Sustainable Urban Legends: Revolutionizing Cities with JWT Patent Green and SDG 11.1

SDG 11.1 what get by MBGC ? (Mini Bio Gas Continuous)

Digester - MBGC toward SDGs/UN 11.1

(By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums**)**

Summary

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Title: "Sustainable Urban Legends: Revolutionizing Cities with JWT Patent Green and SDG 11.1"

Target 11.1 of the Sustainable Development Goals (SDGs) and the Function of JWT Patent Green

SDG 11 and Target 1 Analysis

Overview

This section offers a thorough examination of Sustainable Development Goal (SDG) 11, "Sustainable Cities and Communities," with particular attention on Target 11.1: guaranteeing universal access to basic services and appropriate, safe, and affordable housing.

Target 11.1's precise objectives are discussed here, with a focus on the significance of cheap housing, universal access to essential services, and the development of inclusive, secure, and sustainable urban settings.

SDG 11.1: Towards Global Sustainability: MBGC and JWT Green Patent

The importance of SDG 11.1 in the context of global sustainability cannot be emphasized. It acts as a pivot, securing efforts in the direction of a future that is more resilient, inclusive, and sustainable. This section clarifies the tremendous global and urban consequences of achieving this goal, particularly in light of ground-breaking technologies like Bangladesh's Mini Bio Gas Continuous (MBGC) and JWT Green Patent.

MBGC and Urban Resilience: Although it has not yet been put into practise, MBGC technology represents a viable option for Bangladesh's sustainable urban growth. Adopting MBGC is essential to achieving SDG 11.1 and enhancing urban resilience.The effective conversion of organic waste into biogas solves important issues related to waste management and energy production. This twofold advantage greatly minimizes environmental impact while also making urban areas more livable, which is exactly in line with SDG 11.1 goals.

The JWT Green Patent's Revolutionary Effect: SDG 11.1 is furthered by the JWT Green Patent, a symbol of cutting-edge environmental engineering. Its possible use in Bangladesh holds the possibility of revolutionizing sustainable urban development. Through the integration of

state-of-the-art waste-to-energy technology, JWT Green Patent provides an all-encompassing strategy for tackling urban difficulties. This invention is evidence of the critical role that technology breakthroughs play in accomplishing international sustainability goals.

Local Effects, Worldwide Repercussions: Bangladesh's achievement of SDG 11.1 has far-reaching effects that transcend national boundaries. Bangladesh presents itself as a leader in the global conversation on urban sustainability because of its dedication to leading the way in the development of sustainable urban solutions. In addition to helping the local environment and communities, the effective use of MBGC and the acceptance of the JWT Green Patent also advance global discussion on the best practises for sustainable urban development.

To sum up, the collaboration among SDG 11.1; MBGC; and JWT Green Patent in Bangladesh is representative of the significant changes that can be brought about by utilizing cutting-edge technologies in conjunction with well-thought-out sustainable development objectives.

Key Performance Indicators for Using JWT Green Patent and MBGC to Advance SDG 11.1

To meet Target 11.1 goals, key performance indicators (KPIs) must be set up that act as standards for tracking advancement. These metrics play a critical role in assessing the efficacy of urban sustainability projects, particularly in light of innovative technologies like as JWT Green Patent and Mini Bio Gas Continuous (MBGC).

Housing Affordability and Accessibility:

Metric: The proportion of people living in cities that have access to decent, reasonably priced housing.

Justification: A key element of SDG 11.1 is housing affordability and accessibility, and this indicator shows advancements in this area. Initiatives can directly influence housing conditions and affordability through innovative urban design and sustainable energy solutions by implementing JWT Green Patent and MBGC.

Accessibility to Essential Services:

Metric: The percentage of people living in cities that have access to sanitary facilities and clean water.

Justification: Access to essential services is a prerequisite for sustainable urban growth. SDG 11.1 goals can be immediately aligned with the application of MBGC and the use of JWT Green Patent, which can greatly improve access to clean water and sanitation.

Impact on the Environment and Urban Resilience:

Metric: Resilience index, which gauges how ready and flexible a city is to deal with environmental problems.

Justification: SDG 11.1 places a strong emphasis on urban resilience, especially in light of the effects of climate change. Through effective waste-to-energy solutions, MBGC and JWT Green Patent play a crucial role in reducing environmental hazards and boosting urban resilience.

Community involvement and inclusive urban planning:

Metric: The index of community involvement in urban planning procedures.

Justification: Sustainable and egalitarian urban development is promoted by inclusive urban planning. Active community engagement is necessary for the deployment of MBGC and the incorporation of JWT Green Patent to ensure that the advantages of these technologies are shared equally among urban communities.

