

Roads and Transport Authority (RTA) Dubai

“RTA is the first transport authority in the Middle East & Africa Region, and leading entity of Dubai Government to achieve ISO 50001:2011 certification for Energy Management System (EnMS) in 2013.”

“RTA is the first transport authority in the Middle East & Africa Region, to develop in 2020 a comprehensive strategy to achieve Net-Zero emission public transport and related infrastructure in Dubai by 2050 ”



Roads and Transport Authority Dubai

Case Study Snapshot

Industry	Government
Product/Service	Public Transportation
Location	Dubai, UAE
Energy performance improvement percentage (2014 - 2023)	In the year 2023, the RTA's total energy consumption was reduced by 13 % compared to the year 2016
Total energy cost savings (2014 - 2023)	USD 161,000,000
Cost to implement Energy Management System (EnMS)	USD 1,107,356.95
Total energy savings (2014-2023)	Total Energy of 1,768,500 MWh for: • Electricity: 486GWh • Gasoline: 123 million liters (1168500 MWh) • Diesel: 12 million liters in (114000 MWh)
Total CO ₂ -e emission reduction (2014-2023)	555,000 Metric Tons

* The case study's baseline is compared to 2016

Organization Profile / Business Case

The Roads and Transport Authority (RTA) emerged in November 2005 as a government-owned entity based in Dubai. Where its role consists of planning and providing the requirements of transport, roads, and traffic in Dubai, as well as between Dubai and other Emirates of the UAE and neighboring countries. It sets up regulations, administrative and operational systems relating to its core business, to provide an effective and integrated transport system in order to achieve Dubai's vision and serve its vital interests. The key Responsibilities include - Traffic Safety, Roads Engineering, Roads & Parking, Taxis, Metro and Tram, Public Buses, Marine Transport, Roads Beautification, Registration & Licensing, and Inter-City Transport.

Vision - The world-leader in seamless & sustainable mobility

Mission - We provide seamless and safe travel with innovative, sustainable mobility solutions and services to make every journey in Dubai a world-class experience.

Corporate Values - In our endeavor to achieve our strategic vision and mission at all levels, we observe our values that remain our first and prime reference at all times: Preserve Reputation, Strive for Pioneering, Leadership & Teamwork, Promote Tolerance and Collaboration, Be Pioneering and Challenge Conventional Thinking.

RTA has taken a holistic approach to adopt sustainability related measures throughout the organization with a well-defined Sustainability Framework embracing three key pillars i.e. Social, Economic and Environment. To efficiently manage and enforce the implementation of the mentioned environmental pillar and the energy management system across RTA, a **Green Economy Strategy** was established in 2016 with two main strategic themes; **Climate Change** and **Resource Efficiency**, aiming to furnish the

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pathway towards a low-carbon economy. Consequently, the outcomes from the implementation of the green economy strategy and the energy management system made it possible for RTA to establish the RTA's Roadmap towards zero emission public transport by 2050.

To summarize, RTA has adopted an energy management system in order to: 1) *Pioneer in the field of seamless and sustainable mobility*, 2) *Ensure resource efficiency*, 3) *Achieve Zero Emissions in Public Transport by 2050*, 4) *Reduce Cost and achieve economic*

“Our energy efficiency projects and initiatives are key to achieve our strategic vision of becoming world leaders in seamless and sustainable mobility and support our journey towards a carbon-neutral transport sector.”

-Muna AlOsaimi, CEO- Strategy & Corporate Governance Sector

and environmental sustainability, and 5) Support local and global mandates and directives in sustainability and climate change, while working to achieve the Net Zero Emission Public Transport by 2050 strategy set by RTA.

Business Benefits

Experience, Accomplishments, and Business Impacts

In order to implement a systematic and continual improvement approach in managing the energy profile and performance, RTA has included a strategic goal focused on sustainability as part of its organizational strategy (Goal 2 – Sustainability), this emphasizes the importance of energy management within the organization and the top management commitment. RTA has established an Energy Management System (EnMS) in compliance with ISO 50001. In 2013, RTA achieved ISO 50001:2011 certification and continued to achieve the certification in which lately the ISO 50001:2018 certification was obtained in 2020, to update its credentials of global best practices and standards. The Certificate was obtained for 9 sites in RTA. This multi-site approach enhanced the redundancy and reliability by distributing resources across multiple locations, reducing the risk of single-point failures and improving internal capabilities to meet the strategic objectives.

