying the outcomes and (iii) estimating the impacts on society

All GVA components are measured in monetary values and, therefore, do not need to be converted from physical quantities with valuation coefficients. However, the change in welfare that the same monetary unit (e.g. a euro) can obtain differs from one country to another (e.g. the price of a certain basket of goods in Switzerland is higher than the price of the same basket of goods in Ethiopia). Therefore, all other things being equal, the same euro in one country will buy a different quantity of goods in one country than in another and, it is assumed, result in a different level of welfare.

To estimate the welfare change associated with these financial capital flows in different countries, the GVA components can be adjusted using World Bank purchase power parity (PPP) conversion

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[11] OECD (2015): Frascati Manual 2015. Guideline for collecting and reporting data on research and experimental development. Available from https://www.oecd.org/sti/inno/frascati-manual.htm.
[12] PwC (2016): The Total Tax Contribution Framework – Over a decade of development. https://www.pwc.co.uk/services/tax/insights/total-tax-contribution-framework-common-questions.html.

factors. For certain applications, it may make sense to adjust GDP contributions for purchasing power in order to understand relative GDP impacts. However, in most cases, we recommend working with the unadjusted results, as otherwise the outcomes may be confusing and unusable from a practical point of view.

NOTE:

Measuring value by quantifying GVA impacts is the most mature approach of those considered as part of the VBA method v0.1. However, ongoing research is exploring the link between the improvement in material conditions experienced by the beneficiaries of GVA creation and the resulting improvement in the quality of life and well-being.

The elements of the OECD's well-being framework (see Figure 5) are interconnected. An increase in income may facilitate a change in housing conditions, which could, in turn, improve personal security and health. Further development of the methodology should focus on better quantifying these secondary effects to enhance our understanding of the impact and value of GVA creation.

Recently, the use of GDP or GVA as a measure of progress or as a definition of value has been criticised. GDP is now often seen as an insufficient measure in light of other pressing social needs, as it does not capture a population's quality of life or well-being.[13,14]

Many organisations have attempted to establish frameworks for a more complete measure of people's well-being. The OECD well-being conceptual framework (see Figure 5) shows how components of GVA (income and earnings) might be incorporated into a holistic definition of individual well-being.

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[13] Shinwell & Shamir (2018): Measuring the impact of businesses on people's well-being and sustainability: Taking stock of existing frameworks and initiatives, OECD Statistics Working Papers, No. 2018/08, OECD Publishing, Paris, https://doi.org/10.1787/51837366-en.
[14] Kapoor & Debroy (2019): GDP Is Not a Measure of Human Well-Being. Harvard Business Review, October. https://hbr.org/2019/10/gdp-is-not-a-measure-of-human-well-being.

INDIVIDUAL WELL-BEING
(Population averages and differences across groups)

Quality of Life

- Health status
- Work-Life balance
- Education and skills
- Social connections
- Civic engagement and governance
- Environmental quality
- Personal security
- Subjective well-being

Material Conditions

- Income and wealth
- Jobs and earnings
- Housing

INDIVIDUAL WELL-BEING
(Population averages and differences across groups)

Natural Capital   Human capital

Economic Capital   Social Capital

Figure 5: The OECD well-being conceptual framework[15]

Therefore, a new definition of value may include GVA as a foundation in understanding the contribution that a business makes to the well-being of its stakeholders. However, we recognise that it is merely one facet of the impact that a company has on people.

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[15] Source: OECD (2011): How's Life? Measuring Well-Being. OECD Publishing, Paris. https://www.oecd-ilibrary.org/economics/measuring-the-impact-of-businesses-on-people-s-well-being-and-sustainability_51837366-en;jsessionid=DJNAAPSDbLEnXPoyqAOYBfvy.ip-10-240-5-111.

