JEVONS GLOBAL

Jevons Global Investment Philosophy, Process & Policies

Summary

Jevons Global considers responsible investing, and sustainability goals, to be an essential element of the investment process. In addition to the usual analyst research and portfolio construction tasks, we consider thematic investing to be a key component of purposeful change in corporate activity. Specifically, our themes relate corporate activity to durable demand drivers. Our investment process is focused on how such corporate activities are to be maintained, over time, in a better and more sustainable fashion. Within thematic sectors, our analysis focuses on the main determinants of responsible investment. Having identified these key factors, on a sectoral basis, we tilt our portfolio construction accordingly using quantitative screens to assess quality, value, and growth momentum.

The integrated research process we employ is designed to target companies that are most likely to prove sustainable examples of their sectoral focus, over time. Since all thematic sectors in our process are deemed important long-term contributors to society, portfolio exclusions centre on those corporate activities that are both deleterious and inessential to maintain the economy.

Jevons Global Investment Philosophy

Our **investment philosophy** is simple:

> *Changes in human behaviour drive long-term opportunity.*

Traditional portfolio management tends to focus on the **growth**, **value**, or **quality** dimensions of equity market investments. These approaches can founder whenever there is a major change in the marketplace. Our philosophy transcends the traditional approaches by recognising how investors typically respond to change through the mental construct of an **investment theme.** These relate to how investors categorise and understand change within durable **elemental drivers of progress**.

From a psychological perspective, the economy is constantly adapting to serve a few basic **consumer needs and wants**, using inputs from the world of **natural resources**. These are transformed in ever more ingenious ways through the productivity enablers like **technology** and the manifold varieties of **infrastructure** that connect, house and finance businesses and their customers, Figure 1.

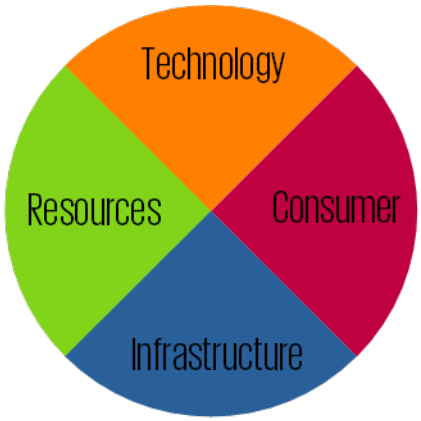

Figure 1 The durable elements of economic activity which adapt and change through time.

This basic system of classification is simple enough to be durable over time. One can imagine filling in the relevant categories for prehistoric man: the technology of fire; an earth hut to live in; grains or fresh meat from the fields of nature; and perhaps beads, pots, and trinkets for consumer trade. In the course of time, society develops, and the concrete items and activities change, but the pattern is largely the same. In the early Middle Ages, textiles, manufacturing, shipping, banking, and insurance would have been increasingly important to the merchants, peasants, and landowners of the time. In our time, the picture is more elaborate, since we need to carefully distinguish the many specialised activities, and interconnected nature of the global economy. However, the system is simple enough to capture the basic axes of trade – that with nature; that with the end consumer; and that which is neither; but somehow plays the role of a glue between everything else, to hold the system together.

What we can say, with confidence, is that each of these four areas is necessary. We cannot take one away and have a sustainable economic system. However, it is also clear that what activities happen within each of the four will change constantly over time. Themes are the labels we give to changing activities, some with rising importance, some falling, but always contributing to the whole picture. This system is readily updated by sub-division to cope with change. Each of the four super-sectors of activity splits readily into two complimentary sub-sectors. We view economic change as progressive sectoral sub-division, with the fastest changes happening at the lowest level. In the last fifty years, the sub-division of four to eight sub-sectors is most meaningful. Technology split into machines of an analogue nature, and digital computers. Consumerism gave rise to wants, such as automobiles, along with needs like healthcare. Infrastructure has grown via a vast financial network of banking and insurance as a compliment to utilities and real estate. Natural resources expanded into an array of metals, energy, and basic materials, along with the food value chain from farm to fork, Figure 2. We view social change through a thematic lens as a dynamic and constantly refined sector system.

