Beyond Carbon: Measuring What Matters in Rotary Service

Executive Summary

Rotary clubs worldwide are increasingly encouraged—and in some cases expected—to demonstrate environmental responsibility through carbon footprints, emissions targets, and sustainability commitments. These tools are useful, but they are not sufficient to describe Rotary's true value to society and, if overemphasized, risk narrowing Rotary's mission to what is easiest to measure rather than what matters most.

Rotary is not primarily an emissions-management organization. Rotary is a human problem-solving network. Its core work—clean water, sanitation, health, education, disease prevention, and community resilience—directly improves quality of life and often reduces environmental harm as a secondary effect. Many of Rotary's most effective service projects address root causes of environmental degradation by improving human systems rather than optimizing energy use or consumption patterns alone.

This white paper proposes a complementary, human-centered framework for measuring Rotary impact: the Rotary Impact Equivalent (RIE), defined as one healthy human life-year gained or preserved. Inspired by established UN and WHO health metrics, Project Drawdown's solutions-first framing, GiveWell's transparency and cost-effectiveness discipline, and enabled by modern AI technologies, RIE offers Rotary a practical way to compare projects, prioritize resources, and communicate impact—without reducing service to carbon accounting alone.

Carbon footprints remain relevant and are addressed directly in Appendix A, including discussion of ESRAG tools and the limits of club-level carbon accounting. A Rotary Impact Dashboard concept is developed in Appendix B, and a deep methodological comparison—including RIE, DALYs/QALYs, Drawdown, GiveWell, zero-carbon models, and AI-enabled translation—is provided in Appendix C.

This paper also introduces the concept of *virtuous cycles* in Rotary service—where human-centered interventions generate compounding benefits over time, creating a perpetuity of health,

environmental improvement, and economic development that cannot be fully captured by carbon metrics alone. The proposed **Rotary Impact Equivalent** (RIE) **methodology**, described later in this paper, provides a practical and transparent way to estimate these compounding outcomes by translating diverse service interventions into healthy human life-years gained or preserved, expressed as ranges with explicit assumptions.

Before turning to measurement frameworks, it is useful to consider how individuals and organizations typically approach the goal of a *zero-carbon footprint* (Net Zero)—and where those approaches reach their limits.

When Individual Climate Action Reaches Its Limits

Many individuals and organizations become stalled when it comes to climate action—not from lack of concern, but from uncertainty about where meaningful action actually lies. Most people understand that the linear, extract–use–discard economic model built over the past two centuries is unsustainable, and that a transition toward a circular economy is necessary. Yet translating that awareness into action is difficult. Common entry points such as recycling, waste reduction, or small behavioral changes are helpful and symbolically important, but they rarely move the needle in proportion to the scale of the problem. As a result, well-intentioned actors often find themselves caught in a "lock, block, or do nothing" dynamic—aware that change is needed, but unsure where effort will actually matter.

For individuals and households, the most impactful direct actions—improving energy efficiency, adopting renewable energy such as rooftop solar, and reducing transportation emissions through telework or alternative commuting—can significantly reduce environmental impact, but typically only by a portion of the total footprint. Beyond that point, further progress requires a shift in thinking. Approaching something closer to a zero human footprint cannot be achieved through individual optimization alone. It requires looking outside one's immediate sphere of control and engaging with collective and system-level solutions. This transition—from personal action to shared responsibility— as discussed further in **Appendix D**, which outlines low-friction, credible pathways for extending impact beyond direct individual control.

Market Mechanisms and the Move Beyond the Individual "Box"

One way societies attempt to move climate action beyond individual limits is through market-based mechanisms such as cap-and-trade and voluntary carbon markets. In these systems, large emitters—such as fossil-fuel power plants or industrial facilities—are required to purchase carbon credits that represent verified emissions reductions or removals elsewhere. The underlying goal is to assign a real economic cost to emissions that were historically treated as free externalities, thereby aligning market incentives with environmental outcomes. In practice, such systems often require government intervention to establish caps, enforce compliance, and maintain credibility.

At the same time, voluntary carbon markets allow companies and individuals to apply similar logic without regulation, purchasing credits to offset portions of their footprint they cannot directly eliminate. While these mechanisms are imperfect and should not be seen as substitutes

for structural change, they reflect an important principle: once the most meaningful direct actions are taken, further progress depends on engaging collective, market-based, and system-level solutions. For those who wish to act without becoming experts in carbon markets, **Appendix D** provides guidance on simplified, low-research approaches that prioritize verified, credible pathways.

> Readers interested in how sustainability education, interdisciplinary learning, and professional pathways support these long-term outcomes can review **Appendix E**, which outlines educational and career-oriented sustainability frameworks aligned with human-centered impact.

Allocating Capital as Climate Action: Beyond Personal Footprints

Once individuals have taken the most meaningful direct actions available to them—such as improving energy efficiency, adopting renewable energy, or reducing travel emissions—further progress toward sustainability increasingly depends on how capital is allocated. For most households and organizations, investment choices shape far more environmental and social impact over time than marginal lifestyle optimization alone.

Importantly, not all "green" companies should be understood in the same way. Some organizations focus on minimizing their own operational footprint through renewable energy use, electrification, or efficiency improvements. Others generate far greater downstream impact by enabling systemic reductions elsewhere—for example, companies that improve energy efficiency across buildings, enable telework at scale, support circular material flows, or deploy clean infrastructure. From a human-centered perspective, the latter category often matters more, even if their own operational footprint is not zero.

A smaller subset of organizations pursue net-negative or regenerative models, removing more carbon from the atmosphere than they emit or restoring ecosystems while generating economic value. These firms are often early-stage, infrastructure-heavy, or privately held, but they illustrate an important principle: sustainability impact is driven not only by how clean a company is, but by what it enables the broader system to do differently.

Within the framework of this paper, investment and purchasing decisions should therefore be evaluated through the same lens as service projects: what human and environmental outcomes are enabled over time, and how durable and compounding those outcomes are. This logic aligns naturally with the Rotary Impact Equivalent (RIE) approach, which emphasizes systemic, long-term benefit rather than narrow accounting measures.

Virtuous Cycles and the Value of Measuring What Compounds

Rotary clubs are already delivering powerful, multi-dimensional impact through service projects that improve health, strengthen communities, protect the environment, and create lasting economic value. What has changed is not the nature of the work, but the ability to see it clearly. With the responsible use of generative AI, Rotary can now identify, translate, and estimate the full range of benefits embedded in both planned and completed projects—including impacts expressed as healthy human life-years gained or preserved through the Rotary Impact Equivalent

(RIE). This capability makes it possible to understand Rotary's contributions across human, environmental, and economic dimensions without reducing service to carbon metrics or cost alone.

Importantly, this approach acknowledges that many of Rotary's most valuable outcomes have historically been difficult to estimate in meaningful ways, not because they lack impact, but because their benefits compound over time and across systems. Many Rotary service projects are inherently sustainable, creating virtuous cycles that extend well beyond their initial scope and generate a *perpetuity of savings and development*. Prenatal and maternal health initiatives improve outcomes for mothers while shaping the health, educational attainment, and productivity of future generations. Water and sanitation projects reduce disease and improve daily well-being across entire communities, often catalyzing spillover benefits in adjacent areas and enabling the emergence of local enterprise and services. Increasingly, these human-centered interventions are amplified by modern enabling technologies—such as renewable energy, battery storage, and satellite communications—that allow communities to leapfrog legacy infrastructure constraints that historically limited economic and social development. While the downside of inaction is often well documented and measurable, the upside of effective human-centered interventions is fundamentally open-ended, producing durable, self-reinforcing benefits that can persist for decades. Frameworks such as RIE do not attempt to bound this upside precisely; they provide a responsible way to acknowledge and approximate its scale without ignoring uncertainty.

The Growing Demand for Impact Measurement

Across nonprofits, NGOs, and service organizations, expectations around impact measurement have shifted significantly over the past two decades. Stakeholders no longer ask only *what was done*; they increasingly ask *what changed as a result*. This evolution reflects a broader movement away from activity-based reporting toward outcome-based accountability, driven by funders, partners, members, and the public alike.

It is also important to recognize the practical limits of carbon reduction at the individual and club level. After accounting for energy efficiency, renewable energy adoption, and responsible daily habits such as recycling and composting, most individuals—and many organizations—reach a point of diminishing returns. Achieving true zero-carbon footprints typically requires supporting environmental projects elsewhere through offsets or collective action. Rotary occupies a distinctive position in this landscape. Through its global network and service initiatives, Rotary already operates at a scale where projects can both improve human well-being and reduce emissions. At the same time, many of Rotary's most valuable contributions—such as advances in health, sanitation, education, and community resilience—create benefits that extend far beyond what can be meaningfully captured in CO_2 terms alone.

For service organizations such as Rotary, this shift presents both an opportunity and a challenge. On the one hand, Rotary has a long history of meaningful, tangible impact that lends itself well to outcome-oriented storytelling. On the other hand, many of Rotary's most important outcomes—improved health, reduced disease, stronger communities, greater dignity—are inherently multidimensional and not easily captured by a single metric.

In environmental and sustainability contexts, the demand for measurable impact has often converged on **carbon accounting**. Carbon metrics offer an appealing sense of objectivity and comparability, and they align with global climate discourse, regulatory frameworks, and ESG reporting norms. As Rotary has formally recognized environmental sustainability as a core area of focus, it is natural that clubs and districts have explored carbon footprint tools, net-zero commitments, and emissions reduction strategies.

