Dubai Electricity and Water Authority (DEWA): a case study on sustainability

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Abstract
Purpose – The main purpose of the Dubai Electricity and Water Authority (DEWA) sustainability case is to allow students to explore how nonfinancial information reported in sustainability plays a vital role in maintaining a trade-off between current economic pressure and future environmental needs.

Design/methodology/approach – This is an exploratory study in nature using a qualitative case study approach. The case requires an examination of DEWA’s sustainability reporting (SR) in the context of Global Reporting Initiatives (GRIs). This case is designed to assist students in gauging DEWA’s sustainability and explore how the company evaluates the materiality of sustainability issues.

Findings – With stakeholders’ and investors’ increased interest in sustainability, the authors argue that accounting programs should incorporate this topic into their curricula. The case enables students to focus on sustainability-related initiatives with DEWA that are aligned with GRI initiatives. The case might be instructive for both undergraduate and postgraduate students studying environmental and management accounting.

Originality/value – This case study is the first of its kind in the Gulf Cooperation Council (GCC) region to comprehensively analyze DEWA’s sustainability practices concerning GRI-based SR. This study widens the understanding of DEWA’s implementation of GRI standards in the preparation of its sustainability reports.

Keywords Sustainability, GRI framework, UAE, Accounting

Paper type Case study

Introduction
Researchers and scholars have paid significant attention to corporate sustainability and disclosure. The World Commission on Environment and Development Sustainability defines sustainability as the “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, p. 8). Sustainability focuses on how companies draw their strategies and manage their operations to maximize their economic, environmental and social performance in light of the prevailing risks and opportunities to maintain and support the continuity of their business processes over time. Although stand-alone sustainability disclosure is only voluntary, corporations continue to publish their efforts in this area to enhance their accountability to current and potential investors as well as other networks of stakeholders and pressure groups. The more corporate
transparency in this regard, the more information stakeholders will have to make informed
decisions about their resources. Sustainability reporting (SR) has become a widespread
practice, with 93% of the world’s largest 250 companies and 75% of the top 100 companies in
49 countries reporting on sustainability (KPMG 2017). SR is becoming increasingly popular
among listed GCC companies (Serraj, 2018; Farooq et al., 2021; Frutos-Bencze, 2021). Frutos-Bencze
(2021) found a remarkable rise in the number of listed GCC companies engaging in SR in
2017 compared to 2013. They indicated that Bahrain and Qatar scored the highest percentage
of SR due to several government initiatives in both nations to develop sustainability.
However, most of the GCC companies do not follow the Global Reporting Initiative (GRI)
guidelines or any other recognized standards. They found that only 8.2% of the listed GCC
companies use the GRI guidelines in their SR.

Frutos-Bencze (2021) conducted a study to examine the country and firm level of
environmental sustainability of a sample of countries from three regions, namely Latin
America, the Middle East and North Africa. Using composite indexes to measure a country’s
sustainability level and the GRI frame and the UN Global Compact Participation to measure
the sustainability level of listed firms in these three regions, the findings revealed that
Argentina was the only country that applied the required sustainability criteria.

UAE on sustainability
The United Arab Emirates (UAE) 2021 Vision aims to make the UAE a leading country by the
Union’s golden jubilee. To achieve this aim, the UAE Vision focuses on six main priorities,
including a “sustainable environment and infrastructure.” This priority focuses on
improving air quality, preserving water resources, expanding the contribution of
renewable energy and putting green growth plans into effect (UAE vision, 2022).

According to Frutos-Bencze (2021), there is an increasing interest in renewable energy in
the GCC area in general, and in Saudi Arabia and the UAE in particular. They indicated that
on the firm level, the findings revealed an increasing trend in GRI filing throughout the three
regions (Latin America, the Middle East and North Africa). In comparison to other GCC
countries, the UAE has the highest number of firms that fill the GRI reports.

On the other hand, there is an increasing trend in the literature in investigating the impact
of SR on firms’ voluntary disclosure and financial performance. Some studies found a positive
relationship between some SR factors and voluntary disclosure among listed GCC companies
(Maskati and Hamdan, 2017; Alotaibi and Hussainey, 2016; Al-Shammari and Al-Sultan,
2010). Other studies discovered a significant relationship between SR and financial
performance (Al-Ali Mubarak et al., 2020). From the above discussion regarding the
significance of SR and its impact, it is very important to thoroughly investigate this topic.