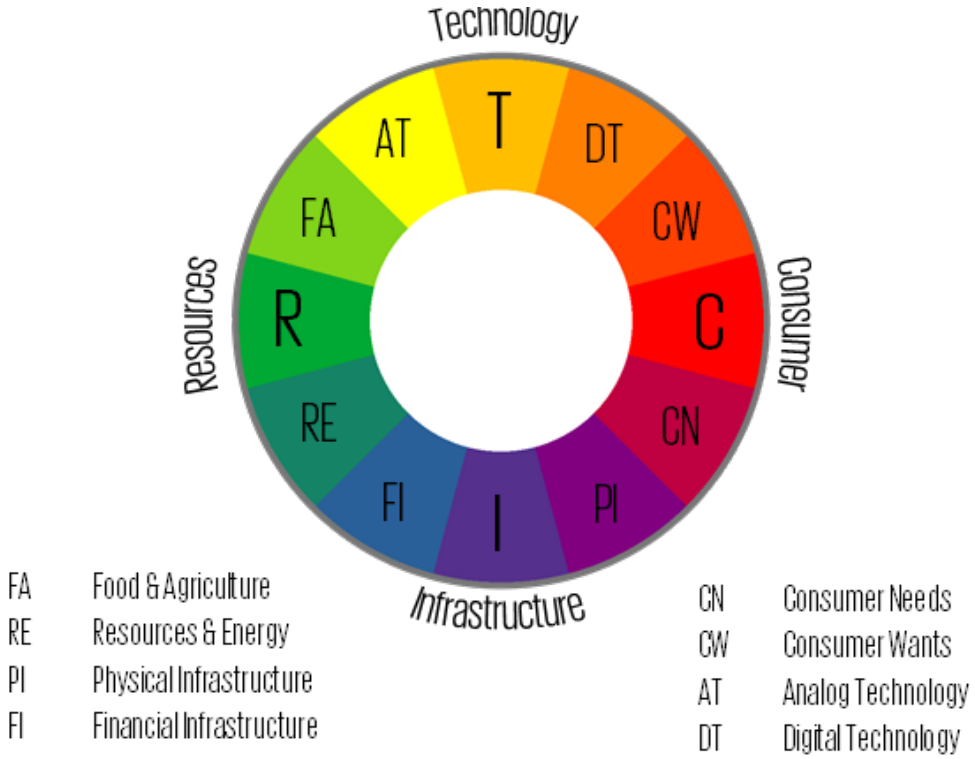

Figure 2 The Jevons Global Thematic Sectors divide the elemental four into eight sectors.

Jevons Global Thematic Sectors

Our investment philosophy, of focusing on the changing categories of economic activity, starts with the above abstract view of change, which is soon made concrete by sub-division of categories, and the use of activity labels to describe how the economy is changing under the surface. Using the basic structure detailed in Figure 2, which is adequate to describe the last fifty years, we can take pretty much any existing stock classification system and reassign companies to these eight categories. We use the **Refinitiv Business Classification**. This has very detailed activity level labels for all stocks globally and has a hierarchical structure that is easily adapted to fit our thematic sectors. Innovation in the economy shows up as new activity classifications at lower levels of this hierarchy. Value chain analysis can be done by collecting relevant sub-levels and regrouping them in new categories.

This results in a series of eight super-sectors for research coverage, with detailed stock level labels, and customised value-chain specific groupings for themes which cross sectors. The result is a system of **thematic sectors**, with relatively stable risk characteristics, which can be rearranged at the lower levels to drill down in specific research themes. For instance, an emerging theme such as electric vehicle metals can be readily captured within Resources & Energy by augmenting the standard Refinitiv labels with more detailed labels such as lithium, cobalt, nickel, and graphite. The value of the thematic sector system is that it enables the dynamic creation of thematic peer groups, and a ready means to aggregate portfolio exposures into standard sectors for managing risk.

Jevons Global Thematic Research

Our research proceeds to develop a picture of how a particular theme, like the **energy transition**, is evolving in the marketplace with respect to the **industry drivers** and **value drivers**, Figure 3. The metaphor of an evolutionary tree, with related elements, is often very helpful at this stage.