To ensure the continuous improvement in energy solutions, RTA has adopted a systematic approach to enhance the energy performance which incorporates; energy efficiency, alternative energy, energy-efficient purchases, and sustainable, innovative, & diversified energy-efficient solutions. This is done with the goal of meeting the energy demand, cutting costs, and significantly reducing carbon emissions. This approach enabled the organization to make use of the most advanced energy technologies to reduce energy use and consumption, while boosting overall energy efficiency including reduced energy costs and reduced carbon emissions.

Considering the RTA's strategic direction and the Energy Management Policy and Systems, thorough upgrades have been made to the planning and operational processes, including:

Business impact examples	Savings in 2023
Shifting from fossil fuel vehicles to hybrid and electric vehicles	35 million Liters in fuel (gasoline)
Full-survey was conducted for all buildings and facilities, and 22 Solar PV Systems were installed	17,000 MWh
Street lighting has been made smarter and more energy efficient, reducing the consumption by approximately 50%	54,500MWh
Optimizing the planning of the bus routes to reduce the wasted kilometers driven	2 million Liters in fuel (diesel)

Additionally, this has a positive impact on reducing the energy cost, the environmental footprint, as well as financial savings, since they include no additional cost due to collaboration with RTA stakeholders and private-public partnership projects.

The RTA has leveraged its Energy Management System (EnMS) to effectively manage and reduce energy-related greenhouse gas (GHG) emissions. By implementing rigorous energy management practices, we have been able to identify areas for improvement, optimize energy usage, and adopt renewable energy sources where feasible. The key business drivers for utilizing the EnMS is to manage GHG emissions, which include cost savings through energy efficiency improvements, regulatory compliance with emissions reduction targets, and enhancing our corporate sustainability profile. The benefits extend to mitigating climate change risks, enhancing RTA's reputation, and increasingly focused on environmental stewardship.