Carbon accounting answers a real and important question: *How much greenhouse gas is associated with a given activity?* However, it answers only that question—and no more. (For reporting standards—although, often voluntary reporting—the go beyond financial reporting see **Appendix F**.)

When carbon metrics become the dominant or exclusive lens for evaluating impact, several limitations emerge. These limitations are not unique to Rotary; they affect service organizations broadly, particularly those whose primary mission is human development rather than resource extraction or industrial production. In the Rotary context, overreliance on carbon metrics can unintentionally distort how impact is understood and communicated in at least three ways:

- **It emphasizes operations over outcomes**, drawing attention to meetings, meals, and travel rather than to the human problems Rotary is trying to solve.
- **It privileges what is easy to count**, even when those quantities are only loosely connected to Rotary's mission.
- **It risks underrepresenting Rotary's greatest contributions**, particularly in health, sanitation, and quality of life, where environmental benefits often occur indirectly.

This does not mean carbon accounting is misguided or unnecessary. Rather, it suggests that carbon metrics are best understood as **one component of a broader impact story**, not the story itself.

Rotary's central question has always been fundamentally different from the one carbon accounting answers. Rotary asks: *How did this effort improve lives?* Any measurement framework that cannot engage that question directly is, at best, incomplete.

The remainder of this paper builds on that distinction. Carbon footprints remain relevant and are addressed explicitly in Appendix A, where their appropriate role—and their limitations—are examined in detail. However, the core argument of this paper is that Rotary requires a **human-centered impact language** capable of capturing what Rotary does best, while still remaining compatible with environmental accountability and emerging sustainability expectations.

The Carbon Trap: When Measurement Becomes Misrepresentation

Carbon metrics are powerful tools, but like all tools, they shape behavior according to what they measure. When used thoughtfully, carbon accounting can improve awareness, inform better operational decisions, and align organizations with broader sustainability goals. When used without context, however, it can unintentionally misrepresent both responsibility and impact—particularly for service organizations like Rotary.

At the club level, carbon footprints typically focus on a narrow set of operational activities: member travel to meetings, food served at events, and energy used in meeting venues. These are tangible, visible, and relatively easy to estimate. As a result, they often become the focal point of sustainability discussions within clubs.

The problem is not that these activities generate emissions—they do. The problem is that **they do not exist independently of members' normal lives**.

As explored in detail in Appendix A, much of the carbon attributed to Rotary meetings overlaps substantially with activities that would have occurred regardless of Rotary participation. A member who drives to a weekly breakfast meeting might otherwise have driven to a café or workplace. Electricity consumed in a meeting room is often part of a facility's baseline load. Meals served at meetings frequently substitute for meals eaten elsewhere rather than adding incremental food consumption.

When this overlap is ignored, carbon accounting risks overstating Rotary's marginal environmental impact. This can lead to misplaced emphasis on optimizing club operations while diverting attention from Rotary's far more consequential influence through service projects.

Several recurring patterns illustrate how this misrepresentation can occur:
- **Substitution effects are overlooked**, treating Rotary-related activities as additive emissions rather than as replacements for other everyday activities.
- **Operational visibility outweighs materiality**, causing clubs to focus on what is easy to observe (meetings, meals) rather than what contributes most to net emissions.
- **Responsibility is misallocated**, implicitly assigning collective emissions to the club that are more accurately attributed to individual lifestyle choices.

This is not merely a technical concern; it is a strategic one. When sustainability conversations center narrowly on club operations, Rotary risks internalizing responsibility for emissions it does not meaningfully control, while underemphasizing the areas where it has genuine leverage.

One area where Rotary *does* exert significant influence—and where carbon accounting is often most justified—is **conference and training travel**, particularly air travel. Unlike routine local meetings, conference attendance frequently represents discretionary, Rotary-specific travel with a clear incremental carbon impact. Appendix A examines this distinction in depth and shows why conference travel often dominates a club's marginal carbon footprint, even when it occurs infrequently.

Recognizing this distinction allows for a more honest sustainability conversation. It shifts the focus from symbolic optimization to meaningful decision-making, such as:
- evaluating the necessity and frequency of travel,
- exploring hybrid participation models,
- and embedding offsets in high-impact service projects rather than treating them as abstract compensations.

Most importantly, it reframes carbon accounting as a **tool for accountability**, not as a proxy for Rotary's overall value to society.

The central risk of the "carbon trap" is not that Rotary measures emissions—it is that Rotary may allow emissions metrics to crowd out its core narrative. Rotary's mission is not to minimize operational footprints in isolation. It is to solve human problems that, left unaddressed, often generate far greater environmental and social harm.

For this reason, carbon metrics must be interpreted within a broader impact framework. Appendix A provides guidance on how to do so responsibly, while the remainder of this paper develops a complementary, human-centered approach that places carbon in its proper context—important, but not definitive.

Rotary's Comparative Advantage: Solving Human Problems

Rotary occupies a distinctive and often underappreciated position in the global impact ecosystem. It is neither primarily a research institution, nor a philanthropic foundation, nor a regulatory authority. Instead, Rotary operates where ideas, resources, and communities intersect—designing, delivering, and sustaining solutions directly within local contexts.

This positioning gives Rotary a comparative advantage that few global organizations share: **the ability to translate intent into action at scale, while remaining grounded in local knowledge**. Rotary clubs do not merely fund projects; they participate in them. They do not simply disseminate solutions; they adapt them to fit cultural, economic, and institutional realities on the ground.

Rotary's service portfolio reflects this orientation. Across regions and decades, Rotary initiatives have consistently targeted foundational human needs that shape long-term societal outcomes. While these initiatives are often categorized under Rotary's Areas of Focus, they also map closely to the underlying drivers of environmental stress and social instability.

In practice, Rotary's greatest contributions cluster around a set of human-centered solution pathways:

- **Clean water access and sanitation**, reducing disease burden, child mortality, and long-term health impacts
- **Disease prevention and basic health care**, averting premature death and disability while strengthening community resilience
- **Education and literacy**, improving lifetime economic opportunity, civic participation, and adaptive capacity
- **Community and economic development**, stabilizing livelihoods and reducing pressure on fragile environmental systems

These pathways matter environmentally not because they are labeled as "green," but because they address root causes. Poor sanitation contaminates water systems. Preventable disease reduces productivity and increases resource strain. Lack of education limits adaptive responses to environmental change. Weak local economies accelerate unsustainable resource use.

Project Drawdown's research reinforces this perspective. Many of the most effective climate solutions identified by Drawdown operate through improvements in health, education, and community systems rather than through technological substitution alone. Rotary has been advancing these solutions for decades—often without framing them as environmental interventions—by focusing on people first.

This alignment has important implications for how Rotary impact should be measured. If Rotary's comparative advantage lies in solving human problems that cascade into environmental benefits, then measurement frameworks must be capable of capturing those human outcomes directly. Carbon reductions, where they occur, should be recognized as consequential co-benefits rather than treated as the primary measure of success.

Focusing measurement solely on emissions risks obscuring this advantage. A water project that dramatically reduces disease and improves productivity may have a modest or diffuse carbon signature, yet its long-term environmental benefits may exceed those of narrowly defined emissions-reduction activities. Conversely, a low-carbon operation with minimal human impact does little to advance Rotary's mission.

Understanding Rotary's role in this way reframes sustainability as an outcome of effective service, not as a separate or competing objective. It also sets the stage for a more appropriate impact language—one that reflects Rotary's strengths, honors its mission, and remains compatible with environmental accountability.

The next section builds on this foundation by addressing the practical challenge that follows: how to compare diverse, human-centered projects responsibly across contexts, scales, and regions.

Choosing High-Impact Environmental and Human-Centered Nonprofits

As individuals and service organizations look beyond their own operational footprints, a natural question follows: how can we identify nonprofits that deliver genuine, durable environmental and social impact? Carbon metrics alone are often poorly suited to this task, particularly for organizations whose primary mission is human development rather than emissions management.

Many of the most effective environmental outcomes arise indirectly through human-centered interventions. Clean water access, sanitation, maternal health, education—especially for women and girls—and community economic development consistently reduce long-term environmental pressure by improving health, productivity, and adaptive capacity. These pathways align closely with findings from Project Drawdown, which shows that several of the most powerful climate solutions operate through social and human systems rather than through technology substitution alone.

From a Rotary Impact Equivalent perspective, the most credible "green" nonprofits are those whose work produces durable, compounding improvements in human well-being while reducing future environmental harm. The key question is not whether a nonprofit reports carbon savings, but whether its interventions measurably improve lives in ways that persist over time. RIE

provides a structured way to evaluate and communicate these outcomes without forcing nonprofits into ill-fitting carbon-only frameworks.

The Need for a Common Human-Centered Impact Language

As Rotary's portfolio of service projects has grown more diverse and global, a persistent challenge has followed: **how to compare very different kinds of good in a way that is fair, meaningful, and useful for decision-making**. A sanitation system in a rural community, a vaccination campaign in an urban setting, a maternal health program, and a local education initiative all create value—but they do so through different mechanisms, over different time horizons, and with different forms of risk and uncertainty.

Traditional reporting approaches struggle to address this complexity. Counts of activities completed—wells drilled, vaccines delivered, classrooms built—are useful for accountability, but they do not answer deeper questions about outcomes or relative effectiveness. Financial metrics, such as dollars spent or funds leveraged, provide insight into stewardship but not into human benefit.