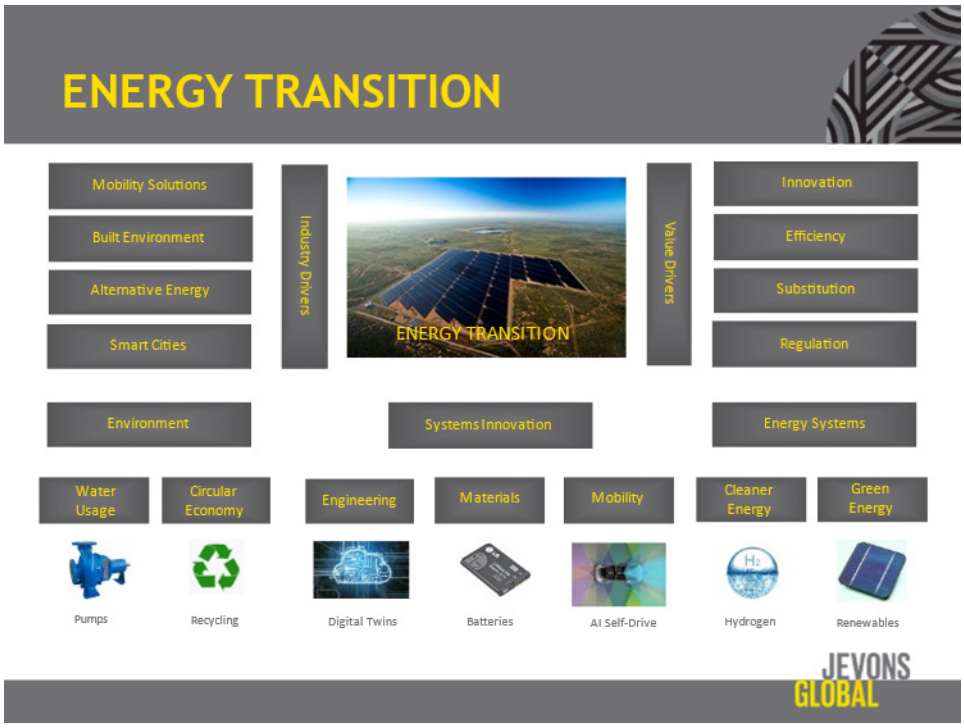

Figure 3 A thematic tree helps to visualise the relationships between thematic activities.

Jevons Global Portfolio Construction

There are two levels to our portfolio construction process. There is the **top-down** allocation towards thematic sectors and sub-sectors and there is the **bottom-up** stock-selection to populate each. We then reference our risk exposure and return expectations to the mandate benchmark. For instance, country level benchmarks, like the S&P/ASX 200, or the US S&P 500, can be analysed using thematic sectors, or the conventional ones, which helps manage both portfolio risk and portfolio reporting.

This top-down analysis is complemented by use of bottom-up quantitative screens. These are used at the company level to help focus research on valuation, earnings momentum, price momentum, dividend yield and cash-flow metrics. Since our system is anchored by Refinitiv activity labels, we use StarMine as the source of quantitative factors to support our quantitative screening process.

The thematic research into drivers and detailed peer groups for participating companies helps in the synthesis of the top-down and bottom-up perspectives. Our portfolio construction goal is to create a diversified thematic portfolio across theme-specific subsectors and to populate each sleeve of that portfolio with the better examples of such stocks across value, growth, and quality metrics. Within a major theme, such a climate change adaptation, there are multiple exposure possibilities which are best blended to reflect the near-term outlook. This might mean upweighting solar PV firms, and the trimming of renewable utility firms, or vice-versa. The final step is to adjust the aggregate portfolio attributes, in sector exposure and quantitative factors, Figure 4. The process is iterative, and aims for a modest valuation discount, at suitable growth rates, and with controlled sector risk exposure.