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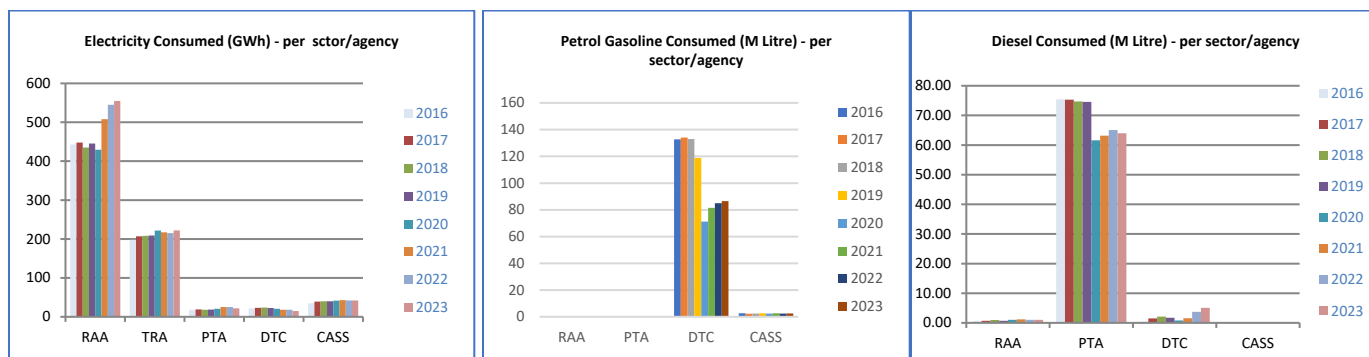
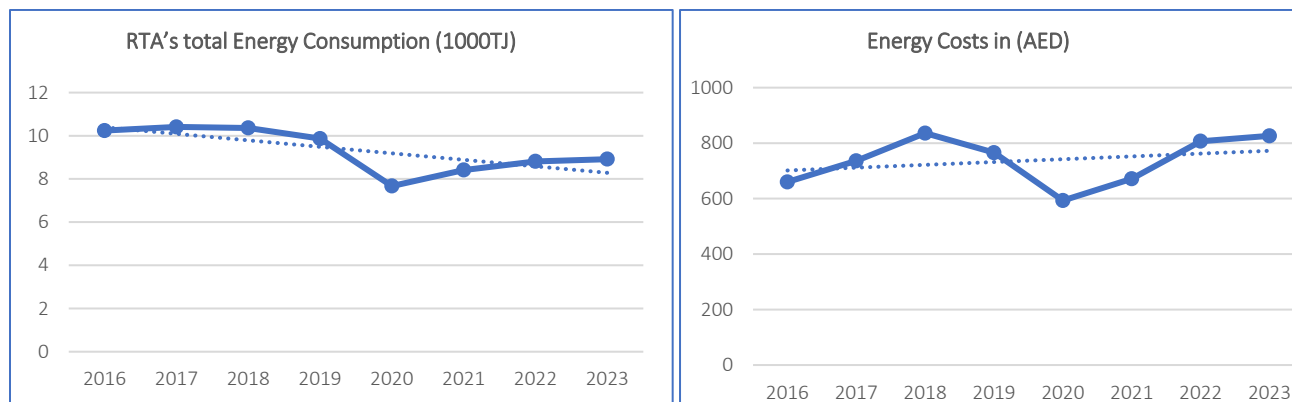
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Implementing the ISO 50001 in supply chain engagements extended the benefits of energy management beyond organizational boundaries, fostering collaborate on with service and material suppliers to collectively improve energy performance. By aligning energy management practices across the supply chain, ISO 50001 facilitates transparency, efficiency, and innovation in energy usage, driving cost reductions, risk mitigation, and sustainability improvements throughout the entire value chain. Additionally, it enhances relationships with suppliers, promotes a culture of continuous improvement, and strengthens the organization's resilience to energy-related challenges, which creates mutual value and fostering a more sustainable business ecosystem. We have added Energy and Green Economy check points as part of the vendors evaluation and qualification process which resulted in increasing the shift to implement more sustainable practices within the vendors organizations.

Energy Performance Improvement

RTA utilizes electricity, petrol, and diesel as their main energy consumption, making it a priority to continuously improve their performance to ensure sustainability. After implementing the EnMS (Energy Management System), and since 2014, RTA has invested in several energy saving projects and initiatives with the goal of reducing its energy consumption, and was able to achieve various certifications, most important of which was ISO 50001. The ISO 50001 standards and procedures guarantee the continuous monitoring and measurements of RTA's energy consumption. The data obtained throughout the process allows the RTA to constantly study, analyze, and improve the energy conservation implementation system. As a result, RTA has achieved a reduction in energy consumption in 2023 by 13% as compared to the year 2016 (**baseline year**), where the total electrical consumption in **2023** was 855GWh, and diesel and gasoline consumption were 70 and 90 million liters respectively; resulting in a total energy consumption of 8.9 million GJ. This improvement can be mainly attributed to the initiatives implemented to reduce petrol and diesel consumption in Taxis and public Buses fleets.



Moreover, the projects and initiatives that are implemented in the organization vary in cost for energy saving. KPIs and Energy Performance Indicators (EnPIs) are established to achieve energy management targets and reduce carbon emissions. Some of the key projects include: 1. *The Dubai Metro*, 2. *Dubai Tram*, 3. *Hybrid, Electric, and Hydrogen Taxis*, 4. *Electric-powered marine transport*, 5. *Electric Buses*, 6. *Retrofitting streetlights and Traffic Lights with LED lights*, 7. *Installing Solar PV Systems*, and 8. *Encouraging and engaging with Stakeholders and the Public*.

Since the implementation of the energy saving measures, RTA has achieved a *total cost saving of USD 161 Million* over the period from 2014 to 2023. Which corresponds in terms of energy savings to *electricity savings of 486 GWh, gasoline savings of 123 million Liter, diesel savings of 12 million Liter, also water savings of 370 million Gallon*. Further, the CO₂ inventory is monitored on quarterly basis in terms of CO₂ equivalent, making it a method to support the organization's actions towards local and national obligations and global sustainable development goals. The accumulative CO₂ reduction throughout the period from 2014 to 2023 is 555 tCO₂e.