Waste Management and Resource Efficiency:

Metric: An rise in biogas generation and a decrease in the amount of organic waste dumped in landfills.

Rationale: By effectively using organic waste for electricity production, MBGC and JWT Green Patent promote resource efficiency. This KPI is in direct line with the goal of sustainable waste management found in SDG 11.1.

Achieving the target for urban sustainability may be ensured by integrating these KPIs into the evaluation framework for SDG 11.1 activities including MBGC and JWT Green Patent. This allows stakeholders to systematically monitor progress and make informed decisions based on evidence. These indicators highlight the critical role that these technologies play in promoting sustainable cities and communities by offering a thorough overview of the diverse effects that they might have on urban development.

The JWT Green Patent's relevance

Here, we highlight the JWT Green Patent and how important it is to the advancement of SDG 11. Target 11.1 may be significantly impacted by the patent's advances in

sustainable urban development, which may have to do with housing, infrastructure, or services.

Alignment with SDG 11:

The JWT Green Patent's alignment with the more comprehensive SDG 11 is expounded upon in this subsection. We illustrate the patent's direct relation to the SDG by highlighting its inventions' contributions to inclusive urban planning, sustainable cities, and better living conditions.

Alignment with Target 1:

Target 11.1 is the exclusive topic of this subsection. It explores particular aspects of the JWT Green Patent that directly support the goals of Target 11.1 by addressing the need for decent, secure, and affordable housing as well as easy access to necessary urban services.

Possible Social Impacts from MBGC, SDG 11.1 and JWT Green Patent Implementation

There is a great deal of potential for good social transformation with the integration of Mini Bio Gas

Continuous (MBGC), the execution of JWT Green Patent in Bangladesh, and Sustainable Development Goal (SDG) 11.1. The positive effects on society that are anticipated are outlined in this section. These benefits center on improving the availability of affordable housing and basic services, improving the quality of life for urban residents, lowering the number of housing-related health problems, and empowering marginalized communities through inclusive urban planning.

Better Access to Basic Services and Affordable Housing:

MBGC: By supporting environmentally friendly urban growth, MBGC can tangentially improve access to low-cost housing and essential services. When organic waste is used effectively for energy production, money can be saved, which could mean decreased housing costs for occupants.

SDG 11.1: Reaching this goal would ensure that urban communities have a solid basis for well-being by directly addressing the demand for affordable, accessible housing for all.

Improved Living Standards for City People:

MBGC: The deployment of MBGC is expected to directly improve the quality of life for urban people. A healthier and more enjoyable living environment is promoted by MBGC through the reduction of environmental pollutants and the provision of a dependable supply of clean energy.

JWT Green Patent: JWT Green Patent improves urban living conditions even more by transforming waste-to-energy technology. The general well-being of the population is enhanced by the decrease in waste-related problems and the availability of renewable energy sources.

Reduced health problems associated with housing and increased wellbeing:

MBGC: By reducing environmental pollution and supporting cleaner energy sources, MBGC improves the health of its residents by indirectly lowering the risks of certain housing-related illnesses.

SDG 11.1: Improving living circumstances will help reduce health problems associated with subpar housing and a lack of essential services.

Marginalized Communities' Empowerment via Inclusive Urban Planning:

JWT Green Patent: In order to guarantee that everyone in society can benefit from this cutting-edge technology, the

implementation of JWT Green Patent requires inclusive urban planning procedures. In order to create a more equal urban landscape, this empowerment is essential.

SDG11.1: Achieving SDG 11.1 requires inclusivity in order to provide marginalized populations a say in how urban development is shaped.

In conclusion, Bangladesh's incorporation of MBGC, SDG 11.1 and JWT Green Patent represents an integrated strategy to urban development that has significant positive effects on society. These projects, which tackle housing affordability, accessibility to basic services, quality of life, health challenges, and inclusivity, have the potential to improve communities and create pathways towards a more sustainable and equitable urban future.

Benefits to Bangladesh's Economy of Using the JWT Green Patent

A plethora of economic advantages result from Bangladesh's adoption of the JWT Green Patent, and these advantages have the potential to spur sustainable urban growth. This section outlines the significant benefits, including the development of jobs, rising property values, resident cost savings, and a boosted local economy.

Employment Creation in Maintenance, Operation, and Construction:

Construction Phase: The JWT Green Patent makes it easier to implement sustainable urban infrastructure, which creates a wave of new job possibilities. During the construction phase, skilled laborers, engineers, and technicians are critical, which increases employment rates.

Operation and Maintenance: Ongoing attention is necessary for sustainable infrastructure. This results in long-term job prospects in fields like facility management, upkeep, and repair, giving a variety of individuals steady incomes.