Date 31-Dec-22

Jevons Global Australian Model Portfolio Characteristics

JG Sector*	Jevons Global Sector	ASX200	Pre-Trade	Active	Post-Trade	Active	Change	Portfolio Strategy Commentary
RE	Resources & Energy	30.5%	28.3%	-2.2%	28.3%	-2.2%	0.0%	slight under-weight resources and energy
FA	Food & Agriculture	5.1%	6.1%	1.0%	6.1%	1.0%	0.0%	slight over-weight in food via supermarkets and grain handling
FI	Financial Infrastructure	29.1%	29.5%	0.4%	29.5%	0.4%	0.0%	market-weight in financials on restoration of dividends
PI	Physical Infrastructure	11.4%	6.2%	-5.2%	6.2%	-5.2%	0.0%	under-weight infrastructure due to interest rate sensitivity
DT	Digital Technology	6.1%	9.1%	3.0%	9.1%	3.0%	0.0%	over-weight selected technology
AT	Analog Technology	1.2%	0.0%	-1.2%	0.0%	-1.2%	0.0%	no holdings but this is a small sector
CN	Consumer Needs	10.5%	13.4%	2.8%	13.4%	2.8%	0.0%	overweight selected health-care
CW	Consumer Wantts	6.1%	7.4%	1.3%	7.4%	1.3%	0.0%	market-weight consumer cyclicals
Cash		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Totals	100.0%	100.0%	0.0%	100.0%	0.0%		

JG Factor^	Jevons Global Metrics	ASX200	Pre-Trade	Vs Index	Post-Trade	Vs Index	Change	Portfolio Strategy Commentary
ALP	Alpha Model	69.25	73.77	4.52	73.77	4.52	0.00	higher on quantitative alpha signal to better than index
VAL	Price/Intrinsic Value	0.86	0.72	-0.15	0.72	-0.15	0.00	cheaper on long-term value (1 is fair value)
PEH	P/E (Current)	14.01	11.14	-2.87	11.14	-2.87	0.00	cheaper on current PER
PBV	Price To Book Value	2.07	1.85	-0.21	1.85	-0.21	0.00	cheaper on book value
PCF	Price To Cash Flow	6.94	5.34	-1.60	5.34	-1.60	0.00	cheaper on price to cash flow
PSL	Price To Sales	2.28	1.85	-0.43	1.85	-0.43	0.00	cheaper on price to sales
PEF	Forward P/E	14.17	12.28	-1.89	12.28	-1.89	0.00	cheaper than market on forward PER
YLD	Dividend yield	6.17	6.95	0.78	6.95	0.78	0.00	higher dividend yield
ROE	ROE (Current)	14.8%	16.6%	1.9%	16.6%	1.9%	0.0%	higher on ROE

Figure 4 The final portfolio construction phase squares stock selection with a risk analysis.

Role of ESG Metrics in our Investment Process

The active element of this research-led investment process is supplemented by use of third party Environmental, Social and Governance (ESG) scores which we source from Refinitiv. Reference to such metrics helps guide our research focus to check whether the results of our thematic conception of responsible investing squares with wider industry practise. However, we have found that typical ESG metrics, including those that we source from Refinitiv, often exhibit **systematic biases**. The scores are often top-heavy to **large-capitalisation companies**, **developed market companies**, and are exhibit a **growth-company bias**, to the detriment of value-based investment strategies. For this reason, we confine our use of commercial ESG metrics to a sense-check of the proposed portfolio. The ESG scores can be useful in this regard, since they raise important discussion points, but we do not believe that they can form any reasonable basis for an investment decision, of themselves.

Jevons Global Responsible Investing Policy

The investment process described above enables us to formulate clear answers to key questions such as the sustainability of energy generation. The carbon intensity of fossil fuels can be scientifically analysed in relation to the hydrogen to carbon ratio with higher values being better. On this basis we prefer natural gas, to petroleum, to coal, in relation to carbon intensity. Renewables are better than fossil fuels, in respect of emissions, but may not be readily available in every market. Coal is twice as carbon intensive as natural gas. Similarly, hydrogen, as a fuel in gas turbines or fuel cells, burns clean, but may be sourced from fossil fuels (blue hydrogen) or renewable energy via electrolysis (green hydrogen). These research questions can help guide investment selection.