Carbon metrics, when used alone, are even less capable of bridging these differences. While emissions data can sometimes be estimated for infrastructure or energy projects, they offer little insight into the primary outcomes of health, sanitation, or education initiatives. As a result, carbon-centered frameworks tend to privilege certain types of projects while leaving others difficult to evaluate or compare.

The underlying problem is not a lack of data, but a lack of a **shared impact language**—a way to translate diverse interventions into a common human scale without stripping them of meaning.

Global health and development fields confronted this challenge decades ago. Faced with the need to compare investments in nutrition, vaccination, disease prevention, and injury reduction, researchers developed life-year-based metrics that focused on what ultimately mattered most: **how long and how well people live**. Metrics such as Disability-Adjusted Life Years (DALYs) and Quality-Adjusted Life Years (QALYs) were not intended to be morally reductive; they were designed to make complex tradeoffs visible and discussable.

Rotary does not need to adopt these frameworks wholesale, nor does it need to impose technical rigor that exceeds its practical needs. What Rotary does need is a simplified, accessible translation of this logic—one that respects uncertainty, accommodates local context, and aligns with Rotary's service ethos.

Several requirements emerge for such a framework:
- **Human-centered**: It must measure outcomes in terms of human well-being, not proxies alone.
- **Comparable across projects**: It must allow different types of service to be discussed on a common scale without forcing false precision.
- **Transparent about assumptions**: It must surface uncertainty and context rather than hiding them behind single-point estimates.

- **Compatible with existing tools**: It must coexist with carbon accounting, financial reporting, and narrative storytelling.

Without such a framework, Rotary risks falling into one of two unsatisfying positions. Either projects are evaluated largely in isolation, making portfolio-level learning difficult, or they are compared using metrics that capture only a small portion of their true value.

The need for a common impact language is therefore not academic. It is strategic. It affects how clubs choose projects, how districts allocate grants, how Rotary communicates its value to partners, and how members understand the difference their service makes.

The next section introduces the Rotary Impact Equivalent (RIE) as a response to this need—a human-centered metric designed to support comparison, learning, and storytelling without reducing service to a single number.

Defining the Rotary Impact Equivalent (RIE)

The Rotary Impact Equivalent (RIE) is proposed as a practical, human-centered unit of impact designed to help Rotary clubs, districts, and partners better understand, compare, and communicate the outcomes of service projects. At its core, **one RIE represents one healthy human life-year gained or preserved**.

This definition is intentionally simple. It does not attempt to capture every nuance of human experience, nor does it claim a level of precision that Rotary projects cannot realistically support. Instead, it provides a common reference point—grounded in established global practice—that translates diverse interventions into a shared human scale.

The conceptual foundation for RIE draws directly from decades of work in global health and development. Organizations such as the World Health Organization have long used life-year-based measures, including Disability-Adjusted Life Years (DALYs) and Quality-Adjusted Life Years (QALYs), to compare interventions that differ widely in form and context. These measures allow researchers and policymakers to ask a simple but powerful question: *How many years of healthy life did this intervention create or protect?*

RIE adapts this logic for Rotary's needs. It reframes life-year metrics in a positive, service-oriented language that aligns with Rotary values and avoids unnecessary technical complexity. Rather than focusing on years lost or burdens imposed, RIE focuses on **years gained, preserved, or meaningfully improved**.

In practical terms, an RIE may represent several types of outcomes commonly produced by Rotary service. Depending on the project, one or more RIEs may reflect:
- **Years of life saved**, such as those resulting from disease prevention, vaccination, or access to clean water
- **Years of severe illness prevented or mitigated**, reducing long-term health burdens and medical vulnerability
- **Years of disability avoided or reduced**, improving mobility, independence, and productivity

- **Years of improved quality of life**, where living conditions, safety, or basic services materially enhance daily well-being

These categories are not mutually exclusive, and many Rotary projects generate value across multiple dimensions simultaneously. A sanitation project, for example, may reduce mortality, prevent illness, and improve quality of life over many years. RIE does not attempt to disentangle these effects with false precision; instead, it provides a structured way to acknowledge their combined impact.

It is essential to emphasize what RIE **is not**. RIEs are not exact counts, and they are not intended to rank human lives by worth. They are **estimates expressed as ranges**, based on available evidence, local context, and explicit assumptions. This approach mirrors the philosophy adopted by GiveWell and similar organizations, which emphasize transparency, uncertainty, and continuous revision over the appearance of certainty.

By separating *impact magnitude* from *cost*, RIE also avoids a common ethical pitfall. RIEs measure how much human good occurred; cost-per-RIE measures efficiency. Keeping these concepts distinct allows Rotary to discuss stewardship and leverage without implying that human life in one region is intrinsically more valuable than in another. Appendix C explores this distinction—and its ethical implications—in greater depth.

Most importantly, RIE is designed to be **useful**, not perfect. It supports comparison across projects, enables portfolio-level learning, and strengthens storytelling by connecting Rotary's diverse initiatives to a shared human outcome. It also remains compatible with other measurement systems, including carbon accounting, financial reporting, and narrative case studies.

With RIE defined, the next sections examine how Rotary can learn from existing impact frameworks—particularly Project Drawdown and GiveWell—while adapting their insights to Rotary's unique role as a service organization embedded in communities worldwide.

Learning from Project Drawdown: Solutions Before Metrics

Project Drawdown offers one of the most useful lessons for organizations grappling with how to measure impact: **start with solutions, not metrics**. Rather than beginning with emissions targets or abstract goals, Drawdown asks a more grounded question—*which interventions actually work, at scale, and with what co-benefits?* Only after identifying effective solutions does it translate those outcomes into carbon reductions and other measurable effects.

This sequencing matters. By anchoring analysis in real-world interventions, Drawdown avoids the trap of optimizing for what is easiest to measure rather than what delivers the greatest benefit. It also allows solutions to be evaluated holistically, recognizing that many of the most powerful climate interventions operate through social, economic, and health systems rather than through energy substitution alone.

Rotary's service model aligns naturally with this solutions-first approach. Rotary projects are rarely abstract or hypothetical. They are implemented in specific communities, respond to

identifiable needs, and evolve through feedback from those they serve. In many cases, Rotary is already delivering interventions that appear prominently in Drawdown's solution set—particularly in areas such as clean water, sanitation, health access, education, and community resilience.

What Drawdown adds is not a new mission, but a useful lens. It reinforces the idea that **human-centered interventions often generate environmental benefits indirectly**, and sometimes more durably, than narrowly defined emissions-reduction efforts. A community with reliable clean water, improved health, and stronger educational outcomes is better positioned to adopt sustainable practices, manage resources responsibly, and adapt to environmental change.

Applying this insight to Rotary suggests a clear measurement implication. Human outcomes should be assessed first, using a framework such as the Rotary Impact Equivalent. Carbon reductions, where relevant, should then be recognized as consequential co-benefits rather than primary success criteria. This ordering keeps Rotary's focus aligned with its mission while still acknowledging environmental responsibility.

A solutions-first framing also improves strategic clarity. Rather than asking whether a project "counts" as environmental, Rotary can ask more meaningful questions: Does this intervention measurably improve lives? Does it strengthen systems that reduce long-term vulnerability? Does it create conditions under which environmental stewardship becomes more feasible?

These questions are not rhetorical. They guide project selection, partnership decisions, and grant allocation. They also shape how Rotary communicates its impact to external audiences, including donors, collaborators, and policymakers who increasingly expect sustainability narratives to be grounded in evidence.

By borrowing Drawdown's emphasis on solutions before metrics, Rotary avoids turning measurement into an end in itself. Instead, measurement becomes a tool for learning, prioritization, and accountability—serving the work rather than defining it.

The next section extends this logic by examining what Rotary can learn from GiveWell's approach to cost-effectiveness, transparency, and ethical humility, and how those lessons can be applied without reducing service to a purely economic calculation.

Learning from GiveWell: Cost-Effectiveness Without Moral Reductionism

GiveWell's work highlights one of the most challenging realities in impact measurement: **the same amount of money can produce dramatically different outcomes depending on where and how it is used**. In some contexts, relatively small investments can prevent multiple deaths or severe illnesses; in others, far greater resources may be required to achieve more modest gains. Ignoring this reality does not make it disappear—it simply obscures important tradeoffs.

What distinguishes GiveWell's approach is not merely its focus on cost-effectiveness, but its insistence on transparency, explicit assumptions, and ethical humility. GiveWell does not claim certainty. Instead, it documents how estimates are produced, why ranges exist, and where data is

weak or incomplete. This openness allows decision-makers to engage honestly with uncertainty rather than being misled by false precision.

For Rotary, the relevance of GiveWell lies less in its specific recommendations and more in its underlying principles. Rotary projects operate across a wide range of economic, cultural, and institutional environments. A health intervention in a low-income rural community may avert far more suffering per dollar than a similar intervention in a high-income setting, even though both are valuable and aligned with Rotary's mission.

The Rotary Impact Equivalent framework accommodates this reality by **separating human impact from efficiency**. RIEs are designed to estimate *how much human good occurred*—expressed in healthy life-years gained or preserved—without embedding assumptions about cost or value judgments. Cost per RIE, by contrast, provides insight into leverage and stewardship, not worth.