In tandem with the UAE Vision, Dubai plan 2021 also aims to provide an integrated
concept for a brighter future for Dubai, focusing on six main themes seeking to achieve a
bright, sustainable, clean, healthy, safe and resilient city with the highest level of
environmental sustainability. Additionally, the UAE Ministry of Climate Change and
Environment published a white paper outlining critical milestones [1] accomplished since the
2016 state of green finance.

The UAE is focusing on its Green Economy Initiative, which was launched in 2012 to
diversify its revenue sources away from oil. It is attempting to boost its competitiveness and
sustainability to ensure long-term economic growth and a better environment for future
generations. This initiative consists of policies and programs directed toward energy, water
and sustainable climate-friendly transportation, as well as procedures in other environment-
related development projects. Dubai Clean Energy Strategy was launched by H.H. Sheikh
Mohammed bin Rashed Al Maktoum with the primary goal of “Reducing carbon emissions by
16% by 2021 and transforming Dubai into a city with the world’s smallest carbon footprint by
Dubai Economic Report, 2022). There are plans to lower the use of natural gas in the energy mix by 16% while steadily increasing the share of clean and renewable energy from 7% in 2020 to 25% in 2030 and 75% in 2050 (Dubai Electricity and Water Authority, 2022). Several initiatives have been implemented to achieve the aim of this strategy, including the Mohammed bin Rashid Al Maktoum Solar Energy Park, the Shams Dubai Initiative and the Dubai Green Mobility Initiative (Dubai Economic Report, 2022).

Dubai Electricity and Water Authority
The Dubai Electricity and Water Authority (DEWA) is a Public Joint-Stock Company (PJSC) was created in 1992 by the merger of the Dubai Electricity Company and the Dubai Water Department. DEWA is an electric and water utility company that distributes and transmits potable water and electricity throughout Dubai. DEWA’s core business is the operation and maintenance of power stations, desalination plants, aquifers, power and water transmission lines and distribution networks in Dubai. Its power generation and water desalination stations are mainly powered by natural gas. DEWA purchases gas exclusively from the Dubai Supply Authority (DUSUP), which is in charge of procuring, transmitting, storing and delivering all-natural gas to end customers in Dubai (DEWA, 2022).

DEWA was established in tandem with Dubai’s expanding population, economy and infrastructure due to an increase in the demand for electricity and water. According to the Dubai 2040 Urban Masterplan, the number of Dubai residents is expected to reach 5.8 million by 2040, with a daytime population increasing to 7.8 million in 2040. DEWA meets the demand for energy and water while maintaining the highest quality, availability and efficiency standards to enhance comprehensive and sustainable development and make citizens, residents and visitors happy. In line with this plan, the UAE energy strategy 2050, with a budget of AED 600 billion, primarily strives to balance the country’s economic requirements and its environmental goals (Dubai Electricity and Water Authority, 2022).

The group currently derives around 11.4% of its power from clean energy sources, the highest percentage in the region (as compared to other regional utility companies). The Dubai Net Zero Carbon Emissions Strategy 2050 is supported by DEWA. It is well-aligned with the Dubai Clean Energy Strategy 2050, which aims to provide 100% of Dubai’s energy production capacity from clean energy sources by 2050. The Group also expects to supply 100% of its water capacity from desalinated water using clean energy and waste heat by 2030. DEWA benefits from Dubai’s past and current economic growth by maintaining the highest efficiency, quality, and availability standards. Listed on Dubai financial markets in 2022, DEWA is proud to disclose its sustainability performance following the GRI SR Standards, an internationally recognized framework.

As part of the Dubai Government, DEWA’s core objectives are:

1. To establish, manage, operate and maintain electricity generation, water desalination plants and power and water transmission and distribution networks in Dubai.
2. To develop and preserve water resources, as well as to supply drinking water.
3. To support the vision of the Dubai Government to promote sustainable development by increasing energy and water use efficiency and investing in alternative energy sources.