Our overarching attitude to responsible investing can be summarised as follows:

> *All four elemental drivers are necessary for sustainable development but not every nation or economy is fully advanced in their progress to lower emissions and better business practices.*

Our ethical approach is to recognise and evaluate grey areas through the lens of economic viability. For this reason, we do not favour blanket company or country exclusions unless there is an overall clear negative. Examples include the tobacco industry and present-day Russia. Some assessments are static: we don't ever envisage investing in tobacco companies, even with the advent of vaping. Others could easily change. For instance, we do not generally invest in the weapons industry, but are careful to note that all major civilian aircraft and aircraft engine manufacturers are also involved in the armaments industry. Furthermore, there is an obvious need for defensive weapons and the supply of ammunition and training services, in times of war, involving recognised allies, such as Ukraine.

Jevons Global Sustainable Development Policy

It is our conviction that all nations and peoples have a right to develop. Depending on the natural endowment, they may be limited in some areas of sustainable development potential. We recognise that nations are at varying stages of development, with different future development potential, and possibly different development pathways open to them. For this reason, our philosophy seeks to focus evaluation of investment opportunities on the best incremental development path and what we consider to be the better long-term future development pathways. The first is open to appraisal via standard financial metrics combined with an account of the trade-off in negative externalities that may be avoided by new investment. The second is open to advocacy and engagement.

For example, in our view, one effective mitigation strategy for marginal greenhouse gas emissions is the prevention of fugitive methane leaks from natural gas pipelines and the elimination of natural gas flaring from producing wells. For this reason, we invested in oil services firm SLB, which offers a technologically advanced range of services to implement such strategies with large volume facilities. This approach would not fit with firms that pursue blanket exclusion policies for fossil fuel related investment. However, we think that it represents an effective interim emissions reduction pathway that has few to no visible obstacles to rapid progress. The capital efficiency is also very high.

The longer-term examples of advocacy can be met through raising awareness of the significant role played by Heating Ventilation and Air-Conditioning (HVAC) in the life-cycle carbon emissions of a commercial or residential building. Developers are often reluctant to specify more efficient plant as this is not always passed through in the selling price of a finished apartment or office building. The same is true of electric vehicle charging facilities in the basement of new build apartments, or the opportunity to use flat roof space for the installation of solar panels. Our view of sustainability is that it should occur by design at the inception of each project. Failing that, facilitate a retro fit.

Jevons Global Environmental Accounting Policy

Our firm believes the challenges of sustainable investment reporting are best met via use of selected **physical efficiency metrics**, that are commonplace in emissions intensive activity. These measures are non-financial, but physically based, and subject to an array of existing measurement standards. Unlike accounting standards, these are usually less subject to interpretation, but do require systems for measurement and physical accounting for stocks and flows. The measures relate to energy and material inputs, the relevant physical outputs, and negative externalities, such as waste volumes.

Although these measures have been gathered for many years, the investment community does not appear to be making effective use of them. We believe this position may change through effective advocacy. It is our policy to support physical accounting for energy and material flows. In reference to our former statement of policy on the use of ESG Metrics, we specifically prefer the unadjusted and as reported energy and material flows of the target company. We ascribe little value to data vendor scores of the E, S, and G variety. We prefer quantitative measures of energy consumption, the fuel and energy efficiency of installed plant, and the relevant stocks and flows for waste generation.

Jevons Global Integrated Resource Efficiency Policy

Our solution to developing an integrated research process for financial efficiency, alongside physical efficiency, is to focus on the appropriate like-for-like efficiency ratios. For example, return on equity measures the financial efficiency of the firm in use of equity capital to generate a financial profit. In the natural world, financial metrics have no significance. The relevant ratios to measure efficiency are those that compare like-with-like physical quantities in an input-output paradigm. The obvious example is fuel conversion efficiency, in terms of the percentage of fuel energy content that may be converted to useful energy in motion. The partner of that, when measured on the level of transport utility is kilometres travelled per litre of fuel used.

> *Our investment process is unique in that we put financial efficiency alongside physical efficiency in our appraisal of investments.*

The linkage terms between these two systems of efficiency measurement are prices.