This distinction matters ethically. It allows Rotary to discuss resource allocation without implying that human lives in one region are intrinsically more valuable than in another. One RIE represents the same fundamental human outcome everywhere: a year of healthier life. What varies is the amount of resources required to achieve that outcome under different conditions.

This framing also supports responsible strategic conversations. Clubs and districts can ask questions such as:
- Where do our projects tend to generate the greatest human impact per unit of effort?
- How do local context, infrastructure, and partnerships influence outcomes?
- What tradeoffs exist between addressing urgent local needs and contributing to high-leverage global initiatives?

By making these questions explicit, Rotary can engage in thoughtful prioritization without reducing service to a purely economic calculation. Importantly, GiveWell's model also reinforces the value of **continuous revision**. As better data becomes available, estimates improve. As contexts change, assumptions are updated. Measurement becomes a learning process rather than a verdict.

Appendix C explores these methodological and ethical issues in greater depth, including how RIE ranges can be constructed responsibly and how AI tools can assist in maintaining transparency. What matters in the body of this paper is the broader lesson: impact measurement should inform judgment, not replace it.

The next section turns back to carbon—this time reframing it explicitly as a matter of accountability rather than identity—and situates carbon accounting within the broader human-centered framework developed so far.

Carbon Reframed: Accountability, Not Identity

Carbon accounting remains an important tool for organizations that seek to operate responsibly in a climate-constrained world. For Rotary clubs, understanding emissions associated with meetings, events, and travel can increase awareness, encourage thoughtful choices, and support

alignment with broader sustainability efforts. Used appropriately, carbon metrics contribute to transparency and accountability.

Problems arise, however, when carbon accounting shifts from being a tool to becoming an identity. Rotary is not an emissions-focused organization, nor was it designed to be. When carbon neutrality becomes the primary lens through which Rotary evaluates itself, there is a risk that operational symbolism overshadows substantive impact.

Reframing carbon as **accountability rather than identity** helps resolve this tension. Accountability asks whether Rotary understands and takes responsibility for its operational footprint. Identity asks whether minimizing that footprint defines Rotary's purpose. The former is appropriate; the latter is misaligned with Rotary's mission.

Appendix A explores this distinction in practical terms by examining how club-level carbon footprints are typically constructed and where their limitations lie. In particular, it highlights three considerations that are often overlooked in sustainability discussions within service organizations:

- **Overlap with personal consumption**, where emissions attributed to Rotary activities substitute for activities members would have undertaken anyway
- **Disproportionate impact of travel**, especially conferences and training that involve air travel and represent clear incremental emissions
- **The limits of operational optimization**, where small efficiency gains may have little relevance compared to the scale of Rotary's service outcomes

Understanding these dynamics allows clubs to focus their attention where it is most meaningful. For example, reducing unnecessary travel or supporting hybrid participation may produce more real carbon benefit than optimizing meeting logistics. Similarly, embedding carbon offsets into high-impact service projects—such as reforestation, clean cooking, or water access—aligns accountability with Rotary's strengths rather than treating offsets as abstract financial transactions.

Most importantly, reframing carbon in this way preserves narrative clarity. Rotary can credibly say: *We understand our footprint, we reduce what we reasonably can, and we offset responsibly.* At the same time, Rotary can also say: *Our primary contribution to sustainability is solving human problems whose downstream effects include environmental benefits.*

This framing avoids defensiveness and false tradeoffs. It recognizes climate responsibility without allowing emissions metrics to crowd out Rotary's broader purpose. It also creates space for clubs and districts to engage members constructively, rather than framing sustainability as a source of guilt or constraint.

For organizations such as Rotary, whose greatest leverage lies in collective service and system-level interventions, sustainability must be understood not only in terms of emissions reduced, but also in terms of human and environmental outcomes enabled.

With carbon placed in its proper context, the focus can return to impact—how Rotary measures it, communicates it, and learns from it. The next section explores how these ideas can be made visible and actionable through a Rotary Impact Dashboard that integrates RIEs, costs, and contextual indicators into a coherent whole.

From Metrics to Meaning: The Rotary Impact Dashboard

Metrics only create value when they inform decisions, support learning, and strengthen communication. Without a clear structure for interpretation, even well-designed metrics risk becoming background noise—collected dutifully, reviewed briefly, and rarely used. For Rotary, the challenge is not simply to measure impact, but to make that measurement **meaningful and actionable** for clubs, districts, and partners.

A Rotary Impact Dashboard provides a practical way to bridge this gap. Rather than functioning as a technical reporting tool, the dashboard is best understood as a **decision-support and storytelling framework**. Its purpose is to summarize complex information in a way that supports reflection, prioritization, and shared understanding across diverse audiences.

At its core, the dashboard translates Rotary's service activities into a small set of human-centered indicators anchored by the Rotary Impact Equivalent. These indicators are not intended to replace narrative reporting or local judgment; instead, they complement them by providing a common reference point that allows patterns to emerge across projects and over time.

Conceptually, a Rotary Impact Dashboard would include several interconnected elements, each serving a distinct purpose:

- **Estimated RIEs delivered**, expressed as ranges and linked to project descriptions and assumptions
- **Cost per RIE ranges**, offering insight into stewardship and leverage without reducing impact to efficiency alone
- **People reached and communities served**, preserving visibility into scale and inclusiveness
- **Primary solution pathways**, such as water, health, education, or economic resilience, to support portfolio analysis
- **Optional environmental co-benefits**, including carbon reductions or offsets where relevant and credible
- **Confidence levels and assumptions**, making uncertainty visible and encouraging learning rather than judgment

What distinguishes this dashboard approach from traditional scorecards is its emphasis on **context and transparency**. Numbers are presented alongside narrative explanations, not as isolated rankings. Ranges are favored over point estimates. Assumptions are documented rather than hidden. This design choice reflects the reality that Rotary projects operate in complex, adaptive systems where certainty is rarely available.

The dashboard also supports different levels of use. At the **club level**, it helps members understand how their projects contribute to human outcomes and how those outcomes compare

across years. At the **district level**, aggregated dashboards can reveal patterns, highlight effective intervention types, and inform grant strategies. At higher levels, dashboards can support external communication by translating Rotary's diverse work into a coherent impact story.

Appendix B explores this concept in depth, including illustrative layouts, example indicators, and guidance on how dashboards can be adapted without imposing uniformity. The goal is not to standardize Rotary service, but to **standardize understanding**—creating a shared language that supports learning across differences.

By moving from raw metrics to structured meaning, the Rotary Impact Dashboard turns measurement into a living tool. It allows Rotary to see itself more clearly, communicate more effectively, and continuously improve how it serves communities around the world.

The next section examines how emerging technologies—particularly generative AI—make this kind of translation and transparency increasingly feasible, even for volunteer-led organizations operating at scale.

New Technologies as Impact Equalizers

Throughout history, periods of rapid social progress have been shaped by a small number of transformative forces that dramatically lower barriers to participation, coordination, and scale. In *Patent Primer 5* (Hall, 2025), four such forces are identified as the great equalizers of our time: **education, the Internet, intellectual property, and artificial intelligence**. Together, these forces are reshaping how ideas are created, shared, protected, and applied—and they are particularly relevant to service organizations like Rotary.

For Rotary, these technologies do not change the mission, but they fundamentally change what is possible. Education expands local capacity. The Internet enables global coordination. Intellectual property supports the responsible sharing and adaptation of solutions. Artificial intelligence—especially generative AI—acts as a connective layer that translates complexity into usable insight.

Generative AI is especially important in the context of impact measurement because it addresses a long-standing constraint: the difficulty of translating diverse projects, data sources, and narratives into a common framework without excessive technical burden. What once required specialized analysts and extensive manual effort can now be done transparently and iteratively, with assumptions clearly surfaced rather than obscured.

In practical terms, large language models can support Rotary's impact framework in several ways:

- **Translating project descriptions into outcome categories**, mapping service activities to known health, education, or resilience pathways
- **Assisting in the estimation of RIE ranges**, drawing on published research, contextual indicators, and comparable interventions
- **Documenting assumptions and uncertainty**, ensuring that estimates remain explainable and revisable

- **Supporting dashboard generation and narrative synthesis**, allowing volunteers to focus on decisions rather than data mechanics

Importantly, these tools do not replace Rotary judgment or local knowledge. They augment it. AI serves as a translation layer between qualitative understanding and quantitative expression, helping Rotary communicate impact without claiming false precision.

This role aligns closely with Rotary's future trajectory. As explored in Rotary 2055 scenario analyses, service clubs are likely to operate in environments characterized by declining traditional membership, increased virtual engagement, and widening gaps in technological literacy. In this context, AI-enabled tools can help preserve Rotary's effectiveness by reducing administrative friction and enabling broader participation.

AI also strengthens equity in impact measurement. By lowering technical barriers, it allows smaller clubs and under-resourced districts to participate meaningfully in impact reporting alongside larger or better-funded counterparts. This democratization of insight reflects Rotary's core values and reinforces the ethical foundations of the RIE framework.

At the same time, responsible use matters. Transparency, human oversight, and ethical safeguards are essential to ensure that AI supports learning rather than distorting incentives. Appendix C addresses these considerations in depth, including guidance on disclosure, bias awareness, and the limits of algorithmic inference.

When combined with Rotary's human-centered mission, emerging technologies become accelerators rather than distractions. They enable Rotary to see itself more clearly, learn more quickly, and communicate its value more effectively—without losing sight of the people at the heart of every project.