Other benefits

The implementation of the EnMS has added great value to the RTA, as it is supporting the local and national programs in energy conservation by reporting and demonstrating energy management practices or greenhouse gas emissions to the Dubai Supreme Council of Energy. In addition, the implementation of EnMS has increased the awareness of energy culture within the organization, leading to greater synergies and better communication between sectors and agencies which enables more development of projects and initiatives and a considerably broader organizational impact. Moreover, the EnMS has contributed to improving the business for local companies through public-private partnership projects such as the Solar PV project, which has recently won the *Big Project Middle East Award for Sustainable Project of the Year 2023*.

Costs of implementing EnMS

To ensure the proper utilization of human-capital and the expertise of RTA resources, the RTA's Energy Management System has been completely developed internally. However, considering the cost of time for internal staff training, awareness and development and implementation of the EnMS (USD 980,926.43), the cost for preparing for the external audit (USD 85,831.06), and the cost of the third-party audit (USD 40,599.46), and converting that to a tangible reference the total cost is (USD 1,107,356.95), which in turn resulted in a return of investment of USD161,000,000.

Plan

Management

As the RTA leads public transportation in the emirate of Dubai, it is essential for the organization to adopt the best international practices in energy efficiency that would reflect best on the organization, its stakeholders including the public. Since the establishment of the Sustainability Framework and the Green Economy Framework, within which lies EnMS, RTA's top management has committed to achieving the 17 Sustainable Development Goals (SDGs) by signing a sustainability charter to oversee the day-to-day implementation of the sustainability and green economy measures by the concerned Departments whose roles and responsibilities are defined within the organization structure. To facilitate this, the central focal unit within RTA is supported by two committees:

- *Higher Sustainability Committee* – facilitates governance control and support for the Sustainability and Green Economy function and reports to the Director General.
- *Sustainability Committee* – facilitates operational control and support between the sustainability function and other concerned Departments to manage the day-to-day activities.

Moreover, the main operational focus area of RTA for all sustainability-related activities are the departments which provide the most substantial contribution towards Sustainability and Green Economy.

Additionally, financial commitments and resources for implementing ISO 50001 and engaging supply chain partners were obtained through a combination of internal budget allocations, external financing, and strategic partnerships. Internally, funds were earmarked within the organization's budget to support the development and implementation of ISO 50001, including training, technology investments, and personnel costs. Additionally, strategic partnerships with suppliers have involved funding mechanisms to collectively invest in energy efficiency measures and achieve mutual objectives (PPP Projects) which was the case in the Solar PV System Project and the Street LED Lighting Project with long term agreements.

Energy Planning

RTA is committed to the continuous improvement of Energy Management. Since the basic concept of Energy Planning in RTA relies on the planning as per the ISO 50001, this will be achieved through 1) *Defining the scope of activities affecting energy performance in RTA*, 2) *Reviewing the current energy performance in compliance to the legal and other requirements*, 3) *Establishing the energy baselines (EnBs) based on the review results*, and 4) *Setting up the Energy Performance Indicators (EnPIs)*.

Moreover, to achieve accurate results from the data owners, Agencies and Sectors in the organization identify key sources of energy used (significant and non-significant) for respective operational activities, as well as collect energy data on a quarterly basis, some of the data collected include Electricity, Petrol, Diesel and Water cost and consumption. These identified energy sources within Agency and Sector operations are taken into consideration for determining Significant Energy sources. Each Agency and Sector analyzes the past and present energy use based on the available data or calculated data which is evaluated on a sample basis. Energy sources which consume more than 10% of the total energy consumption of Agency or Sector is identified as significant. Additionally, any major deviation or changes to the energy consumption or use is also considered as significant.