Rising Real Estate Prices and Economic Development:

Property Appreciation: The JWT Green Patent's incorporation of sustainable technologies improves the usability and aesthetics of urban areas. Property owners profit from the rise in property values, which also supports general economic expansion.

Stimulated Local Economy: A thriving local economy is fostered by higher property values, which draw in businesses and investments. This economic dynamism can affect a number of industries, such as retail, hotels, and services, in addition to real estate.

Residents' Cost Savings:

Effective Housing Designs: More sustainable and energy-efficient housing solutions are made possible by the cutting-edge technology and designs included in the JWT Green Patent. Due to the endurance of these buildings, residents enjoy cheaper utility and maintenance expenditures. Households' disposable income increases as a result.

Increased Local Economy as a result of Investments:

Investment Magnet: The use of sustainable urban development techniques, facilitated by innovations such as the JWT Green Patent, draws attention from investors. Communities that show a dedication to sustainable, progressive urban development attract both domestic and foreign investors, who boost the local economy.

In conclusion, Bangladesh's adoption of the JWT Green Patent offers several financial benefits in addition to marking a significant advancement in sustainable urban development. These advantages, which range from greater property values and employment opportunities to lower living expenses for inhabitants and a boosted local

economy, all help to create a more affluent and dynamic metropolitan environment.

Importance of MRV Systems

In order to ensure the success and impact of sustainable urban projects—especially those that make use of cutting-edge technologies like the JWT Green Patent and Mini Bio Gas Continuous (MBGC)—Monitoring, Reporting, and Verification (MRV) systems are essential. In Bangladesh, MRV systems are helping to achieve Sustainable Development Goal (SDG) 11.1. The following details highlight how crucial MRV systems are:

Maintaining Accountability and Transparency:

Implementing the JWT Green Patent: MRV systems offer an open framework for monitoring the developments and results of projects that make use of the JWT Green Patent. Building confidence among stakeholders, this transparency shows a dedication to accountability in the implementation of sustainable urban programs.

Data-Informed Decision-Making for Evaluating Effectiveness:

MRV systems provide statistics and information about the performance of sustainable urban projects in real-time. Decision-makers can evaluate the success of the JWT

Green Patent implementation with the use of this data, which is a useful resource. It gives individuals the ability to make decisions based on verifiable facts.

Showcasing Adherence to Sustainability Objectives:

The goal of SDG 11.1 is inclusive, safe, resilient, and sustainable urbanization. MRV systems make it possible to track progress towards this goal in an organized manner. These systems provide measurable metrics and performance indicators that provide concrete proof of sustainability target compliance.

Presenting Stakeholders with Progress:

Transparency and Communication: MRV systems are used as a means of communicating the status of projects that make use of the JWT Green Patent. Engaging and enlightening stakeholders, such as governmental entities, investors, community members, and non-governmental organisations, requires the availability of this information. It draws attention to the advantages of sustainable urban efforts.

Encouraging Continuous Improvement and Adaptive Management:

Real-Time Performance Information: By giving real-time performance information, MRV systems create a feedback

loop. This facilitates adaptive management, enabling project managers to promptly modify their strategies in response to the real-world performance of the deployed technologies. It guarantees that initiatives stay on course and can be adjusted for best outcomes.

In conclusion, MRV systems are critical instruments for the effective execution of projects that make use of cutting-edge technologies such as the MBGC and JWT Green Patent, particularly in the context of Bangladesh's pursuit of SDG 11.1. Transparency, data-driven decision-making, compliance verification, progress reporting, and the capacity to modify and enhance projects for optimal effect are all provided by these platforms. They are essential elements on the path to inclusive, resilient, and sustainable urban development.

By discussing these socioeconomic effects, we highlight the JWT Green Patent's many advantages, which extend beyond improving urban environments to include improving community livelihoods and economic development. Furthermore, stressing the significance of MRV systems guarantees that the patent is implemented in a way that is not only effective but also transparent and accountable, fully fitting with Bangladesh's objectives for sustainable urban development.

Collaborations and Partnerships

While achieving Sustainable Development Goal (SDG) 11.1 and implementing Mini Bio Gas Continuous (MBGC) are not yet accomplished, imagining future collaborations with governmental organizations is essential to setting the foundation for future success. The following are possible areas of cooperation:

Cooperation between the Housing and Urban Planning Departments:

Policy Support and Regulatory Frameworks: Collaborating with housing and urban planning agencies lays the groundwork for success. Working together makes it feasible to impact and mould laws and policies that support the implementation of MBGC and support SDG 11.1's goals. This involves promoting rules, regulations, and incentives that support sustainable urban growth.