The final section turns to the strategic implications of this framework, examining how Rotary can use these tools and concepts to guide decisions, align resources, and strengthen its role as a solutions-driven global network.

Strategic Implications for Rotary

Adopting a human-centered impact framework alongside responsible carbon accounting has implications that extend well beyond reporting. It reshapes how Rotary thinks about strategy, prioritization, learning, and leadership in a rapidly changing global environment. Measurement, when designed well, becomes not a compliance exercise but a strategic asset.

At the **club level**, this framework encourages more intentional project selection and reflection. Rather than asking only whether a project is feasible or popular, clubs can ask deeper questions about anticipated outcomes: *What human problem are we addressing? How durable are the benefits? What assumptions are we making about impact?* Using RIEs as a reference point helps clubs see connections between projects that might otherwise appear unrelated and fosters richer discussion about long-term value.

At the **district level**, aggregated insights become possible without imposing uniformity. Districts can examine patterns across clubs—identifying which types of interventions tend to produce the greatest human impact under different conditions—while still respecting local autonomy. This supports more informed grant allocation, capacity building, and peer learning, particularly when combined with the dashboard concepts described in Appendix B.

At the **organizational level**, a shared impact language strengthens Rotary's ability to communicate its value externally. Policymakers, institutional partners, and funders increasingly seek evidence-based narratives that connect service activities to measurable outcomes. A framework grounded in RIEs allows Rotary to articulate its contribution in terms that are credible, comparable, and aligned with global development discourse—without abandoning the volunteer-driven ethos that defines the organization.

Several strategic behaviors naturally emerge from this approach:
- **Portfolio thinking**, where Rotary evaluates its mix of projects across solution pathways rather than in isolation
- **Learning over ranking**, emphasizing insight and improvement instead of competition between clubs
- **Mission alignment**, ensuring that sustainability efforts reinforce rather than redefine Rotary's core purpose
- **Transparent stewardship**, enabling honest conversations about leverage, tradeoffs, and opportunity cost

Importantly, this framework also supports Rotary's long-term adaptability. As demographic shifts, technological change, and evolving service models reshape how clubs operate, having a flexible yet coherent impact language becomes increasingly valuable. It allows Rotary to remain mission-anchored while adapting methods and tools to new realities.

Strategic clarity also reduces fatigue and defensiveness around measurement. When members understand *why* impact is being measured—and how those measures reflect Rotary's values—participation becomes more meaningful. Measurement becomes a way to honor service, not to audit it.

With these strategic implications in view, Rotary is positioned to lead rather than follow in the evolving conversation about impact and sustainability. By pairing human-centered metrics with environmental accountability and AI-enabled transparency, Rotary can model an approach that is both rigorous and humane.

Conclusion

Rotary's greatest contribution to sustainability has never been confined to minimizing emissions at meetings or optimizing operational efficiency. Rotary's enduring value lies in its ability to identify human problems, mobilize local and global networks, and deliver practical solutions that improve lives. Clean water, disease prevention, education, and community resilience are not peripheral to sustainability—they are foundational to it.

This white paper argues that impact measurement must reflect that reality. Carbon accounting has a legitimate role to play in promoting awareness and accountability, but it cannot serve as Rotary's primary measure of success without distorting the organization's mission. When carbon becomes the dominant narrative, Rotary risks undervaluing its most powerful work: solving the human challenges that drive environmental degradation and social instability in the first place.

The Rotary Impact Equivalent offers a complementary path forward. By translating diverse service projects into a common, human-centered unit—healthy life-years gained or preserved—RIE provides Rotary with a language that supports comparison, learning, and communication without sacrificing ethical clarity or local context. Paired with transparent assumptions, range-based estimates, and narrative explanation, RIE strengthens Rotary's ability to explain *why* its work matters, not just *what* it does. This same human-centered logic can also guide individual choices around investing, purchasing, volunteering, and donating—extending Rotary's impact framework beyond club activities into everyday decision-making.

Equally important, this framework positions Rotary for the future. Advances in education, connectivity, intellectual property, and artificial intelligence now make it possible to translate complex, qualitative service outcomes into understandable, comparable insights at scale. Used responsibly, these tools reduce administrative burden, increase transparency, and democratize participation in impact measurement—ensuring that small clubs and large districts alike can contribute meaningfully.

Taken together, the approach outlined in this paper reframes sustainability as an outcome of effective service rather than a competing objective. It allows Rotary to be accountable for its environmental footprint while remaining true to its identity as a solutions-driven, human-centered organization. In doing so, Rotary is not merely responding to changing expectations around impact—it is helping to redefine what responsible, values-aligned impact measurement can look like in a complex world.

For readers seeking practical guidance on how organizations communicate sustainability progress today—especially when reporting remains voluntary—**Appendix F** provides a concise overview of sustainability reporting practices across companies, nonprofits, and service organizations.

The task ahead is not to measure more, but to measure better. By focusing on what truly matters, Rotary can continue to lead with clarity, credibility, and purpose—making a difference that is both measurable and meaningful.

May the impacts you make today grow into enduring health, shared well-being, and a world strengthened by what we sustain together.
Dr. Elmer Hall

Appendix A: Understanding Rotary Club Carbon Footprints—Context, Limits, and Responsible Use

Carbon footprint analysis is often the first sustainability tool organizations encounter, largely because it offers a concrete, numerical way to discuss environmental responsibility. For Rotary clubs, carbon accounting can play a useful role in awareness-building and operational reflection. However, without careful framing, it can also misrepresent Rotary's true environmental role and distract from the organization's greatest sources of positive impact.

This appendix explains how Rotary club carbon footprints are typically constructed, why their results must be interpreted cautiously, and how carbon accounting fits appropriately within a broader sustainability and impact framework. It reinforces the central argument of this white paper: carbon matters, but it does not define Rotary's contribution to a sustainable future.

What Rotary Club Carbon Footprints Typically Measure

Most Rotary club carbon calculators—including those promoted through Rotary environmental initiatives—focus on a similar set of operational activities. These inputs are chosen because they are visible, familiar, and relatively straightforward to estimate using standardized emission factors.

Common categories include:

- Member travel to weekly meetings and club events

- Food and beverage consumption at meetings and socials

- Energy use at meeting venues

- Travel to district conferences, training programs, and conventions

These categories are legitimate and useful as a starting point. They help clubs understand where emissions tend to occur and provide a common structure for comparison across organizations.

What they do not capture, however, is equally important: **whether those emissions are truly incremental**, or whether they overlap with emissions that would have occurred anyway as part of members' daily lives.

Substitution Effects and Overlapping Emissions

One of the most significant limitations of club-level carbon accounting is its tendency to treat Rotary activities as additive rather than substitutive. In reality, many emissions attributed to Rotary participation reflect activities that would have happened regardless, simply in a different context.

For example:

- A Rotarian attending a weekly breakfast meeting may otherwise have driven to a café or workplace for breakfast.

- Electricity used in a meeting room often represents baseline building consumption rather than incremental demand.

- Meals served at meetings frequently substitute for meals that members would have eaten elsewhere.

When these substitution effects are ignored, Rotary's operational footprint can appear larger than its true marginal environmental impact. This distinction matters because **carbon attributed to Rotary is not the same as carbon caused by Rotary**.

Recognizing overlap does not imply that Rotary activities are carbon-neutral by default. Rather, it underscores the need for honest interpretation and prevents sustainability discussions from becoming distorted by double counting or misplaced responsibility.

Where Carbon Accounting Is Most Meaningful for Rotary

While routine meetings often involve substantial overlap with personal consumption, some Rotary activities represent clear, incremental emissions. The most prominent of these is **conference and training travel**, particularly when it involves air travel.

District conferences, regional training events, and international conventions frequently entail:

- Long-distance travel that would not otherwise occur

- Air travel with disproportionately high per-mile emissions

- Hotel stays and large venues with energy use beyond baseline levels

In many clubs, a small number of travel-intensive events can account for the majority of marginal emissions, even if they occur only once or twice per year. This pattern is common across nonprofit, academic, and professional organizations and is not unique to Rotary.

Understanding this concentration of impact allows clubs and districts to focus sustainability efforts where they matter most, such as:

- Evaluating when in-person attendance is essential

- Supporting hybrid or virtual participation options

- Targeting offsets toward high-impact categories rather than diffusing them across routine operations

The ESRAG Carbon Calculator: Value and Limits

The Environmental Sustainability Rotary Action Group (ESRAG) provides an online Rotary Club Carbon Calculator designed to help clubs estimate emissions associated with meetings, events, and travel. The tool plays a valuable educational role by introducing Rotarians to carbon concepts and offering a consistent framework for discussion.

At the same time, like all high-level calculators, the ESRAG tool relies on generalized assumptions and averages. It does not attempt to model substitution effects, individual member

behavior, or alternative scenarios in detail. As such, it should be understood as a **conversation starter rather than a definitive accounting** of Rotary's environmental responsibility.

Used appropriately, the ESRAG calculator can:

- Increase awareness of where emissions tend to concentrate

- Highlight the outsized role of travel

- Support informed discussions about mitigation and offsets

Used uncritically, it risks reinforcing the misconception that Rotary's environmental value is primarily determined by its operational footprint rather than by the outcomes of its service work.

