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GROUP PROJECT BRIEF

MEASUREMENT AND REDUCTION OF THE CARBON FOOTPRINT OF ZURICH FINANCIAL SERVICES

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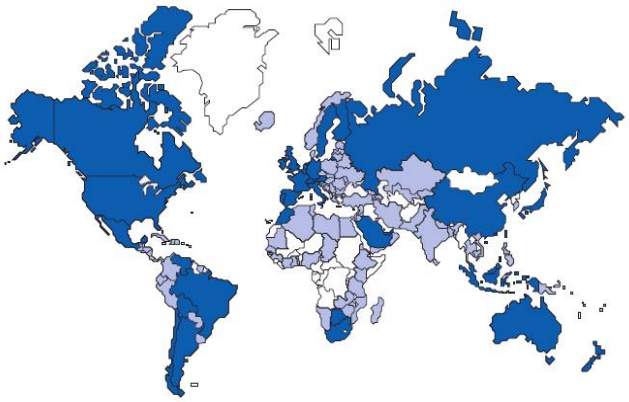
Introduction/Background

Due to the enhanced effects of climate change, management of greenhouse gas (GHG) emissions has become a public policy issue of the highest priority. Businesses are increasingly responding to climate change as they face related risks and opportunities. When our client, Zurich Financial Services, announced its 2008 Climate Initiative, it publicly committed to evaluating its carbon footprint and reducing its contribution to climate change.

About Zurich

Zurich is a multinational primary insurance provider whose core business is general and life insurance. Zurich has physical operations in 63 countries, employs approximately 58,000 people, and serves customers in over 170 nations.



** Countries with Zurich offices
** Other countries where Zurich provides services

Adopting our recommended emission reduction strategies will enable Zurich to: (1) improve its environmental performance, (2) prepare for future regulation, (3) establish a competitive advantage in the financial services sector, (4) strengthen its risk-management strategy, (5) increase the efficiency of its operations, with the potential for cost-savings, and (6) improve its corporate social responsibility.

Research Questions

1. How do we evaluate the carbon footprint of a multinational financial services provider?
2. How do we determine feasible emission reduction options given Zurich's corporate culture, organizational structure, and multinational presence?
3. Which mitigation strategies are best suited for Zurich's varied national business units?

Approach

To answer these questions, we used a 3-phase approach:

Phase 1: Calculation of Zurich's carbon footprint using the World Resources Institute/World Business Council for Sustainable Development's (WRI/WBCSD) GHG Protocol to determine the emissions breakdown by source and country

Phase 2: Assessment of the institutional and organizational frameworks influencing carbon management, defined as the regulatory environment within each target country and the organizational field influencing the degree of Zurich's environmentally progressive behavior, and

Phase 3: Development of feasible and cost-effective mitigation strategies.

Phase 1 – Carbon Footprint

Methodology:

We based our carbon footprint analysis on emissions generated by Zurich's facilities in seven target countries, which comprise 74% of Zurich's full-time employees (FTEs). These countries (Australia, Germany, Italy, Spain, Switzerland, the U.K., and the U.S.) were chosen because necessary data was available. We projected facility-level emissions from an additional 27 countries based on FTE data to

increase the accuracy and completeness of our footprint analysis. The scope of our analysis included the combined emissions for these 34 countries.

The WRI/WBCSD GHG Protocol splits emissions sources into three scopes. Like most service-oriented companies, Zurich's GHG emissions result from the use of the company's corporate jet and leased vehicle fleet (Scope I), indirect energy consumption in owned and leased facilities (Scopes II and III, respectively), and business travel (i.e., air travel and rental cars) (Scope III) (WBCSD 2007).

To fill data gaps and estimate emissions, we developed two country-specific indices: energy consumption/m^2 and energy consumption/employee. A similar index was used to project emissions for the other 27 countries. Finally, we calculated metrics, including energy consumption/employee, CO_2 emissions/kWh, and energy consumption/m^2, to help explain country-level differences in emissions generation.

Results:

Figure 1 shows that emissions from Zurich's facilities account for 63% of the total. When comparing emissions from facilities, leased buildings are the largest source and contribute 36% to the group-wide total. This is largely because Zurich leases three times more buildings than it owns. Air travel is the next largest source, followed by leased and rented cars. Finally, Zurich's corporate jet is the smallest contributor to group-wide emissions.