Interacting with Local Governments:

Permits, Allocation of Land, and Integration of Infrastructure: Establishing a rapport with local authorities is essential to the effective execution of MBGC. This partnership makes it easier to obtain the licences and consents required to implement the technology. It also

makes it possible to have strategic conversations about how to distribute land for MBGC facilities and how to seamlessly integrate infrastructure into urban settings.

Making Use of Government Grants and Incentives:

Support for Sustainable Urban Development Initiatives: Funding and incentives are frequently provided by governments for initiatives that support sustainability objectives. Forming alliances offers the chance to participate in government funding initiatives for sustainable urban development. These monetary resources can play a crucial role in MBGC project inception, guaranteeing the projects' sustainability and influence.

NGOs and Environmental Groups: MBGC and SDG 11.1 Advancement Catalysts

While the actualization of Sustainable Development Goal (SDG) 11.1 and the implementation of Mini Bio Gas Continuous (MBGC) are still pending, the critical role that environmental organizations and non-governmental organizations (NGOs) have played in advancing sustainable urban development cannot be overstated. This is how their participation can have a big influence on the procedure:

Working Together with NGOs to Raise Awareness and Engage the Community:

Campaigns for Community Empowerment and Awareness: NGOs are able to interact directly with communities. Collaborating with them enables focused awareness-raising efforts about MBGC and the significance of SDG 11.1. By empowering and educating the community's citizens, these initiatives promote a feeling of community ownership and a passion for sustainable urban development.

Initiatives for Developing Skills: NGOs frequently run programs for developing skills. Communities can get the skills and information required to actively engage in the implementation of MBGC by working with them. This includes instruction in upkeep and operation, which increases the technology's durability and sustainability even further.

Working Together with Environmental Groups to Gain Technical Knowledge:

Technical Expertise in Sustainable Practises: Environmental organizations contribute specific technical expertise in sustainable technology and practises. Working with them will provide MBGC implementation with professional advice. This provides guidance on

environmental impact assessments, resource efficiency, and best practises in waste-to-energy systems.

Getting into NGOs' Networks to Mobilize Resources:

Using Resource Networks: Nonprofits frequently have a wide range of local and international contacts and networks. Getting involved with these groups creates opportunities for mobilizing resources. This includes having access to grants, financing options, and in-kind assistance, all of which can greatly increase the MBGC initiatives' financial sustainability.

Building capacity and exchanging knowledge: NGOs act as knowledge centers, bringing together a wealth of experience and knowledge. Working together enables the sharing of best practises, knowledge gained, and creative solutions for sustainable urban development. The exchange of knowledge facilitates better informed and efficient project execution.

Agencies for International Development: MBGC and SDG 11.1 Progression Acceleration

Working with foreign development agencies can be extremely beneficial in achieving the Sustainable Development Goal (SDG) 11.1 and implementing Mini

Bio Gas Continuous (MBGC). These collaborations have the potential to greatly further the following goals:

Support for finances, technical know-how, and capacity-building:

Financial Support: Substantial funding is frequently provided for sustainable urban development initiatives by international development organizations. Collaborating with these organizations can provide vital financial assistance, facilitating the start and completion of MBGC initiatives. Programs for growing capacity, technology implementation, and infrastructure costs can all be covered by this financing.

Technical Know-How: These organizations have a plethora of expertise and experience in sustainable practises. By collaborating with them, you can bring in professional advice and guarantee that MBGC is applied using state-of-the-art technology and in accordance with international best practises.

Programs for Building Capacity: Capacity-building initiatives are often carried out by international development organizations. Local communities and stakeholders can acquire important skills and information required for the efficient deployment and upkeep of MBGC technology by interacting with them.

Obtaining Innovative Solutions and Worldwide Best Practises:

Using International Networks: A wide range of international partners, programs, and activities can be accessed through international development agencies. Through this network, you can get access to a wealth of creative solutions and best practises from all around the world. The application of MBGC is informed by this abundance of knowledge, guaranteeing that it takes advantage of the most recent developments in sustainable urban development.

Taking Part in Collaborative Projects for Sustainable Urban Development:

Collaborative Initiatives: In collaborative projects centered around sustainable urban development, international development organizations frequently take the lead or take part. Local stakeholders can access a communal reservoir of resources, knowledge, and skills by participating in these activities. This cooperative strategy enhances the effects of MBGC implementation and harmonizes perfectly with the more general objectives of SDG 11.1.

To sum up, collaborations with international development organizations play a critical role in the process of executing MBGC and accomplishing SDG 11.1. Their contributions include funding, technical expertise, capacity building, access to international best practises, and involvement in cooperative projects. These partnerships significantly increase the likelihood of successful sustainable urban development, laying the groundwork for a resilient, inclusive, and sustainable urban future.