Club Footprints and Personal Footprints

Another important consideration is the relationship between club-level footprints and individual member footprints. Most Rotarians already generate emissions through daily activities such as commuting, eating, housing, and energy use. Club participation often reshapes *when and where* these emissions occur rather than creating entirely new ones.

If individual members were to calculate their full personal carbon footprints—including food, transportation, and household energy—much of what appears in club-level accounting would be revealed as overlapping components. This overlap reinforces the importance of focusing on **incremental change**, not total attribution.

From a practical standpoint, Rotary's role is not to manage members' personal emissions, but to:

- Promote awareness and informed choices

- Reduce clearly avoidable emissions where feasible

- Offset responsibly in ways aligned with Rotary's mission

Carbon Offsets as a Rotary Strength

If Rotary clubs choose to pursue carbon neutrality, offsets should not be treated as abstract financial instruments. Rotary is uniquely positioned to support **offset projects that also deliver tangible human benefits**, aligning environmental accountability with service outcomes.

Examples include:

- Clean cooking initiatives that reduce emissions while improving health

- Reforestation projects tied to community livelihoods

- Water and sanitation systems that reduce energy use and disease burden

- Distributed renewable energy in underserved communities

When offsets are embedded in service projects, they reinforce Rotary's identity rather than competing with it. They also avoid the perception that carbon neutrality is achieved simply by "buying forgiveness" instead of creating real-world change.

Carbon Accounting Within a Broader Sustainability Self-Assessment

Carbon footprints are most effective when embedded within a broader sustainability self-assessment rather than treated as standalone metrics. This principle is developed extensively in Hall's *Perpetual Innovation™* sustainability framework, which emphasizes that sustainability is inherently multi-dimensional—encompassing environmental, human, economic, and systems-level factors.

In *Perpetual Innovation™: Perpetual Sustainability by Leveraging Regenerative Dynamic AI (rdAI)* (Hall, 2025), sustainability self-assessments are presented as the foundational step for individuals and organizations of all types. These assessments help clarify current conditions across multiple dimensions before targets, metrics, or commitments are established.

From this perspective, a Rotary club's carbon footprint represents **one diagnostic input among many**, not a definitive measure of sustainability or impact. Carbon metrics provide operational insight, but they do not capture Rotary's core contributions to health, education, resilience, and quality of life.

This approach aligns naturally with Rotary practice. Rotary clubs routinely assess community needs, resources, and readiness before launching service projects. Sustainability measurement benefits from the same disciplined sequence: assess first, prioritize second, act third.

Carbon in the Context of This White Paper

Within the framework proposed in this white paper, carbon accounting plays a supporting role. It contributes to awareness, accountability, and alignment with environmental partners, but it does not define Rotary's impact.

The body of the paper introduces the Rotary Impact Equivalent as a human-centered complement to carbon metrics. Appendix B explores how both can coexist in a practical Rotary Impact Dashboard, while Appendix C examines the methodological foundations that allow carbon, health, and service outcomes to be translated transparently—often with the assistance of modern AI tools.

Carbon matters because it affects our environment and the sustainability of our projects. For Rotary, carbon is best understood as **context, not identity**. While carbon is an important factor in Rotary activities and decisions, it does not define Rotary as an organization. Instead, it shapes the environment in which clubs operate and the choices they make.

Appendix B: The Rotary Impact Dashboard—From Measurement to Learning

Measurement becomes valuable only when it informs understanding, improves decisions, and supports learning over time. In volunteer-led organizations such as Rotary, overly technical or burdensome reporting systems often fail—not because members lack commitment, but because tools are misaligned with how service organizations actually function.

The Rotary Impact Dashboard proposed in this white paper is designed to address that gap. It is not a compliance instrument, certification framework, or ranking system. Instead, it is a **decision-support and storytelling framework** that helps Rotary clubs, districts, and partners see patterns, compare approaches, and communicate impact in ways that are consistent with Rotary's mission and values.

Purpose and Design Principles

The primary purpose of the Rotary Impact Dashboard is to translate diverse service activities into a **shared, human-centered impact language** while preserving context, uncertainty, and narrative meaning. It is meant to complement—not replace—qualitative reporting, case studies, and local judgment.

Several design principles guide the dashboard concept:

- **Human-centered first**: Impact is framed in terms of people and communities, not proxies alone.

- **Comparability without uniformity**: Different projects can be discussed on a common scale without forcing identical designs.

- **Transparency over precision**: Ranges and assumptions are preferred to false exactness.

- **Low administrative burden**: The dashboard must be usable by volunteer-led clubs.

- **Learning-oriented**: The goal is insight and improvement, not scoring or enforcement.

These principles reflect lessons drawn from Project Drawdown, GiveWell, and Hall's *Perpetual Sustainability* framework, all of which emphasize clarity, humility, and continuous learning over static reporting.

Core Elements of the Rotary Impact Dashboard

At its core, the Rotary Impact Dashboard aggregates a small number of carefully chosen indicators that together tell a coherent impact story. These indicators are not meant to stand alone; they are interpreted together and supported by narrative explanation.

A typical dashboard would include the following elements:

- **Estimated Rotary Impact Equivalents (RIEs)**
  Expressed as ranges, representing healthy human life-years gained or preserved through service projects.

- **Primary solution pathways**
  Categories such as water and sanitation, health, education, economic resilience, or environmental systems, allowing projects to be grouped meaningfully.

- **People reached and communities served**
  Preserving visibility into scale, inclusiveness, and geographic reach.

- **Cost per RIE (range)**
  Used to understand leverage and stewardship, not to rank human value.

- **Environmental co-benefits (optional)**
  Carbon reductions, offsets, or other environmental outcomes where relevant and credible.

- **Confidence level and key assumptions**
  Making uncertainty visible and encouraging thoughtful interpretation.

Together, these elements allow Rotary to answer not just *what was done*, but *what changed*, *for whom*, and *with what level of confidence*.

Dashboard Use at Different Organizational Levels

One of the strengths of the dashboard concept is its adaptability across Rotary's organizational structure. The same framework supports different questions at different levels.

At the **club level**, the dashboard helps members:

- Reflect on the impact of their projects year over year

- Compare different types of service in human terms

- Strengthen storytelling for members, donors, and partners

At the **district level**, aggregated dashboards allow:

- Identification of patterns across clubs and regions

- Insight into which solution pathways tend to produce strong outcomes

- More informed grant allocation and capacity-building decisions

At the **organizational or partnership level**, dashboards support:

- Clear communication with external stakeholders

- Alignment with global development and sustainability discourse

- Evidence-based narratives without oversimplification

Crucially, aggregation does not require standardization of projects. What is standardized is the *language of interpretation*, not the design of service itself.

Dashboards as Learning Tools, Not Scorecards

A common failure mode in impact measurement is the transformation of dashboards into scorecards—tools that rank, reward, or penalize rather than inform. The Rotary Impact Dashboard explicitly avoids this trap.

By emphasizing ranges, assumptions, and narrative explanation, the dashboard encourages questions rather than judgments. It supports conversations such as:

- Why did similar projects produce different outcomes?

- How did local context influence results?

- What assumptions mattered most in estimating impact?

This learning orientation aligns with Rotary's culture of service and fellowship. It also reduces defensiveness around measurement, making participation more meaningful and sustainable over time.

The Role of AI and Automation

While the dashboard concept does not require advanced technology to function, modern tools—particularly generative AI—can significantly reduce administrative burden and improve consistency.

AI-enabled support can assist with:

- Translating project descriptions into outcome categories

- Suggesting reasonable RIE ranges based on comparable interventions

- Documenting assumptions clearly and consistently

- Generating draft dashboard summaries for human review

Importantly, AI serves as an **assistive layer**, not an authority. Human oversight, local knowledge, and ethical judgment remain essential. Appendix C explores these methodological considerations in greater detail.

Integration with Sustainability Self-Assessments

The Rotary Impact Dashboard is most effective when embedded within a broader planning and self-assessment process. Hall's *Perpetual Sustainability* framework emphasizes that organizations should understand their current state across multiple dimensions before setting targets or commitments.

In this context, the dashboard becomes:

- A reflection of priorities identified through self-assessment

- A feedback mechanism for adjusting strategy over time

- A bridge between qualitative insight and quantitative expression

Carbon metrics, discussed in Appendix A, fit naturally into this structure as operational indicators rather than defining measures of success.

Why the Dashboard Matters

The Rotary Impact Dashboard matters because it changes how Rotary talks about impact. It shifts conversations away from isolated activities and toward cumulative human outcomes. It supports strategic thinking without imposing rigidity. It strengthens credibility without sacrificing humility.

Most importantly, it helps Rotary see itself more clearly—not as a collection of unrelated projects, but as a global network delivering meaningful, measurable human benefit across diverse contexts.

Appendix C builds on this foundation by examining the methodological underpinnings that make such translation possible, including the relationship between RIEs, established health metrics, carbon accounting, and AI-enabled transparency.

Appendix C: Methodologies, Translation Frameworks, and the Role of AI

This appendix provides the methodological grounding for the Rotary Impact Equivalent (RIE) framework and explains how it relates to established impact measurement systems used in global health, sustainability, philanthropy, and environmental accounting. It also addresses how modern AI tools enable transparent translation across these frameworks without imposing excessive technical burden on service organizations.

The goal of this appendix is not to argue that one methodology is "correct," but to show how different approaches answer different questions—and how Rotary can responsibly integrate insights from multiple traditions.