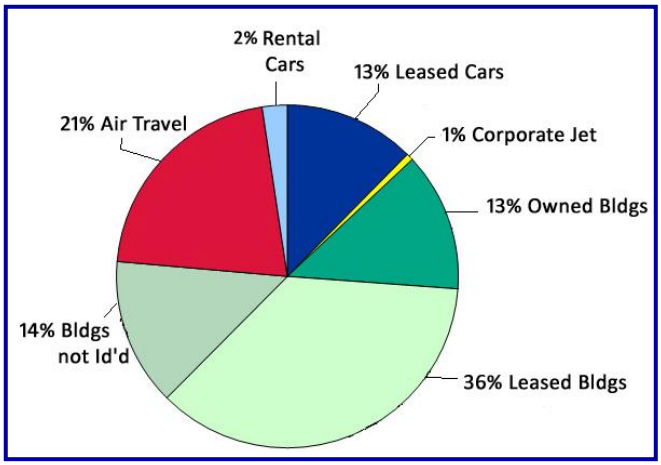


Figure 1: CO_2 Emissions Breakdown by Source

Figure 2 depicts the contribution of absolute emissions from the 34 countries analyzed. The largest emitter is the U.S., which contributes 58% to the group-wide total. U.S. emissions include Zurich North America (ZNA) and Farmers Insurance Group (FIG), a wholly owned subsidiary of ZNA. The "Other" category includes operations in the projected 27 countries and contributes 16% to group-wide emissions. The smallest contributions to the total come from Spain and Italy.

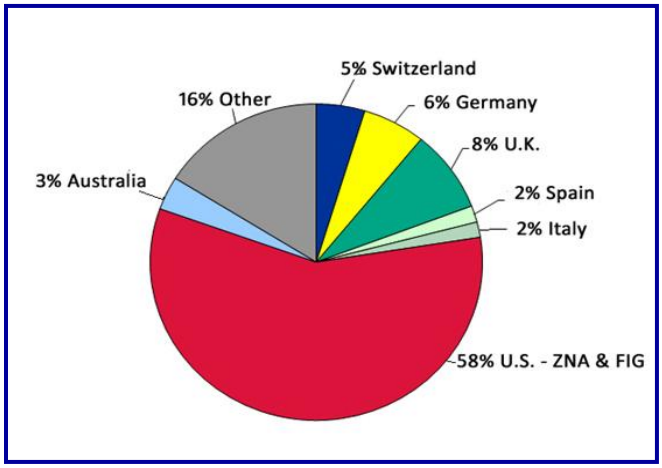


Figure 2: CO_2 Emissions Breakdown by Country

Results of both the emissions breakdown by source and by country influenced our prioritization of reduction strategies.

Phase 2 – Institutional & Organizational Frameworks

The institutional environment, comprised of regulative, normative, and cognitive components, in large part defines the range of the organizational reality (Hoffman 1997). To develop the most effective emissions reduction strategies, we examined institutional and organizational factors within each of the seven countries targeted in our footprint analysis. Zurich must consider the institutional environment within each country in which it operates, as well as its organizational field, which together influence its emission reduction goals and mitigation incentives.

Qualitative information from our client helped us tailor recommendations to Zurich, as well as: (1) determine national differences in corporate culture and (2) differentiate our recommended mitigation strategies by country.

In addition to this Zurich-specific analysis, we assessed reduction targets of 18 of Zurich's competitors (identified by our client), as well as country-specific Kyoto goals. These analyses helped us set appropriate emission reduction targets for Zurich.

Figure 3 ranks Zurich among 13 of its competitors with respect to absolute emissions. For our benchmarking analysis, we analyzed only those 13 companies that report emissions. Ranking was based on emissions reported in competitors' annual reports and most recent Carbon Disclosure Project responses. Zurich ranks 10th out of 14 companies in terms of absolute emissions and is, therefore, slightly below average within the industry.

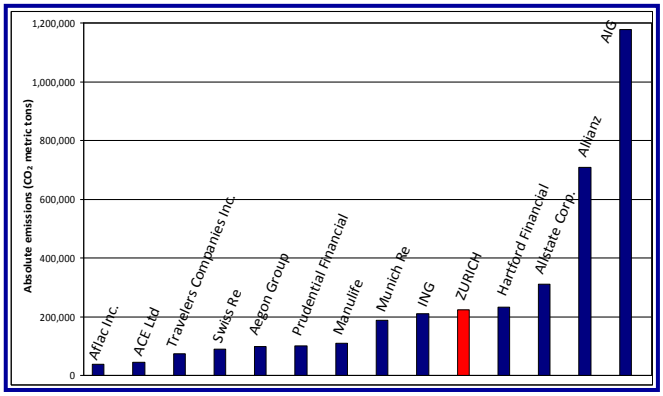


Figure 3: Comparison of Zurich to 13 Competitors Based on Absolute Emissions

Based on our analysis, we set group-wide emission reduction targets for Zurich. We modeled specific reduction strategies to achieve a 15% target by 2012 to provide Zurich with options that can be readily implemented and may yield short-term carbon savings. Zurich recently made a public commitment to reduce its group-wide emissions 10% by 2013. Although our short-term target of 15% by 2012 is slightly more ambitious, research suggests that Zurich may have more opportunities for change then it realizes.

Phase 3 – Carbon Reduction Strategies

We developed three mitigation options to achieve the 15% reduction goal by 2012. Each option emphasizes reductions over different time frames and from different sources, as depicted in Figure 4. We allocated reductions based on each country's current contribution to group-wide emissions. The U.S. is consistently the highest emitter; therefore, we targeted it for the largest emissions reductions.