Collaborations with Research Facilities and Academic Establishments

Embracing academic and research institutions in the implementation of Mini Bio Gas Continuous (MBGC) and the advancement of Sustainable Development Goal (SDG) 11.1 is a calculated strategic move that has several advantages:

Working Together with Universities to Conduct Research on Bioenergy, Urban Planning, and Sustainable Technologies:

Cutting-edge Research: Universities serve as centers for innovative and cutting-edge research. Working together enables thorough investigation of bioenergy solutions, sustainable technology, and urban planning techniques.

Research collaborations may concentrate on improving the MBGC technology, maximizing its incorporation into urban settings, and evaluating its influence on sustainable urban growth.

Evidence-based Decision-Making: Academic establishments offer the knowledge and skills required for in-depth data analysis and research. By using an evidence-based approach, choices for the implementation of the MBGC and its alignment with SDG 11.1 are made with due consideration, are based on solid scientific research, and can withstand scrutiny.

Obtaining State-of-the-Art Information and Experience:

Multidisciplinary Expertise: Academic institutions bring together specialists from several domains. The extensive knowledge base available to handle the intricate problems related to sustainable urban development can be utilized. By collaborating with academic institutions, MBGC can be sure to gain from a multidisciplinary strategy that integrates knowledge from engineering, economics, environmental science, and other fields.

Modern Facilities: Modern laboratories and research spaces are frequently seen at academic institutions. Having access to these resources can help with MBGC technology

development, testing, and optimization. It also makes it easier to comprehend the complexities of technology and their innovative possibilities.

Including Teachers and Students in Real-World Projects:

Innovation and Knowledge Sharing: Working with academic institutions provides a chance to include staff and students in real-world MBGC projects. In addition to encouraging creativity, this involvement provides a forum for the dissemination of information regarding the technology and its possible implications for sustainable urban development.

Building capacity: Getting students involved in practical initiatives related to SDG 11.1 helps to develop a new generation of professionals who are knowledgeable about sustainable urban solutions. They will uphold MBGC's values as future leaders and decision-makers and support the organization's long-term development.

Community Involvement and Empowerment:

Planning and implementing Mini Bio Gas Continuous (MBGC) initiatives that are in line with Sustainable Development Goal (SDG) 11.1 require active community

engagement and empowerment. This is why being involved in the community is essential:

Organizing Community Consultations to Make Well-Informed Decisions:

Recognizing Local Needs and Preferences: Communities are incredibly knowledgeable about their own needs, goals, and difficulties. By holding consultations, planners may access this wealth of knowledge. Through active listening to community members, MBGC programs can be customized to target particular local issues and align with the community's sustainable urban development agenda.

Resolving Issues and Establishing Trust: Community consultations provide a forum for candid discussion. Between communities and project stakeholders, this transparency promotes confidence.

Putting into Practise Programs to Increase Capacity for Empowerment:

Building Capabilities for Sustainable Practises: It is essential to provide community people with the information and abilities required to take an active role in sustainable practises. Programs aimed at increasing capacity may include instruction in energy efficiency, waste control, and MBGC technology usage. This not only

increases the technology's efficacy but also gives locals useful skills for sustainable life.

Promoting Economic Opportunities: Vocational training pertaining to MBGC technology is another option for capacity-building programs. Residents of the area will have the chance to learn new skills as a result, which may lead to work in the upkeep and operation of MBGC systems.

Developing a Pride and Ownership Feeling:

Developing a Stake in Sustainable Urban Development: Communities gain a sense of control over their urban surroundings when they participate actively in the design and implementation of MBGC projects. They get invested in the project's success and are more likely to feel proud of their roles in fostering a more sustainable future.

Encouraging Long-Term Sustainability: This feeling of ownership doesn't end after the project is over. Locals are more likely to support the initiative's continued success if they have a connection to it. Their advocacy for sustainable urban practises adds to the MBGC system's durability and adaptability.

Even though Bangladesh hasn't yet implemented, forming alliances with these important parties sets the stage for an inclusive and cooperative strategy. Together with providing a range of resources and knowledge, these collaborations promote a feeling of collective accountability for advancing SDG 11.1's goal of a sustainable urban future.

Sustainability And Scalability Over Time

Engagement and Empowerment of the Community

Engaging communities in the design and implementation of Mini Bio Gas Continuous (MBGC) projects is an essential component of reaching Sustainable Development Goal (SDG) 11.1 as well as a strategic approach. The following explains why empowerment and community involvement are essential:

Holding Consultations with the Community:

Communities are the center of any urban environment, thus it is important to understand local needs and concerns. It is possible to gain a thorough grasp of their unique needs, interests, and concerns by holding consultations. This crucial information guarantees that MBGC projects are customized to satisfy the particular needs of the community.