Life-Year–Based Metrics in Global Health

Global health and development organizations have long relied on life-year–based metrics to compare interventions that differ widely in form, scale, and context. Two of the most widely used measures are:

- **Disability-Adjusted Life Years (DALYs)**, which estimate years of healthy life lost due to illness, disability, or premature death

- **Quality-Adjusted Life Years (QALYs)**, which estimate years of life adjusted for health quality and functional status

Both metrics were developed to address a fundamental challenge: how to compare a vaccination program, a sanitation system, and a nutrition intervention on a common human scale.

These tools are analytically powerful but technically complex. They require detailed epidemiological data, population-level assumptions, and careful modeling—resources that are often unavailable or impractical for volunteer-led organizations like Rotary.

The Rotary Impact Equivalent draws inspiration from these frameworks without replicating their complexity. RIE reframes life-year logic into a **positive, service-oriented unit**—healthy life-years gained or preserved—expressed as ranges rather than point estimates. This preserves conceptual rigor while remaining accessible and transparent.

Project Drawdown: Solution-Centered Environmental Metrics

Project Drawdown approaches sustainability from the opposite direction: starting with interventions rather than metrics. Drawdown identifies solutions that are already deployable, evaluates their scalability and co-benefits, and then estimates their potential environmental impact, including emissions reductions.

Several insights from Drawdown are directly relevant to Rotary:

- Many high-impact climate solutions operate through **human systems** such as education, health, and community resilience.

- Environmental outcomes are often **secondary effects** of social and economic interventions.

- Solutions-first framing avoids optimizing for what is easiest to measure.

RIE complements this approach by providing a human-centered unit that can sit alongside Drawdown-style environmental estimates. Rather than forcing Rotary projects into a carbon-first framework, RIE allows environmental co-benefits to be recognized where they exist—without redefining Rotary's mission.

GiveWell and Cost-Effectiveness Analysis

GiveWell represents one of the most rigorous applications of cost-effectiveness analysis in philanthropy. Its methodology combines empirical evidence, explicit assumptions, and ethical humility to estimate how much good an intervention does per dollar spent.

Two aspects of GiveWell's approach are particularly instructive for Rotary:

1. **Separation of impact and cost**
   GiveWell distinguishes between how much good an intervention does and how efficiently it does it. This distinction is critical for avoiding moral reductionism.

2. **Transparency and uncertainty**
   GiveWell emphasizes ranges, confidence intervals, and detailed explanations of uncertainty rather than single "answer" numbers.

The RIE framework adopts these principles by measuring human outcomes first (RIEs) and treating cost per RIE as a secondary, stewardship-oriented indicator. This allows Rotary to

discuss leverage responsibly without implying that human lives differ in intrinsic value across regions or contexts.

Carbon Accounting and Zero-Carbon Frameworks

Carbon accounting answers a different question from health or development metrics: how much greenhouse gas is associated with an activity or system. These methods are essential for climate policy, energy planning, and industrial regulation, but they have limitations when applied to service organizations.

As discussed in Appendix A, club-level carbon footprints often:

- Overlap with personal consumption

- Emphasize visible operations over material impact

- Understate the environmental value of human-centered interventions

Within this white paper's framework, carbon metrics are treated as **contextual indicators**, not primary measures of success. They are useful for accountability and alignment, but insufficient on their own to describe Rotary's contribution to sustainability.

Translating Across Frameworks: The Role of AI

Historically, translating between health metrics, carbon accounting, philanthropic analysis, and narrative reporting required specialized expertise and significant effort. This created barriers to participation and often limited measurement to large institutions.

Advances in generative AI—particularly large language models—change this equation. When used responsibly, AI can act as a **translation layer** that connects qualitative descriptions with quantitative frameworks while making assumptions explicit.

In the context of Rotary impact measurement, AI can assist with:

- Mapping project narratives to known outcome categories

- Suggesting plausible RIE ranges based on published research

- Surfacing assumptions and uncertainty transparently

- Supporting dashboard generation and synthesis

Crucially, AI does not replace human judgment. It supports it. Human oversight, ethical review, and contextual understanding remain essential. AI's value lies in reducing friction, not in asserting authority.

Ethical Safeguards and Responsible Use

Any framework that quantifies human outcomes carries ethical risk if misused. Safeguards are therefore essential:

- **Ranges over point estimates** to avoid false precision

- **Assumption disclosure** to prevent hidden value judgments

- **Separation of impact and efficiency** to avoid moral ranking

- **Human review** of AI-assisted outputs

These principles align with best practices across global health, philanthropy, and sustainability—and with Rotary's emphasis on service above self.

Why RIE Is Fit for Purpose

The Rotary Impact Equivalent does not seek to replace existing frameworks. It seeks to **bridge them**. By translating diverse interventions into a shared, human-centered language—while remaining compatible with carbon metrics, cost analysis, and narrative reporting—RIE supports Rotary's strategic, ethical, and communicative needs.

It allows Rotary to measure what matters without oversimplifying what it does.

Appendix D: Practical Pathways for Extending Climate Action Beyond the Individual

For individuals and organizations who want to take meaningful climate action without becoming immersed in complex market analysis, the most efficient approach is often to use aggregator platforms or subscription-based services. These providers perform the due diligence by vetting projects for credibility, verification, and impact, and then packaging them into simple portfolios or flat-rate plans. This allows participants to extend their impact beyond what they can directly control, without requiring specialized expertise.

But first, here's how to estimate carbon footprint for an individual or an small organization.

Quick Way to Estimate Your Carbon Footprint

If you do not have the time for a full-scale carbon audit, use the following "Short-Cut" method to estimate your annual emissions.

Option A: The 5-Minute Digital Calculator (Most Accurate)

Use a verified aggregator tool. These platforms use localized data (e.g., your specific US state's power grid) to give you a precise number.
- **For Individuals:** Visit **Wren.co**. It uses a simple Q&A format (Diet, Travel, Home) to provide an instant tonnage report.
- **For Businesses:** Visit **Carbonfund.org** and use their "Business Calculator." You only need your office square footage and employee count for a baseline.

Option B: The "Rule of Thumb" Estimate

If you cannot access a calculator, use these industry averages for an annual baseline:
- **Average US Individual: 16 tons** of CO2 per year.
- **Frequent Flyer / High Consumer: 30–50 tons** of CO2 per year.

- **Small Office (per employee): 2–5 tons** of CO2 per year.

Low-Research Options for Individuals ("Set It and Forget It")

Several services offer simplified monthly subscriptions or lifestyle-based calculators that estimate an individual's footprint and automatically purchase verified "offset" credits:

- **Wren**
  A highly user-friendly option that estimates impact through a short questionnaire and provides a monthly subscription, typically in the $10–$30 range. Wren emphasizes transparency and visual updates tied to specific funded projects.
- **Terrapass**
  One of the longest-standing providers, offering flat-rate "carbon balanced living" plans as well as one-time offsets for flights or events.
- **Climeworks**
  Focused on direct carbon removal—physically capturing CO_2 from the atmosphere and storing it permanently. Costs are higher, but quality and additionality are clear, requiring minimal research by the buyer.
- **Ecologi**
  Known for its visual "virtual forest" model, combining tree planting with funding for emissions-reduction projects through a simple monthly subscription.

Capital Allocation and Nonprofit Selection as Low-Friction Extensions

After individuals have taken the most practical direct actions available to them, the next opportunity for meaningful impact often lies not in additional personal optimization, but in how capital, time, and attention are allocated. For many households and organizations, these choices influence far more long-term environmental and social outcomes than marginal changes in personal behavior.

Capital allocation includes decisions such as where savings and retirement funds are invested, which products and services are purchased, and which organizations receive financial or volunteer support. From a human-centric sustainability perspective, these choices should prioritize entities that enable durable, system-level improvements—such as energy efficiency, clean infrastructure, circular economy solutions, health, education, and community resilience.

Similarly, nonprofit selection benefits from moving beyond carbon-only metrics. Organizations that measurably improve health, access to clean water, education, and economic stability often generate substantial secondary environmental benefits over time by reducing future resource pressure and increasing adaptive capacity. Evaluated through a Rotary Impact Equivalent (RIE) lens, these interventions frequently outperform narrowly defined environmental projects in terms of long-term, compounding impact.

These extensions remain "low-friction" because they leverage decisions individuals and organizations already make—investing, purchasing, donating, and volunteering—without requiring specialized research or complex technical analysis.

Low-Research Options for Small and Medium Organizations ("Automated Participation")

For individuals and organizations that lack the time or capacity to actively evaluate investments or nonprofit partners, automated participation mechanisms can serve as a practical complement to the human-centered decision framework described above. These options are most effective when used *after* high-impact priorities have been identified, rather than as a substitute for strategic alignment.

For organizations that wish to contribute meaningfully without hiring dedicated sustainability staff, portfolio-based approaches can simplify participation:

- **Carbonfund.org**
  Offers flat annual pricing based on organizational characteristics such as staff size and facilities, with accompanying certification and reporting support.
- **Stripe Climate**
  Allows organizations already using Stripe to automatically direct a small percentage of revenue toward vetted carbon removal technologies, with minimal administrative overhead.
- **CNaught**
  Designed to provide diversified portfolios of high-quality credits—combining nature-based and technology-based approaches—through a single purchasing mechanism.