The EnMS implementation plan for multiple sites involved a phased approach, starting with a comprehensive assessment of each site's energy performance, identifying opportunities for improvement, and establishing clear objectives and targets aligned with organizational goals. This plan was developed collaboratively with input from stakeholders across different sites to ensure buy-in and alignment with local priorities and constraints. Key steps in developing the plan included:

- *Site Assessment:* Conducting energy audits and assessments at each site to understand current energy usage patterns, identify inefficiencies, and prioritize areas for improvement.
- *Setting Objectives and Targets:* Establishing specific, measurable, achievable, relevant, and time-bound (SMART) objectives and targets for energy performance improvement at each site, considering factors such as energy intensity, production output, and operational requirements.
- *Action Planning:* Developing action plans tailored to the unique characteristics and needs of each site, outlining specific measures, responsibilities, timelines, and resource requirements for achieving the established objectives and targets.
- *Resource Allocation:* Allocating financial, human, and technical resources to support EnMS implementation activities at each site, ensuring adequate support for training, technology investments, and ongoing monitoring and maintenance.
- *Integration with Operations:* Integrating energy management practices into existing operational processes and procedures at each site, fostering a culture of energy efficiency and continuous improvement among staff and stakeholders.
- *Monitoring and Evaluation:* Establishing systems and protocols for monitoring and evaluating energy performance at each site, tracking progress against objectives and targets, and identifying opportunities for corrective action or optimization. Also, conducting Quarterly Management review meetings with top management and concerned stakeholders.
- *Communication and Reporting:* Establishing communication channels and reporting mechanisms to facilitate transparency, accountability, and knowledge sharing across sites, promoting best practices and lessons learned throughout the organization. Also, reporting the performance on Quarterly basis and annual Energy Review by the Board of Executive Directors.

Several EnMS planning activities specifically addressed the management of energy-related greenhouse gas (GHG) emissions by integrating GHG reduction objectives and strategies into the overall energy management framework. These activities included:

- *GHG Inventory and Baseline Establishment:* Conducting a comprehensive inventory of GHG emissions associated with energy consumption across all relevant scopes (e.g., Scope 1, Scope 2, and, where applicable, Scope 3 emissions) to establish a baseline for tracking progress and identifying emission hotspots.
- *Setting GHG Reduction Targets:* Establishing ambitious yet achievable targets for reducing GHG emissions within the EnMS framework, aligned with organizational goals, regulatory requirements, and best practices in carbon management.
- *Identifying GHG Reduction Opportunities:* Conducting a systematic analysis of energy usage data, process inefficiencies, and technological opportunities to identify specific measures and initiatives for reducing energy related GHG emissions, such as energy efficiency improvements, fuel switching, renewable energy adoption, and process optimization.
- *Integrating GHG Management into Action Plans:* Incorporating GHG reduction actions and initiatives into the broader EnMS action plans developed for each site, specifying responsibilities, timelines, and resource requirements for implementing identified measures and achieving GHG reduction targets.
- *Monitoring GHG Performance:* Implementing robust monitoring and measurement systems to track GHG emissions and energy consumption over time, enabling continuous assessment of progress towards GHG reduction targets, identifying deviations, and informing decision-making.
- *Employee Training and Engagement:* Providing training and awareness-raising initiatives to employees and stakeholders on the importance of managing energy-related GHG emissions, encouraging behavior change, and fostering a culture of sustainability and environmental stewardship.

- *Stakeholder Communication and Reporting:* Communicating transparently with internal and external stakeholders about GHG reduction efforts, progress, and achievements through regular RTA Annual Sustainability Report, promoting accountability, and demonstrating the organization's commitment to environmental responsibility.

By integrating GHG management into EnMS planning activities, our organization was able to effectively align energy management and carbon reduction objectives, optimize resource allocation, and drive continuous improvement in both energy efficiency and environmental performance across multiple sites. The RTA Strategy to move towards net-zero emission by 2050 is a great example on how energy efficiency and GHG emission goes hand on hand in the planning phase.