Once we understand this need for a trade-off between physical and financial efficiency, which adjusts according to changing prices, we can make a consistent and coherent appraisal of energy-transition capital allocation. This is our preferred solution to the problem of sustainable investment research. This is not the investment industry preferred solution since many analysts have no to little training in the physical sciences. However, our firm does have insight into physical efficiency appraisal, and we find that this is also the preferred language of management and engineering in industries that have high emissions intensity. Unlike many other firms, it is our firm conviction that emissions are most readily reduced, at speed and at scale, by positively directing capital investment to replacement plant and process that will deliver the products that society needs at lower emission levels.

However, it is important to square internal research conclusions against external sources. The thematic research process may direct us to prefer certain companies over others, but it is important to check that against external reference points. For this purpose, our team applies ESG metrics, sourced from Refinitiv, to both the company and portfolio exposures. The step helps to sense-check our own research and help guide portfolio weights, with due regard to those systematic biases which are inherent in all commercial ESG scoring systems that we have examined to date.

Community Standards, Ethics and Engagement Policy

Contemporary investment implementation, via platforms, may not allow for active engagement with the management of a target investment. This is due to the shift towards separately managed accounts and investment platforms. When our firm acts in an advisory capacity, and does not directly vote in shareholder meetings, we offer guidance to our clients on questions of corporate sustainability. This includes public advocacy for the consideration of the full range of opportunities to mitigate social harms from corporate activity. Normally, we do not vote at shareholder meetings, as we are not, in general in, possession of the relevant voting rights. This may change according to the mandate.

Advocacy might include the important role of defense, weapons manufacture, and national security in investment portfolios. It has been our practise to avoid investments in tobacco firms, controversial weapons manufacturers, exploitative marketing and financial practises and those cases where we believe management has failed in their duty to all stakeholders. These decisions must be made in the context of an over-arching philosophy to the subject of ethical decision making. Ours is simple:

> *Ethical decisions, of a non-trivial nature, are rarely a judgment of who is good and who is bad. They are most-often concerned with weighing the trade-off between legitimate competing interests. These are the most difficult and must be approached carefully.*

Therefore, we are generally reluctant to rule out investment in specific industries or countries unless we see a clear over-arching negative. The Russian invasion of Ukraine is one such case. In that case, we established a restriction on investing in Russian assets, and interests, and lifted a moratorium on weapons manufacturers who we might normally avoid, but which provide important materiel and intelligence support to Ukraine in their defense of their homeland. However, we did not impose any such restriction on any nation other that Russia in respect of their UN Voting record.

About Jevons Global

Jevons Global is a boutique investment research firm. We discover opportunity through innovative analysis of change in the global economy using a rich quantitative toolset. Our solutions are based on independent, entrepreneurial thinking and processes. Our mission is to give you a competitive edge by creating deeper, richer investment strategies that deliver superior long-term results.

Principal – Dr Kingsley Jones, CFA

Dr Kingsley Jones is Founding Partner/CIO for Jevons Global. He has been Portfolio Manager for the Macquarie Global Thematic Fund and Global Head of Quantitative Trading Research at AllianceBernstein. Kingsley holds a PhD in Theoretical Physics from the University of Bristol (1990), and a BSc (Hons) from ANU (1984) and is a CFA Institute member and charter holder. He is a frequent media commentator on global markets, appearing on the CNBC financial network, Channel News Asia (CNA), BFM 89.9 Business News Radio in Malaysia, Boardroom Media, Livewire, and others. His major contribution to investment practice is the cost-basis theory of market sentiment, a method for estimating the unrealised profit and loss of investors. This technique is most useful for navigating bull and bear market cycles.

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Jevons Global Pty Ltd requires documentary proof that prospective clients meet the definition of a Wholesale Client – also known as a Sophisticated Investor.

The Australian Corporations Regulations prescribe the asset and income criteria which must be met for the issuance of a Sophisticated Investor Certificate.

A person is only eligible to be the subject of a certificate if they have:

- a gross income of $250,000 or more per annum in each of the previous two years, or,
- net assets of at least $2.5 million (reg 6D.2.03 and reg 7.1.28).

The rationale is that people meeting one of these criteria are more likely to be able to evaluate offers of securities and some financial products (such as interests in managed investment schemes) without needing the protections of a regulated disclosure document.

The relevant sections of the Australian regulatory code are set out here.

We can provide a form for your accountant on request.