A Simple Trust Proxy for Non-Experts

For those who prefer not to evaluate providers individually, the most important safeguard is ensuring that credits are verified through established registries. Platforms that rely on the following standards generally meet baseline credibility expectations:

- **Gold Standard**
- **Verra / Verified Carbon Standard (VCS)**
- **American Carbon Registry (ACR)**
- **Climate Action Reserve (CAR)**

While no system is perfect, the presence of these standards provides a reasonable proxy for quality without extensive independent analysis.

Net Zero Summary Guidance

For individuals, a monthly subscription through a reputable provider can be established in minutes and maintained passively. For organizations, portfolio-based or automated approaches allow participation without diverting attention from core mission activities. These pathways are not substitutes for direct emissions reduction, but practical complements once direct actions have been taken.

Appendix E: Individual vs. Club: The Scale of Impact

For an average US individual, the annual carbon footprint is approximately **16 tons of CO2**. For a club of 50 members, the collective personal footprint is roughly **800 tons**.

High-Impact Individual Initiatives

The most effective way for Rotary to move the needle is to encourage members to adopt "win-win-win" solutions that save money while reducing emissions. These include:

- **Energy Efficiency**: Begin with a professional energy audit to identify areas for improvement. Upgrading insulation, sealing leaks around windows and doors, and switching to low-energy lighting and equipment can significantly reduce energy consumption and utility costs. This often pays for itself in a few months of savings.
- **Renewables**: Installing solar is usually an excellent investment where loan payments on the system are often less than what the energy bill would have been. Payback in 7 to 10 years, or 5 to 7 for businesses.
- **Electrification** : Moving to electric vehicles (EVs) and heat pump HVAC systems.
- **Behavioral Shifts** : Adopting telework or improved commuting patterns.

These steps can reduce an individual's footprint by **40% to 60%** before they even reach the point of needing external solutions or offsets.

The Club Assessment: Identifying Operational Accountability

While a service club represents only a small fraction of a member's total footprint, Rotary's DNA of "leaning into issues" suggests the club should accept responsibility for its collective actions, even where overlap exists.

1. The Weekly Meal (The Substitution Dilemma)

- **The Overlap**: Meals served at meetings frequently substitute for meals members would have eaten elsewhere.
- **The "Carbon Bill"**: If a club accepts the "bill" for these lunches, the focus should shift to **materiality**—for example, reducing high-carbon food sources (like beef) rather than just counting the number of plates.

2. Member Travel (Local vs. Incremental)

- **Local Meetings**: Driving to a weekly meeting often overlaps with travel a member would have done anyway (e.g., driving to a café or office).
- **Incremental Travel**: Conference and training travel—especially air travel—represents a clear, **Rotary-specific incremental impact**.

3. Meeting Venue Energy

- **Baseline vs. Marginal**: Electricity and heating in a meeting room are often part of a facility's "baseline load" that would exist regardless of the meeting.
- **Strategy**: Clubs can focus on choosing venues with renewable energy or high-efficiency ratings to align their presence with their values.

4. High-Leverage Strategic Decisions

Once the club understands its footprint, it can move from "symbolic optimization" to meaningful action:

- **Hybrid Participation**: Reducing the frequency of in-person regional training to cut down on long-distance travel.
- **Embedded Offsets**: Instead of buying abstract credits, the club can fund service projects—like clean cooking or reforestation—that deliver both carbon reductions and high **Rotary Impact Equivalents (RIEs)**.

Once the club establishes its carbon footprint, it can move from estimation to action by exploring a variety of mitigation pathways. Each club can choose to reduce its footprint directly—such as by evaluating the necessity of travel or supporting hybrid meeting models—or through secondary approaches like purchasing verified carbon offsets. For Rotary, the most effective secondary path is to embed these offsets into high-impact service projects, such as clean cooking, reforestation, or water systems. This allows the club to fulfill its environmental accountability while simultaneously generating a high **Rotary Impact Equivalent (RIE)** through the human-centered service that defines its core identity.

Appendix F: Beyond Financials — The State of Sustainability Reporting

When readers want to understand how sustainable an organization really is, the first place to look is simple:

Does the organization publish a sustainability or impact report?

Because much sustainability reporting remains voluntary, organizations that are forward-leaning—and proud of their progress—tend to make this information visible. The absence of a report does not automatically indicate poor performance, but the presence of one is often a strong signal of intent, awareness, and accountability.

What Sustainability Reporting Looks Like Today

Sustainability reporting is not yet standardized in the way financial reporting is. Instead, it consists of a mix of voluntary frameworks, emerging regulations, and mission-specific disclosures.

Readers should treat sustainability reports as **signals of direction and learning**, not as audited scorecards.

Common Corporate Sustainability Reporting Frameworks

Companies that report on sustainability typically use one or more of the following tools:

- **Global Reporting Initiative (GRI)** – Broad, impact-focused reporting on environmental and social performance

- **SASB (Sustainability Accounting Standards Board)** – Industry-specific metrics tied to financial materiality
- **TCFD (Task Force on Climate-related Financial Disclosures)** – Climate risk, governance, and scenario planning
- **IFRS / ISSB Sustainability Standards** – Emerging global baseline for investor-focused disclosures
- **CDP (Carbon Disclosure Project)** – Structured reporting on emissions, water, and forests
- **EU CSRD (Corporate Sustainability Reporting Directive)** – Mandatory sustainability reporting for large EU entities

Corporate reports most often include energy use, emissions, workforce metrics, governance practices, and long-term risk discussions.

Sustainability and Impact Reporting in Nonprofits

Nonprofits and service organizations rarely publish formal sustainability reports. Instead, they typically communicate impact through:

- Annual reports
- Program outcome summaries
- Case studies and narratives
- Evaluation or learning reports

Environmental metrics are often secondary or implicit, even when long-term environmental benefits are significant. Many of the highest-impact sustainability outcomes occur indirectly through human-centered work such as health, education, clean water, and economic development.

How to Read Sustainability Reporting (or Its Absence)

When evaluating an organization, consider:

- Is sustainability or impact information easy to find?
- Does the organization discuss long-term outcomes, not just activities?
- Are tradeoffs and limitations acknowledged?
- Is progress discussed over time rather than as a single snapshot?

Organizations that think systemically tend to communicate systemically—even without formal reports.

Summary Snapshot: Reporting Landscape

Sector	Typical Reporting Form	Strengths	Limitations
Corporations	Sustainability / ESG reports	Comparable metrics, growing rigor	Inconsistent scope, self-disclosure

Sector	Typical Reporting Form	Strengths	Limitations
Nonprofits	Impact or annual reports	Strong human outcomes	Limited environmental metrics
Service Organizations	Program narratives	System-level change	Hard to quantify across projects

Beyond Carbon and Beyond Financials

Sustainability reporting is most useful when it informs better decisions rather than serving as a branding exercise. Carbon accounting is one tool among many. Human-centered frameworks—such as Rotary Impact Equivalents (RIE)—help readers evaluate whether reported activities translate into durable improvements in lives, communities, and systems over time.

Practical takeaway: Start by looking for a sustainability or impact report. Then look for honesty, systems thinking, and outcomes that compound.

References & Resources

Books and Monographs

Hall, E. (2025). *Perpetual Innovation™: Perpetual Sustainability by Leveraging Regenerative Dynamic AI (rdAI).* Strategic Business Planning Company. ISBN 979-8315844440. https://www.amazon.com/dp/B0F2Z2SGZL

Hall, E. (2025). *Patent Primer 5: Strategic Planning, Intellectual Property, and Competitive Advantage in the Age of AI.* Strategic Business Planning Company.

Rotary and Sustainability Resources

Environmental Sustainability Rotary Action Group (ESRAG). (n.d.). *ESRAG online Rotary club carbon calculator.* https://esrag.org/esrag-on-line-rotary-club-carbon-calculator/

Rotary International. (2023). *Supporting the Environment: Rotary's Seventh Area of Focus.*

Global Health and Impact Measurement

World Health Organization. (2014). *Metrics: Disability-Adjusted Life Years (DALYs).* https://www.who.int

Drummond, M., Sculpher, M., Claxton, K., Stoddart, G., & Torrance, G. (2015). *Methods for the Economic Evaluation of Health Care Programmes* (4th ed.). Oxford University Press.

Philanthropy and Cost-Effectiveness

GiveWell. (2023). *How we measure cost-effectiveness.*
https://www.givewell.org

Jamison, D. T., et al. (2018). *Disease Control Priorities* (3rd ed.). World Bank.

Climate and Sustainability Frameworks

Project Drawdown. (2023). *The Drawdown Review.*
https://drawdown.org

Intergovernmental Panel on Climate Change (IPCC). (2023). *AR6 Synthesis Report.*

AI, Planning, and Translation

Hall, E. B., & Lentz, C. A. (2024). *Synergy of Human + Artificial Intelligence: Delphi and the Genius of Crowds.* In *The Refractive Thinker®, Vol. 25.*

OECD. (2022). *AI and the Future of Social Impact Measurement.*

Strategic Business Planning Co. & Resources: SBPlan.com

Perpetual Innovation™ Books & More: https://perpetualinnovation.org/rapid-strategic-planning-books-resources/

By Dr. Elmer Hall, President, **Strategic Business Planning Company.**

GenAI Attribution. ChatGPT 5.2 (2026, Jan.) was utilized in developing the analysis of this white paper, there was intense prompt engineering, editing and review by Elmer Hall.