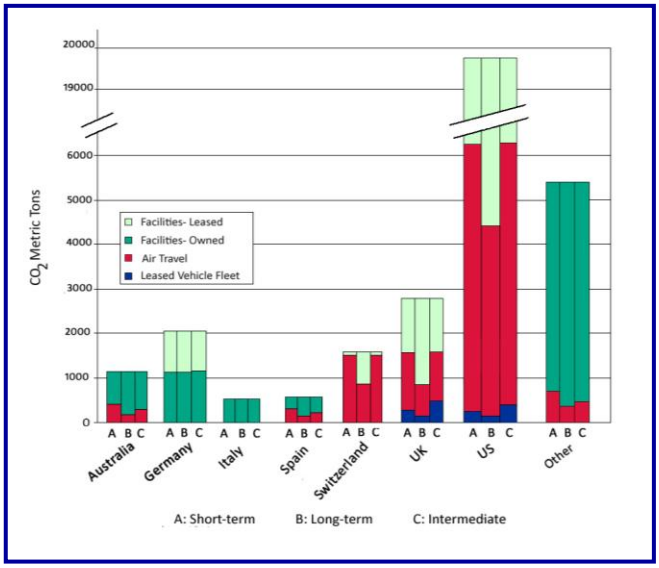


Figure 4: Summary of Mitigation Options to Achieve the 15% Reduction Target

Option A represents a short-term strategy, which maximizes emissions reductions from business travel.

Option B represents a long-term strategy and places a greater emphasis on facility-based emissions reductions. Zurich must target its facilities to reduce the majority of its emissions. However, energy- and carbon-saving initiatives at facilities may be more costly, and require greater changes in corporate structure and employee behavior to implement, than transportation-based initiatives.

Option C represents an intermediate-term strategy. It models moderate emissions reductions from all sources and may, therefore, be easier to implement.

Zurich may choose to implement the option which best aligns with its corporate strategy and financial capabilities. If Zurich seeks to pursue a more aggressive carbon management plan in the future, it may consider implementing one of the additional targets we established:

- 30% by 2016
- 50% by 2020

Our preliminary analysis, based on a 15% reduction target, provides a starting point for Zurich to pursue long-term emissions reductions.

Reduction Strategies by Source

Options A, B, and C can be achieved by combining mitigation strategies that target different emissions sources. Examples of Zurich-specific mitigation strategies are detailed below:

Facilities:

- Replace traditional IT equipment with energy-efficient counterparts.
- Increase the portion of alternative energy used to fuel buildings.
- Persuade landlords to incorporate energy efficiency upgrades. This is especially relevant in countries (e.g., Switzerland and the U.S.) where Zurich occupies more than 90% of its leased buildings, on average, and can leverage its position as a prominent tenant.
- Re-negotiate the terms of leases with property managers upon expiration to purchase more renewable energy and increase the use of energy-efficient technologies. In the U.S. and Canada, 88% and 57% of leases will expire by 2012, respectively.

Air Travel:

- Utilize Zurich's telepresence and video-conferencing capabilities.
- Reduce air travel.

Leased Vehicles:

- Increase use of green (i.e., fuel-efficient, gasoline-powered vehicles, excluding hybrids) cars in the U.K. and the U.S.
- Increase use of hybrids in the U.S.

Other:

- Implement a company policy requiring purchase of fuel-efficient rental cars, such as compact or hybrid vehicles.

Combining mitigation strategies will allow Zurich the flexibility to achieve the greatest emissions reductions most efficiently.

Next Steps

In addition to implementing one, or a combination of, our proposed mitigation strategies, Zurich should consider the following short- and long-term steps in the future.

Short-term:

1. **Perform energy audits.** Audits assess each building's energy consumption breakdown and allow Zurich to better target major energy-consuming processes and technologies.
2. **Implement employee engagement programs.** While Zurich may implement several strategies to increase the efficiency of its operations, the success of environmental initiatives hinges on employee support.

Long-term:

3. **Streamline emissions inventorying.** All data for this project was collected manually. However, Zurich could improve the ease and accuracy of calculating its footprint by devising a streamlined data collection process.
4. **Expand the scope of footprint analysis.** By considering emissions from upstream and downstream sources, Zurich can more accurately understand and reduce its contribution to climate change.

Zurich is well-positioned to take the necessary steps to reduce its footprint. We are confident that application of our recommended mitigation strategies will provide a starting point for Zurich's long-term commitment to carbon reduction.

References

[WBCSD] The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard—Revised Addition. 2007. Prepared by the World Business Council on Sustainable Development and the World Resources Institute.

Hoffman, A.J. 1997. From Heresy to Dogma: An Institutional History of Corporate Environmentalism. The New Lexington Press, San Francisco.