During the recertification process for ISO50001:2018, several key differences were observed compared to the initial certification process:

- *Prior Experience and Knowledge:* For recertification, the organization already had experience with implementing and maintaining the Energy Management System (EnMS) based on ISO 50001 standards. Therefore, there was a deeper understanding of the requirements, processes, and best practices involved in EnMS implementation compared to the initial certification phase.
- *Built-in Systems and Processes:* Many of the systems, processes, and documentation required for ISO 50001 compliance were already established and integrated into daily operations as part of the organization's routine practices. This included energy monitoring systems, management review meetings, corrective action procedures, and employee training programs.
- *Continuous Improvement Culture:* The organization had developed a culture of continuous improvement, where feedback from previous audits, performance data, and stakeholder input were actively used to identify opportunities for enhancing energy performance and EnMS effectiveness. As a result, the focus during recertification was on demonstrating ongoing improvement rather than just meeting minimum requirements.
- *Streamlined Auditing Process:* Since the EnMS was already in place, the recertification audit process typically involved a review of documentation, interviews with key personnel, and verification of performance data to ensure compliance with ISO 50001 standards. The audit scope may have been narrower compared to the initial certification, focusing more on assessing the effectiveness of EnMS implementation rather than establishing its foundation.
- *Lessons Learned and Best Practices:* Through the initial certification process and subsequent EnMS operation, the organization had identified lessons learned and best practices that were applied during recertification to optimize EnMS performance, address gaps, and enhance energy-related outcomes.

Overall, the recertification process built upon the foundation established during initial certification, emphasizing continual improvement, sustainability, and the integration of energy management into core business processes. It demonstrated the organization's ongoing commitment to energy efficiency, environmental responsibility, and ISO 50001 compliance.

Action Plan

Based on the energy performance and identified opportunities, RTA establishes objectives, targets and timelines for achieving improved energy performance. Based on that, action plans are developed for meeting these objectives and targets, which includes the statement of the method of verifying the results and reporting back to management. This action plan is monitored on a monthly basis at respective Agency / Sector Level, and quarterly at Corporate Level and annually at Strategic Level.

“RTA’s vision and energy performance are being met with the implementation of ISO 50001.”

—Nada Jasim, Director Safety & Risk Regulation and Planning, RTA

Do, Check, and Act

Do

As stated within the EnMS and Energy management Policy, which are in line with the ISO 50001, activities such as *assigning of corporate policies and planning section, appointing teams, and training and awareness sessions for collection and analysis of data to determine energy use and consumption*, are approved by H.E Director General. The Energy Management Policy at RTA addresses the requirement of the Energy Management System which involves identification of significant energy consumption areas based on the activities that directly affect significant energy performance.

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Moreover, it addresses identifying, prioritizing, recording, and reviewing opportunities for improving energy performance, which are inputs to establish EnBs for RTA. From there on, the organization determines external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its EnMS and improve its energy performance.

The members and departments responsible to achieve the requirement of energy management consists of the following:

- *Top management/ CEO* – ensures energy scope, boundaries and coordinator are defined for each agency and sector and provide required resources to meet requirements of EnMS.
- *Management Appointee* – ensure that the EnMS achieves its intended outcome.
- *Safety, Risk, Regulation and Planning Department* – conduct quarter and annual assessments and verify compliance through internal audits.
- *Agency and Sector RSEMS Team* – report on the performance of the EnMS and improvement of energy performance to top management at determined intervals.
- *Quality, Health, Safety, and Sustainability Offices* - Monitor the overall performance of HSE on a regular basis, based on the results of the implementation of plans, inspection, and analysis of the relevant data, and report the data.
- *Employees* - comply with energy management policy and take reasonable care for the environment and energy usage and consumption of RTA.

Check

RTA monitors its energy performance through a set of well-defined EnPIs with a total of thirteen indicator prioritized according to the diversity of RTA's operations and the energy use and are reviewed annually. Each indicator is measured and reported to higher management on quarterly basis with assigned ownership and a clear formula for calculation, some of which are shown below.

Normalization methods were employed to ensure accurate comparison of energy performance across different sites and periods, accounting for factors such as variations in production output, weather conditions, operating hours, and other relevant parameters. Common normalization methods include energy intensity metrics, such as energy consumption per unit of production output or floor area, which enable meaningful comparisons and benchmarking of energy performance.