Building Trust and Collaboration: Residents' and project stakeholders' trust is strengthened through community consultations.

Executing Initiatives to Increase Capacity:

Community Empowerment for Sustainable Practises: Programs for capacity building give community members the information and abilities they need to take an active role in sustainable practises. Beyond the short-term MBGC initiative, this empowerment gives locals the means to make long-term contributions to sustainable urban development.

Augmenting Local Knowledge: Communities may create a reservoir of local knowledge about sustainable technology and practises by funding capacity-building initiatives. This establishes the groundwork for upcoming projects in sustainable urban development in addition to bolstering the success of the ongoing MBGC project.

Developing a Pride and Ownership Feeling:

Ownership in a Sustainable Urban Environment: Communities get a sense of ownership over their urban environment when they actively take part in the design and implementation of MBGC projects. A greater sense of pride in their community and a stake in its long-term viability and well-being result from this ownership.

Resilience and Community Cohesion: Getting locals involved in sustainable activities promotes a feeling of shared accountability. In addition to fortifying social ties,

this feeling of communal cohesion increases resistance to upcoming obstacles or changes.

To sum up, community involvement in MBGC projects is not only a good idea, but also a moral requirement. Their involvement makes ensuring that initiatives are in line with the particular requirements of the local populace, strengthens the community's ability to adopt sustainable practises, and cultivates a feeling of community ownership over their urban surroundings. These components are essential to the long-term progress of SDG 11.1 and the success of MBGC programs.

Ethical Aspects

In Bangladesh, the pursuit of Sustainable Development Goal (SDG) 11.1 and the implementation of Mini Bio Gas Continuous (MBGC) are inextricably tied to a set of moral imperatives that act as guiding principles. The following factors are crucial to guaranteeing the initiatives' long-term viability and beneficial social impact:

Fair Access to Low-Cost Housing and Essential Services:

Inclusivity and Social Equity: Regardless of socioeconomic background, all members of the public

must have access to essential services and affordable housing as a matter of ethical practise. This guarantees that every member of the community can profit from MBGC and SDG 11.1, rather than just a select few who enjoy privileges.

Reducing Social Disparities: We try to close the gap between various socioeconomic categories by emphasizing fair access. In addition to meeting immediate housing requirements, this proactive strategy advances the more general objectives of social inclusion and poverty alleviation.

Environmental and Social Justice:

Reducing Adverse Effects on Vulnerable Communities: According to ethical principles, MBGC programs must take great care to reduce any potential harm to vulnerable communities. In order to safeguard disadvantaged populations and make sure they are not disproportionately impacted by the adoption of the technology, this is very important.

Managing Environmental Concerns: Adhering to appropriate environmental stewardship is one of the ethical considerations. This means preventing ecological integrity from being compromised in order to maximize

the benefits of MBGC technology while minimizing environmental impact.

Respect for Ethical Principles in Project Execution:

Fair Labor Practises: Maintaining fair labor practises is an ethical need that cannot be waived. This entails offering fair compensation, secure working conditions, and ensuring that the labor force involved in MBGC projects is handled with respect and decency.

Responsibly Managed Resources: Implementing ethics demands careful resource management. This entails managing funds and other resources allotted to MBGC projects responsibly in addition to making prudent use of the materials.

To sum up, ethical issues are fundamental to the sustainability of MBGC and the achievement of SDG 11.1 in Bangladesh. These factors include fair access, environmental and social fairness, and project implementation that adheres to moral guidelines.

Expert Commentary and Consultation

Expert comments and consultation play a crucial role in the performance and scalability of Mini Bio Gas

Continuous (MBGC) and the achievement of Sustainable Development Goal (SDG) 11.1 in Bangladesh. The following procedures guarantee sustained effectiveness throughout time:

Requesting Opinions from Professionals in Sustainable Development, Environmental Science, and Urban Planning:

Making Informed Decisions: A multidisciplinary approach to project design and implementation is made possible by involving specialists in sustainable development, urban planning, and environmental science. Their observations offer a comprehensive viewpoint, which is necessary to make wise decisions.

Efficiency and Efficacy: The vast knowledge that experts contribute can greatly increase a project's efficiency and efficacy. MBGC projects can be optimized to achieve maximum impact by utilizing their experience.

Including Best Practises and Knowledge Gained from International Projects of a Similar Nature:

Global Knowledge Transfer: It's a wise move to draw lessons from the successes and failures of comparable initiatives around the world. It saves time and money by

allowing MBGC initiatives in Bangladesh to gain from worldwide best practises and lessons discovered.