In addition to producing and supplying electricity and water, DEWA has a portfolio of related business interests (Figure 1).

DEWA embedded its sustainability strategy with its corporate strategy and focused on the following aspects:

1. Robust policies, programs and board-level ESG management.
(2) Strong focus on de-carbonization, renewable energy and energy-efficient technologies.

(3) Strong code of business ethics for stakeholders, employees and communities and implementing best-in-class corporate governance practices.

(4) Fostering a whistle-blowing system, and zero tolerance for fraud, bribery and corruption.

(5) Alignment with the UN Sustainable Development Goals (SDGs).

**DEWA’s energy initiatives.** In 2017, the UAE launched the “Energy Strategy 2050”, which is considered the country’s first comprehensive energy strategy based on supply and demand. The strategy intends to increase the contribution of clean energy to the total energy mix from 25% to 50% by 2050 and reduce power generation’s carbon footprint by 70%, thus saving AED 700 billion by 2050. It also seeks to boost individual and corporate consumption efficiency by 40% (the UAE Energy Strategy 2050).

DEWA also focuses on other clean energy initiatives such as:

Global environmental events – DEWA organizes awareness and interactive activities to encourage everyone to support national and international efforts to reduce carbon emissions, climate change and global warming.

Earth Hour – Earth Hour in Dubai has achieved a cumulative savings of 3.45 GWh and a reduction of 1,739.3 tons of carbon emissions.

Noor and Hayat Adventures – DEWA broadcasts the animated series “The Adventures of Noor and Hayat” (2018) on its YouTube channel DEWA Official. DEWA’s two characters represent electricity and water. DEWA uses edutainment to raise environmental awareness among the new generation and encourage them to use electricity and water responsibly.
“Let’s Make This Summer Green” – DEWA launches a three-month campaign called “Let’s Make This Summer Green” to encourage individuals and institutions to adopt an innovative and sustainable lifestyle that positively impacts the environment.

Green Charger – The Green Charger initiative supports the concepts of sustainability and mobility in Dubai. This is done by providing charging stations across Dubai to encourage the public to use electric vehicles.

Smart Living through the Smart Living initiative – Customers can monitor their home usage through this initiative. They can log into their DEWA accounts via the website or smart app, check their digital dashboards to track their usage, learn about slab rates, obtain conservation tips and recommendations and create conservation plans.

Innovation Center – The Innovation Center at the Mohammed bin Rashid Al Maktoum Solar Park is the world’s largest single-site solar park for clean and renewable energy innovations in 2022 (DEWA, 2022).

DEWA has signed a Memorandum of Understanding with Eutelsat, the French global satellite operator, to provide technical support for DEWA’s Space-D program and DEWA’s 3U nanosatellite DEWA-SAT1. DEWA’s Space-D program has contributed to increasing DEWA’s resilience and agility in managing and monitoring electricity and water networks. The program also lowers costs, improves its asset utilization and management and provides proactive network assistance (DEWA, 2022).

DEWA and ESG framework
Environmental, social and economic disclosures are the three primary elements of DEWA’s ESG. Such disclosures provide fertile ground for analyzing the progress of ESG initiatives at DEWA and whether or not such initiatives are positively contributing to the community at large.

Environment disclosures. Environmental disclosures relate to how the company manages the natural resources required for its business while minimizing its negative environmental impacts, including biodiversity. The environmental disclosures are presented in Figure 2.

Economic disclosures. Economic disclosures may be derived from the annual report and other audited financial publications. Nonetheless, the goal of the DEWA’s report is to provide a broader picture of its economic impact and contribution to sustainable development by integrating economic and environmental data. The economic disclosures are depicted in Figure 3.

Social disclosures. DEWA’s social initiatives include affordable and accessible healthcare facilities, employee benefits, customer happiness and management compliance. The social disclosures are presented in Figure 4.