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3. APPENDICES

3.1. SOCIO-ECONOMIC INDICATORS

Table 5: Socio-economic indicators

Indicator	Sub-indicator	Context	Frameworks defining measurements e.g.[16]
Social			
Occupational Health & Safety	Injury	Short absence	GRI (403-9)[17], WEF IBC Health & well-being
		Long absence	
		Partial incapacity	
		Full incapacity	
		Fatality	
	Illness	Short absence	GRI (403-10)[18], WEF IBC Health & well-being
		Long absence	
		Partial incapacity	
		Full incapacity	
		Fatality	
Training	Training hours	Number of employees; total wages (all employees), number of people leaving in year, average age of employees per country	GRI (404-1), SASB HC 101 - 15
Economic			
GVA	GVA – Production approach	Revenue	GRI (201-1 and 201-4, 207), WEF IBC Net economic contribution, Net investment
		Other operating income	
		Net changes in inventory of finished goods	
		Work in progress	
		Raw materials	
		Other operating expenses	
		Financial income	
	GVA – Income approach	Profit (after taxes)	
		Depreciation + Amortization + impairment expenses	
		Employee benefits expense	
		Tax expenses (less production subsidies)	
		Interest expenses	

[16] Note that these frameworks define indicators in physical terms (mass, volume, etc.). Valuation is not addressed in them.
[17] Based on GRI 403 (2018)
[18] Based on GRI 403 (2018)

3.2. LIST OF FIGURES AND TABLES

Tables:

Figures:

3.3. LIST OF ACRONYMS

CV	Contingent valuation
DALYs	Disability-adjusted life years
DALYs	Disability-adjusted life years
GVA	Gross value added
HALYs	Health-adjusted life years
IO	Input output
P&L	Profit & Loss
QALYs	Quality-adjusted life years
NVA	Net value added
SDR	Social discount rate
TEV	Total economic value
VBA	Value Balancing Alliance
VSL	Value of a statistical life
WTA	Willingness to accept
WTP	Willingness to pay
YLL	Years of lost life

3.3. GLOSSARY

Term	Definition	Source
Activity data	A quantitative measure of a level of activity that results in GHG emissions. Activity data is multiplied by an emissions factor to derive the GHG emissions associated with a process or an operation. Examples of activity data include kilowatt-hours of electricity used, quantity of fuel used, output of a process, hours equipment is operated, distance travelled, and floor area of a building.	GHG Protocol (2015)
Amortisation	Accounting definition for intangible assets according to IAS 38.8: Amortisation is the systematic allocation of the depreciable amount of an intangible asset over its useful life.	IFRS
Asset	Asset definition according to the IFRS Conceptual Framework (rev. 2018), Par. 4.3: An asset is a present economic resource controlled by the entity as a result of past events (An economic resource is a right that has the potential to produce economic benefits.).	IFRS
Capital	Stocks of value on which all organizations depend for their success as inputs to their business model, and which are increased, decreased or transformed through the organization's business activities and outputs. The capitals are categorized in this Framework as financial, manufactured, intellectual, human, social and relationship, and natural.	IIRC (2013)
Depreciation	Depreciation definition for tangible assets according to IAS 16.6: Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life.	IFRS
Disability Adjusted Life Years	A burden of disease measure based on the number of years lost from premature death, disease, or disability. The loss of one healthy year of life due to death or illness is equal to one DALY. DALYs were developed by the World Bank and World Health Organization in 1993 to both quantify disease and disability burdens globally and set intervention priorities. Instead of a scale of health like QALYs, DALYs are related to a degree of disability for a specific disease or disability from none (0) to death (1).	Gold et al., (2002)
Discount rate	Definition of a discount rate that must be used for calculating the amount of provisions: Pre-tax rate (or rates) that reflect(s) current market assessments of the time value of money and the risks specific to the liability. The discount rate(s) shall not reflect risks for which future cash flow estimates have been adjusted.	IFRS Foundation (2010) – IAS 37.47