Risk Mitigation: Using best practises reduces the risks involved in implementing a project. MBGC projects can move forward with more assurance if they stay away from the stumbling blocks that others have encountered.

Putting in Place Processes for Continuous Expert Review and Assessment:

Adaptation to Changing Circumstances: Emerging technology and shifting conditions make the world of sustainability dynamic. Mechanisms for expert review and assessment make that MBGC projects are always flexible. Keeping abreast of the most recent advancements allows projects to adapt to changing requirements.

Expert evaluation serves as a measure for quality assurance. It guarantees that throughout a project's lifecycle, a high degree of quality is maintained.

In conclusion, the foundation of Bangladesh's success with MBGC and SDG 11.1 is expert input and consultation. When it comes to project design and execution, they offer a plethora of information, well-informed decision-making, and international best practises. Furthermore, continuous

expert review and assessment procedures prevent stagnation and guarantee that projects continue to be adaptable to changing conditions.

Concluding Remarks: Creating a Route for Durable Urban Change

The examination highlights multiple critical elements that serve as pillars for the long-term viability and expandability of Mini Bio Gas Continuous (MBGC) technology in relation to Bangladesh's attainment of Sustainable Development Goal (SDG) 11.1. A scalable and sustainable urban change is predicated on these essential components:

Acceptance and Perception by the Public:

Community Involvement and Support: The success of MBGC projects is largely dependent on public acceptance. Involving the community early on promotes a sense of ownership and guarantees ongoing support for the duration of the project.

Establishing a Climate of Trust and collaboration: It is critical to establish a climate of trust and collaboration between stakeholders, including local government and inhabitants.

Considering Ethics:

Fairness and Equity: Moral issues cannot be compromised. They make sure that everyone benefits equally from MBGC technology and that nobody is left behind.

Just and Sustainable Urban change: Maintaining moral principles helps create an inclusive, just, and sustainable urban change while also protecting against unfavorable effects.

Expert Opinion and Guidance:

Including Specialized Knowledge: Project planning and execution are enhanced by utilizing the knowledge of environmental scientists, sustainable development specialists, and urban planners. Their specific expertise offers priceless insights that maximize project results.

Adaptability and Quality Assurance: Ensuring projects stay flexible and uphold high levels of excellence requires the establishment of procedures for continuous expert review and assessment. This flexibility is essential in light of changing conditions and advancing technology.

In summary, the foundation for the scalable and sustainable implementation of MBGC for SDG 11.1 in Bangladesh is formed by the trinity of public acceptability, ethical concerns, and expert input. By giving these important elements top priority, we create the groundwork

for a revolutionary urban environment that values equity, inclusivity, and environmental stewardship. This all-encompassing strategy not only takes care of the urgent housing need but also points the way towards a more prosperous and sustainable future for everybody.

J W T

joules water team
https://www.jwt-jwt.it/

Subject to the NDA, consultancy and appropriate industrial property rights are available;

(**INNOVATION** - Patents and Projects, with relevant BPs and StartKit Commercial Offers)

JWTeam

http://www.expotv1.com/ESCP_NUT_Team.pdf
Offers extensive support on ***Energy*** *and* ***Water Cycle,*** *verse* ***IP_S DGs /UN***

Bibliography/Conclusion

Any reference to people and things is purely coincidental, as well as creative/imaginative and aimed at the common good (both in fiction and non-fiction/disclosable texts). The Owners/Inventors of the Editorial rights on the source

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Digester from MBGC (source) :

Patent:

MBGC , **https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2016092582** (organic waste to biogas, for urban and periurban); view1, MBGC_Plan, Hello;

Italy: GRANT

http://www.expotv1.com/LIC/MISE_0001427413_MBGC.pdf, ...mean "INDUSTRY (useful), NEW (no make before), INVENTIVE (teach some things)"

Abstract/Description - Patent:

MBGC , https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2016092582

Full Intellectual Property

http://www.expotv1.com/ESCP_Patent.htm

Full JWTeam Service

http://www.expotv1.com/PUB/JWT_Service_EN.pdf

Summary – Applications (to SDGs)

MBGC

https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2016092582

Biogas - generate high purity raw materials from organic matrices. MBGC is dedicated to the disposal and reconversion of organic waste , both from excrement (human and animal) and from manufacturing processes (agri-food industry), as well as in many agro-zootechnical activities. Very compact system that uses only renewable energy, with high energy recovery indices and production of high quality by-products (CH4, CO2, NPKx , H2O). Excellent solution for urban areas for contrast to the disposal of wastewater and containment of interventions on its infrastructures (sewerage transport networks and purifiers), acting in a distributive /pervasive manner where the problem arises. It offers significant contrast to the load Organic contributing to the performance on " **Water cycle** ".