These methods are utilized to provide a fair and equitable assessment of energy efficiency improvements and GHG emission reductions achieved across multiple sites, considering their unique operational characteristics and contexts. By normalizing energy data, we were able to identify trends, prioritize areas for improvement, and set realistic targets for continuous energy management. Normalization methods used have included:

#	Energy Performance Indicators (EnPIs)	EnPIs Formula
1	Fuel Consumption efficiency in Public Buses	Liter per passenger
2	Efficiency of water usage in Dubai Metro and Tram Facilities	Gallon per passenger
3	Efficiency of traction power in Dubai Metro	MWh usage per passenger kilometer travelled
4	% Improve efficiency of non-traction power in Dubai Metro and Tram facilities	MWh per passenger
5	Energy efficiency in RTA Buildings	kWh per meter squared
6	Street lighting energy efficiency	kWh per lane km

They (normalization methods) helped ensure that energy performance indicators accurately reflected improvements in energy efficiency and GHG emissions reduction efforts, facilitating informed decision-making and effective management of the Energy Management System (EnMS).

However, in some sites normalization methods were not employed because it would be impractical for example the street lighting is unique system that is different than the power used in Metro and Buildings. In such cases, energy consumption data may have been analyzed in absolute terms without normalization, focusing on overall reductions in energy usage and GHG emissions achieved through EnMS implementation.

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Moreover, some of the Tools and Resources used to determine energy consumption and performance improvement include:

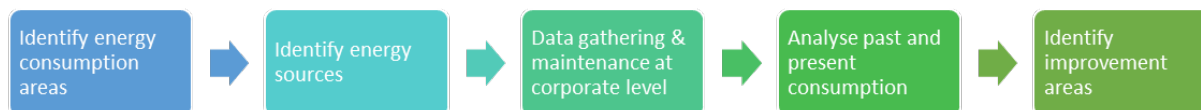
- Site inspections, Audits, Document review and Information gathering by the Team to identify improvement areas.
- SWOT Analysis and Diagramming Techniques are used to study adoption of ISO 50001 Standard Requirements, aligning to existing Processes.
- Develop and implement Pilot Model and measure outcomes to confirm feasibility and optimization model to rollout implementation across RTA.
- Brainstorming workshops and Stakeholder engagement to identify performance and improvement areas (Dubai Supreme Council of Energy, Etihad Energy Services Company, Certification Assessment Body, etc.).

ACT

The approach used to validate results include issuing RTA Energy Analysis Report on annual basis, and Green Economy Implementation Report on energy saving KPIs and EnPIs on quarterly basis; with verification of results at agency and sector is conducted as follows:

- Comparison of bills against consumption figures based on the actual meter readings.
- Individual review sessions at different levels.
- Measurement Equipment, and validation through Software Applications, where possible.
- Evaluation of Actual energy use and consumption against the expected and investigate major deviations.
- Effectiveness of action plans developed in achieving the objectives, and Corrective Actions.
- Periodic Data analysis and comparison / trend analysis.
- Planned Internal Audits / Inspections & Management Reviews.
- Steps taken to maintain operational control.

In addition, development and use of professional expertise, training, and communications to validate and verify results, and improve energy performance. This consists of Key Stakeholders engagement covering the Ministry of Energy, the Dubai Supreme Council of Energy, the Dubai Electricity and Water Authority, etc., the approved RTA Energy Policy communicated to all Employees and stakeholder to ensure compliance. Additionally, specific Awareness & Brainstorming Sessions conducted for Top Management and Senior Management Team are included. Following an Analysis across all Operational Units on the Training requirement, resulted in added internal modular training, and delivery to a wide range of technical and professional employees; (Bus Drivers, Taxi Drivers, Contractors, Maintenance Team, etc.). Moreover, Energy Awareness messages, policies, and other information are regularly communicated to employees as well as public.



Our EnMS implementation activities comprehensively addressed energy-related greenhouse gas (GHG) emissions by integrating GHG management into various stages of the energy management process. As described earlier, including; 1) *GHG Inventory and Baseline Establishment*, 2) *Setting GHG Reduction Targets*, 3) *Identifying GHG Reduction Opportunities*, 4) *Integration into Action Plans*, 5) *Monitoring GHG Performance*, 6) *Employee Training and Engagement*, and 7) *Stakeholder Communication and Reporting*. By systematically integrating GHG management into our EnMS implementation activities, we were able to effectively *identify*, *prioritize*, and *address energy related GHG emissions*, contributing to our overall sustainability goals and environmental stewardship objectives.