Driver (direct and indirect)	Any natural or human-induce factor that directly or indirectly causes a change in an ecosystem	TEEB (2010)
Downstream	GHG emissions or removals associated with processes that occur in the life cycle of a product subsequent to the processes owned or controlled by the reporting company	GHG Protocol (2011)
Effects	Intended or unintended change due directly or indirectly to an intervention.	DAC/OECD (2010)
Externality	Consequence of an activity that affects interested parties other than the organisation undertaking the activity, for which the organization is neither compensated nor penalized through markets or regulatory mechanisms	ISO 14007 (2019)
Extrapolated data	Data specific to another process or product that has been adapted or customized to resemble more closely the conditions of the given process in the studied product's life cycle.	GHG Protocol (2011)
gate-to-gate	Product's life cycle from production	ISO 14007 (2019)
gate-to-grave	Product's life cycle from use, end-of-life treatment, recycling and final disposal	ISO 14007 (2019)
Gross National Income	Gross national income (GNI) is defined as GDP plus compensation of employees receivable from abroad plus property income receivable from abroad plus taxes less subsidies on production receivable from abroad less compensation of employees payable abroad less property income payable abroad and less taxes plus subsidies on production payable abroad.	SEEA (2012)
Gross Domestic Product	Gross domestic product (GDP) is an aggregate measure of gross value added for all resident institutional units. It can be measured in three conceptually equivalent ways: (a) Income measure of GDP. The income measure of gross domestic product (GDP) is derived as compensation of employees plus gross operating surplus plus gross mixed incomes plus taxes less subsidies on both production and imports; (b) Expenditure measure of GDP. The expenditure measure of gross domestic product (GDP) is derived as the sum of expenditure on final consumption plus gross capital formation plus exports less imports; (c) Production measure of GDP. The production measure of gross domestic product (GDP) is derived as the value of output less intermediate consumption plus any taxes	SEEA (2012)

	less subsidies on products not already included in the value of output.	
Gross Value Added	Gross value added (GVA) is defined as output (at basic prices) minus intermediate consumption (at purchaser prices); it is the balancing item of the national accounts' production account.

GVA can be broken down by industry and institutional sector. The sum of GVA over all industries or sectors plus taxes on products minus subsidies on products gives gross domestic product.
By subtracting consumption of fixed capital from GVA the corresponding net value added (NVA) is obtained.
The concepts of "GVA at market prices", "GVA at producer prices" and "GVA at basic prices" are no longer used in ESA 2010. | Eurostat (2020) |
Health Adjusted Life Years	Summary of population health measurements that combines death and morbidity impacts.	Gold et al., (2002)
Human Capital	The knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being.	Social & Human Capital Coalition (2019)
Human well-being	Concept prominently used in the Millennium Ecosystem Assessment – it describes elements largely agreed to constitute 'a good life', including basic material goods, freedom and choice, health and bodily well-being, good social relations, security, peace of mind, and spiritual experience.	TEEB (2010)
Impact	Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.	DAC/OECD (2010)
Impact pathway	An impact pathway describes how, as a result of a specific business activity, a particular impact driver results in changes in natural capital and how these changes in natural capital affect different stakeholders.	Natural Capital Coalition (2016a)
Input	The financial, human, and material resources used for the development intervention.	DAC/OECD (2010)