Source(s): Author’s compilations
Sustainability reports help organizations prioritize their environmental and social impact goals by disclosing positive and negative influences on the economy, society and the planet. Several external bodies have appeared to provide guidelines for SR. Sustainability Accounting Standards Board (SASB) Standards guide the disclosure of financial material sustainability information by companies to their investors. SASB created and released 77 comprehensive industry standards, covering five broad sustainability topics: environment, social capital, business model and innovation, human capital and leadership and governance. Task Force on Climate-Related Financial Disclosures (TCFD) was created by the Financial Stability Board (FSB) to provide a recommendation on the information that firms should disclose about risks associated with climate change. The International Framework and Integrated Thinking Principles were developed and are used in 75 countries around the world to advance communication about value creation, preservation, and erosion. GRI is an independent, international organization that provides disclosure guidelines for businesses and other organizations to help them be more transparent and accountable for their environmental impacts (Adams et al., 2021; GRI, 2022). Since the inception of GRI standards, this framework has provided the most comprehensive and widely utilized sustainability guidelines, with over 10,000 users globally (Adams et al., 2021; KPMG, 2020).

The GRI pioneered and developed a comprehensive SR framework that is extensively used throughout the world. The GRI includes four template categories from which a company may choose to use all or part of it to report specific information about its material issues. The standards are divided into universal, economic, environmental and social templates and are summarized in Table 1:

The first version of GRI guidelines was published in 2000, modified in 2002 (G2) and again in 2006 (G3), with the most recent version published in 2013 (G4) (GRI, 2022). In 2016, the GRI’s Global Sustainability Standards Board launched the first global standards, which comprise a series of reporting guidelines designed to assist organizations to communicate the effects of their operations on economic growth, society and the environment (de Villiers et al., 2022; GRI, 2022). The GRI recently updated and revised these standards in October 2021 to emphasize governance disclosures and human rights, as well as to enhance consistency and comparability.

GRI’s universal standards consist of three primary standards. GRI 1 outlines the principles that must be considered during the reporting process. GRI 2 specifies the information that must be disclosed about the organization’s operations, governance, strategies and policies. GRI 3 outlines the process for identifying and managing material topics – those with the most significant impact on the economy, environment, and people (Adams et al., 2021). In September 2020, GRI and four leading frameworks, including SASB,
Source(s): Author’s compilations
IIRC, CDP and CDSB, released a shared vision that works towards a holistic reporting system that caters to financial accounting and sustainable disclosure. Later that year, in December 2020, the same group launched a collaborative initiative to expand reporting on climate-related financial disclosures.

DEWA & GRI
DEWA’s ESG practices have become an integral part of its strategy. DEWA has evolved to increasingly invest in sustainable activities, as envisioned in the UAE Strategy 2050. Since 2013, DEWA has adopted the GRI framework to guide its SR, which is based on world-class GRI standards. DEWA is a member of the GRI Gold Community and a participant in the Standards Pioneers Program and is one of the first 100 organizations worldwide to adopt the new standards starting with the 2016 report (DEWA website). DEWA has implemented various ESG initiatives such as economic, environmental, labor, human rights, society and product responsibility, as well as sector-specific guidance. A case study methodology is used to understand ESG and GRI frameworks at DEWA. The GRI reports, sustainability, annual reports and other press releases, along with additional pertinent information on electric utilities and water in the UAE, have been thoroughly investigated. DEWA’s disclosure represents the most significant economic, environmental and social impacts on operation and sustainability in the communities where it operates (DEWA sustainability, 2020). As we proceed, we will examine how DEWA adheres to the guidelines and provides a holistic view of the company’s engagement and commitment to ESG. DEWA’s primary influence on the ESG framework is centered on the following ESG belief and the impact on stakeholders’ assessments and decisions.

Case objectives
The case’s primary sources of information are sustainability reports and supporting websites. The scope of this case is an investigation of sustainability at DEWA based on nine indicators (five indicators from GRI-G4 sector disclosures for electric utilities [2](EU) and four indicators from employer responsibility (LA)). The nine indicators were chosen with the understanding that DEWA operates in a specific sector of electricity and water distribution services. To maintain simplicity, this case excludes indicators measuring water. The nine selected reporting indicators are:

1. EU10: Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime.
2. EU11: Average generation efficiency of thermal plants by energy source and regulatory regime.
(3) EU12: Transmission and distribution losses as a percentage of total energy.

(4) EU15: Employees eligible to retire in the next 5 and 10 years, broken down by job category or region.