Transparency

RTA is aware of the importance of communicating its achievements in a clear and transparent way to its stakeholders. Hence, RTA discloses its energy performance improvement in its annual Sustainability Report which is published on the RTA website (https://www.rta.ae/wps/portal/rta/ae/home/about-rta/sustainability?lang=en&openTab=open_data). Additionally, assurance results are verified through an independent third-party, where the assurance statement is communicated within the RTA's sustainability report. Furthermore, RTA shares its data with the Dubai Supreme Council of Energy for the calculation of energy analysis for the emirate of Dubai. Moreover, RTA has developed a dedicated website which shares the latest updates in

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Sustainability and Energy Management. Additionally, RTA shares its best practices and success stories with peer-organizations at both regional and global level through international and global conferences, summits, and awards.

What We Can Do Differently

Throughout the years of implementing the ISO 50001, and Energy Management policy, RTA has gained great insight and tangibly developed itself. There are several significant lessons learned through this journey, and resultantly:

- RTA has introduced a new Software in the Year 2023 aiming to collect data directly from the source with live dashboard to present the energy status per agency and per source of energy. This platform improved the accuracy of data and the analysis of the data.
- RTA is exploring to implement further improvement opportunities for renewable energy sources and utilizing the hydrogen powered Public Buses.
- Our procurement processes evolved based on insights derived from EnMS data. By analyzing energy consumption patterns and identifying opportunities for improvement, we were able to make more informed procurement decisions, such as selecting energy-efficient equipment and suppliers with sustainable practices, thereby aligning procurement practices with our energy management and sustainability goals.

However, the implementation of the ISO 50001 was the spark for RTA to realize the various benefits of the implementation of the Energy Management system, therefore, RTA leaders had gone beyond that to develop and announce in the year 2020 the **RTA's Roadmap towards zero emission public transport and related infrastructure by 2050**; which aims to reduce the greenhouse gas emissions by 10 million tons of CO₂e and save about 3.3 billion dirhams, by itself it will implement further sustainable practices to support the City of Dubai. The table below illustrates the details of the RTA's roadmap to achieving net-zero emission public transport and related infrastructure by the year 2050.

#	Pillar	Initiatives in the roadmap	Targets of the roadmap						
			2020	2025	2030	2035	2040	2045	2050
1	Green Mobility	Convert fuel operated public buses to Electric & Hydrogen Public Buses	0%	0%	10%	20%	40%	80%	%100
2		Convert the fuel operated Taxis to Electric & Hydrogen Taxis and Limousine	3.5%	10%	20%	40%	60%	80%	%100
4		Convert fuel operated school buses to Electric & Hydrogen school Buses	0%	0%	10%	30%	50%	80%	%100
5	Infrastructure	Installation of Renewable Energy (Solar PV) in all existing buildings and facilities – 24 Buildings		%100	Expanding the scope of application to the new RTA’s buildings, facilities and infrastructure				
6		Retrofitting all existing buildings	9%	35%	74%	83%	91%	100%	
7		All new buildings to be Near Zero Energy (NZE) Buildings	0%	%100	Continue implementation to all new projects				
8		Replace existing conventional lights with Energy efficient street lighting.	17%	35%	70%	%100	Continue implementation on all new projects		
9	Circular Economy	Increase Recycling of Municipal waste	65%	75%	%100	Continuous implementation			
10		Increase Recycling and reuse of water	12%	15%	20%	26%	30%	36%	40%

To conclude, the process of ISO 50001 has added significant value to the RTA and allowed for a pivotal transformation to occur within the organization which resulted in conscious consumption and a global contribution towards the development of the greater-good.



The Energy Management Leadership Awards is an international competition that recognizes leading organizations for sharing high-quality, replicable descriptions of their ISO 50001 implementation and certification experiences. The Clean Energy Ministerial (CEM) began offering these Awards in 2016. For more information, please visit www.cleanenergyministerial.org/EMAwards.