Materiality	Accounting under IFRS: According to the conceptual framework for IFRS, rev. 2018), Par. 2.11, materiality is defined as: Information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial reports (see paragraph 1.5) make on the basis of those reports, which provide financial information about a specific reporting entity. In other words, materiality is an entity-specific aspect of relevance based on the nature or magnitude, or both, of the items to which the information relates in the context of an individual entity's financial report. Consequently, the Board cannot specify a uniform quantitative threshold for materiality or predetermine what could be material in a particular situation.	IFRS
Materiality	A matter is material if it could substantively affect the organization's ability to create value in the short, medium or long term.	IIRC (2013)
Outcome	The likely or achieved short-term and medium-term effects of an intervention's outputs.	DAC/OECD (2010)
Output	The products, capital goods and services which result from a development intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes	DAC/OECD (2010)
Own operation	Gate-to-gate: environmental aspects and potential environmental impacts throughout a product's life cycle from production (LCA addresses the environmental aspects and potential environmental impacts (e.g. use of resources and environmental consequences of releases) throughout a product's life cycle from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal (i.e. cradle-to-grave).)	ISO 14044 (2006)
Primary data	Data from specific processes in the studied product's life cycle.	GHG Protocol (2011)
Purchase Power parity	currency exchange rate between two countries at which the same bundle of goods can be bought	ISO 14008:2018
Quality Adjusted Life Years	A health measure that incorporates quality of life and life expectancy based on average samples of health ratings from groups of people and/or professionals. One year in full or perfect health is equal to one QALY. Health-related quality of life (HRQL) is plotted on a scale of 0 (death) to 1 (full health) (see diagram below). The QALY was developed primarily for cost-effective analysis (CEA) in the late	Gold et al., (2002)

	1960s to determine the effectiveness of different medical treatments, technologies, and interventions.	
Secondary data	Process data that are not from specific processes in the studied product's life cycle.	GHG Protocol (2011)
Total Economic Value	Total Economic Value (TEV): a framework for considering various constituents of value, including direct use value, indirect use value, option value, quasi-option value and existence value	TEEB (2010)
upstream	cradle-to-gate: environmental aspects and potential environmental impacts throughout a product's life cycle from raw material acquisition (LCA addresses the environmental aspects and potential environmental impacts (e.g. use of resources and environmental consequences of releases) throughout a product's life cycle from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal (i.e. cradle-to-grave).)	ISO 14044 (2006)
upstream	GHG emissions associated with processes that occur in the life cycle of a product prior to the processes owned, operated or controlled by the organization implementing this PAS	PAS (2011)
upstream	GHG emissions or removals associated with processes that occur in the life cycle of a product prior to the processes owned or controlled by the reporting company.	GHG Protocol (2011)
Valuation	The process of estimating a value for a particular good or service in a certain context in monetary terms.	TEEB (2010)
Value of a Statistical Life	which represents the value a given population places ex ante on avoiding the death of an unidentified individual	OCED (2012)
Willingness to accept compensation	Minimum amount of money an individual is prepared to accept as compensation to forgo an environmental improvement or to tolerate an environmental loss	ISO 14008 (2018)
Willingness to pay	Maximum amount of money an individual is prepared to pay to secure an environmental improvement or to avoid an environmental loss.	ISO 14008 (2019)

Years of Lost Life (YOLL)	Years of life are lost (YLL) take into account the age at which deaths occur by giving greater weight to deaths at younger age and lower weight to deaths at older age. The years of life lost (percentage of total) indicator measures the YLL due to a cause as a proportion of the total YLL lost in the population due to premature mortality. YLL are calculated from the number of deaths multiplied by a standard life expectancy at the age at which death occurs. The standard life expectancy used for YLL at each age is the same for deaths in all regions of the world and is the same as that used for the calculation of Disability Adjusted Life Years (DALY). Additionally 3% time discounting and non-uniform age weights which give less weight to years lived at young and older ages were used as for the DALY. With non-uniform age weights and 3% discounting, a death in infancy corresponds to 33 YLL, and deaths at ages 5 to 20 to around 36 YLL.	WHO (2020)

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3.5. ACKNOWLEDGEMENTS

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[19] Without official approval, involved in conversations.

Consultation responses at consultations@value-balancing.com

Visit us at value-balancing.com
Contact us at info@value-balancing.com

Value balancing alliance e.V.
Bockenheimer Landstraße 2260323
Frankfurt am Main
Germany
t   +49 (0)69 153 29 36 – 10
info@value-balancing.com