(5) EU30: Average plant availability factor by energy source and regulatory regime.

(6) LA1: Total workforce by employment type, contract and region, broken down by gender.

(7) LA6: Percentage of total workforce represented in official joint management–worker health and safety committees that monitor and advise on occupational health and safety programs.

(8) LA8: Education, training, counseling, prevention and risk-control programs to assist workforce members, their families or community members regarding serious diseases.

(9) LA10: Average annual training hours per employee by gender and employee category.

Overview of the selected indicators
EU10 – Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime

(1) Calculate planned capacity in megawatt (MW), for each regulatory regime, including purchased power and reserve margins, broken down by both energy source and by:
   - Under construction capacity
   - Planned future investments including utility commitments

(2) Identify any uncertainties in planned capacity and/or any constraints, for example, wind generation intermittency.

(3) Provide a comparison of planned capacity against projected demand for the same period.

EU11 – Average generation efficiency of thermal plants by energy source and regulatory regime

(1) Specify the assumptions and the confidence level of the figures reported for this indicator.

(2) Determine overall efficiency (electricity sent out and heat supplied/energy input) and electricity efficiency when operating heat and power plant simultaneously.

(3) Report the fleet’s average annual efficiency by energy source and regulatory regime. Express the net efficiency as a percentage (electricity sent out divided by energy input).

EU12 – Transmission and Distribution (T&D) losses as a percentage of total energy

(1) For distribution efficiency, differentiate between technical and nontechnical losses and describe critical estimation assumptions.

(2) Separately report transmission and distribution losses. Losses are measured as energy lost divided by energy entering the system over one year.

EU15 – Employees who are eligible to retire in the next 5 to 10 years, broken down by job category or region.
The indicator is broken down into the following compilation points:

1. The actual or estimated percentage of employees eligible to retire over the next five years is broken down by category and region.
2. The actual or estimated percentage of employees eligible to retire over the next 10-year period is broken down by category and region.

EU30 – Average plant availability factor by energy source and regulatory regime

1. Identify the number of hours of planned outages (an outage scheduled at least two weeks in advance of the actual outage).
2. Identify the number of hours of forced outages (unplanned outage that requires the plant to be taken out of service immediately or before the next planned outage).
3. Report the average availability factor by energy source and regulatory regime.

LA1 – Total workforce by employment type, contract and region, broken down by gender.

1. The total workforce broken down by employees and supervised workers.
2. The total number of employees broken down by type of employment.
3. The total number of permanent employees broken down by employment type.
4. The entire workforce broken down by region using a geographic breakdown based on the scale of the organization’s operations.

LA6 – Percentage of total workforce represented in official joint management–worker health and safety committees that monitor and advise on occupational health and safety programs.

The indicator is broken down into the following compilation points:

1. The percentage of the total workforce represented in official joint management–worker health and safety committees.
2. The level(s) at which the committee(s) typically operates.

LA8 – Education, training, counseling, prevention and risk-control programs to assist workforce members, their families or community members regarding serious diseases.

The indicator is composed of the following compilation points:

1. Education/training program(s) to help workforce members, their families or community members.
2. Counseling program(s) to assist workforce members, their families or community members.
3. Prevention/risk control program(s) to support workforce members, their families or community members.
4. Treatment program(s) to help workforce members, their families or community members.
5. Whether workers are involved in occupational activities that have a high incidence or risk of specific diseases.

LA10 – Average annual training hours per employee by gender and employee category.

The indicator includes the following point:

1. The average annual number of hours of training per employee broken down per employee category.
Case requirement
The goal is to analyze why DEWA reports or does not report on specific indicators. GRI is
widely recognized as an essential voluntary tool that organizations can use to improve and
facilitate reporting on nonfinancial aspects of their operations. Students should study DEWA
or any other company situated in the UAE and find the latest sustainability report as well as
any associated or supplementary websites. The GRI content indexes of the report should be
used to find the relevant information for each indicator within the sustainability reports.
Using the information in the case regarding the nine investigated indicators and DEWA’s
most recent sustainability report, a good starting point for evaluating the company is reading
annual reports and the company’s sustainability report. Other resources could include notes
attached to financial statements or press releases by the management that typically include
additional information. All sources used must be properly cited using in-text referencing.

Students are required to complete the following tasks.

Task A
This task requires the students to study and answer the following questions using the latest
DEWA’s sustainability report and G4 EU standards. The answer should be based solely on
“Yes or No or Limited/moderate” information as well as any other comments students wish to
include. Companies that meet all GRI application levels are rated A+, showing extensive use
of GRI guidelines and that the report was externally assured. Companies not complying with
the highest level of standards are rated below A such as B+, B, C or N/A. Companies released
ratings after certifying the sustainability report by an external auditor. Students can select
“not available (N/A)” if no such information is available in the sustainability reports.

(1) Whether or not the company has published a sustainability/CSR report.
(2) Whether or not the company used the GRI Guidelines in its most recent CSR or
    sustainability report. If yes, please specify which version.
(3) Whether or not the company used the EUSS (electrical utility sector supplement).
(4) Whether or not the report was externally assured.
(5) Whether or not the application level was checked.
(6) Whether or not the CSR/sustainability report was integrated into the annual reporting.
(7) The GRI application level.

Once the information is successfully identified, the student should compile it in Table 2 below.

Task B
The second task requires the student to study and answer the following questions using the
latest DEWA sustainability report. Students should read the report and find out whether the
company “fully”, “partially,” or “does not report” on the indicator. Students need to mark their
responses with an arrow in Table 3 below.

<table>
<thead>
<tr>
<th>Company</th>
<th>Published a CSR/sustainability report</th>
<th>Use of GRI</th>
<th>Use of EUSS (G3 or G3.1)</th>
<th>Report externally assured</th>
<th>Application level checked</th>
<th>CSR/sustainability in the annual report</th>
<th>GRI application level</th>
</tr>
</thead>
</table>

Table 2. DEWA GRI-related information
<table>
<thead>
<tr>
<th>Indicators</th>
<th>N/A</th>
<th>Partial</th>
<th>Fully</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU10 Planned capacity broken down by energy source and regulatory regime</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>EU11 Average generation efficiency of thermal plants by energy source</td>
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<tr>
<td>EU12 Transmission and distribution losses as a percentage of total energy</td>
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<tr>
<td>EU15 Employees who are eligible to retire in the next 5 to 10 years</td>
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<tr>
<td>EU30 Average plant availability factor by energy source and regulatory</td>
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<td>regime</td>
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<tr>
<td>LA1 Total workforce by employment type and gender</td>
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</tr>
</tbody>
</table>

**Table 3.**
Report compliance

(continued)
**Task C**

Students should conclude their findings about DEWA’s compliance with the GRI framework and recommend to the DEWA management steps they should take to achieve the highest ratings and full compliance. Students can refer to any company receiving the highest ratings and mention missed goals in DEWA’s strategy for achieving that target. Analysis of the results from a careful assessment of the company’s reporting on the selected GRI indicators reveals several significant trends and patterns.

**Use of the case in practice**

The case originated in a course offered in higher colleges of technology (HCT) called contemporary issues in accounting, which is part of a bachelor’s degree in accounting at HCT in the UAE. In previous semesters, students in HCT’s contemporary issues in accounting
classes were instructed to work on a Padlet to identify climate-related financial disclosures (TCFD) and to answer questions on governance, strategy, risk management and metrics and targets. It should be noted that not all companies are using GRI standards worldwide. As the report is specific to the UAE region, major players like DEWA in Dubai and TAQA in Abu Dhabi follow the GRI framework. It will be interesting to locate companies in the MENA region that use non-GRI standards. SR based on these standards provides information about an organization’s positive or negative contributions to sustainable development. The main objective of this case is to familiarize students, practitioners and regulators with the application of the GRI. The GRI standards represent global best practices for publicly reporting economic, environmental and social impacts. The scope of the case study focuses only on nine indicators from the GRI reporting framework. Future studies should conduct extensive analyses of other indicators or widen the scope of the study on water services and other thematic areas.

Notes
2. The Electric Utilities Sector Disclosures document is based on the “GRI Electric Utilities Sector Supplement” https://www.globalreporting.org/search/?query=electric

References


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