Project: MBGC – Mini Bio Gas Continuous

Objective : Launch a pre- assembly and testing site (procedures and manuals) for the production of MBGC tanks

Target: Prefabricated (CLS) companies, hydromechanics , financial investors, operators in the BioGas / BioMethane sector

The project aims to activate a production site, from design to assembly (pro delivery and rapid assembly), with the development of production-oriented procedures agreed with the client (based on the products available for supply) and destinations of the outputs produced. The solutions rely on standard products from the water management and prefabricated market, assembled and tested with a view to optimize linear anaerobic digestion, with selective and corrective extraction. In collaboration with internal and external laboratories, it will act as remote support for the installations in charge (EPC - Engineering , Procurement and Construction).

Summary: This is a method for anaerobic digestion and a device for its implementation. Anaerobic digestion is a biological process that breaks down organic matter in the absence of oxygen, producing biogas, fertilizer and water. Biogas is a mixture of methane, carbon dioxide and other gases that can be used as a renewable energy source. The fertilizer is composed of nitrogen, phosphorus and

potassium salts (NPKx salts) which can be used to enrich the soil or supplement supplies from specific industries. Water is the liquid fraction that can be reused or discharged after treatment.

A device to implement this method consists of a tank divided into different areas, where different phases of anaerobic digestion take place. The tank is equipped with bulkheads, pipes, pumps, heating means and gas separation means. The organic matter enters the tank through a vertical inlet pipe (in homogeneous diffusion mode) and undergoes the following phases:

1) Hydrolysis: organic matter is divided into smaller molecules by means of water and enzymes;

2) Acidogenesis : the hydrolyzed products are transformed into volatile fatty acids and other compounds by acidogenic bacteria .;

3) Acetogenesis : volatile fatty acids and other compounds are further transformed into acetic acid, hydrogen and carbon dioxide by acetogenic bacteria;

4) Methanogenesis : acetic acid, hydrogen and carbon dioxide are transformed into methane and carbon dioxide by methane genic bacteria;

The liquid mixture flows through the tank from one area to another, following a path defined by the bulkheads and pipes. Along the way, some pumps recycle some of the liquid mixture to optimize the process. In the last zone, the liquid mixture separates into different components by gravity:
a) Oleic phase: the lighter fraction which mainly contains fats and oils , is drained and brought back to the beginning;

b) Protein phase: the heavier fraction which mainly contains proteins and amino acids, not yet treated, is taken and brought to the beginning;

c) NPK salts: the solid fraction that precipitates at different levels according to their solubility and specific weight;

d) Clarified water: the clear fraction that remains after the separation of the other components is expelled by gravity and thermally pre-treated in the last part of the tank at half level;

The gases produced during the process (methane and carbon dioxide) rise towards the top of the tank, where

they separate by density and start non-specific functions. Carbon dioxide, being heavier, remains in the lower part of the space above the liquid surface, while methane, being lighter, moves towards the upper part of the space. Gases are extracted through pipes with holes that are connected to gas storage or utilization systems. The device also includes a lighting and cooling system to prevent the formation of hydrogen sulfide, a toxic gas that can result in anaerobic digestion, damaging it. Lighting stimulates photosynthesis in some bacteria that consume hydrogen sulfide in the absence of oxygen. Cooling condenses water vapor in the gas phase and returns it to the liquid phase .

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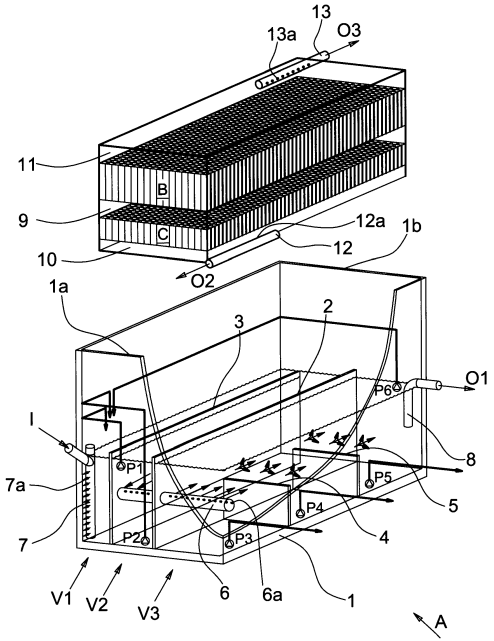
13
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Fig. 1

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(54) Title (EN): METHOD FOR ANAEROBIC DIGESTION AND DEVICE FOR IMPLEMENTING SAID METHOD

(54) Title (FR): PROCÉDÉ DE DIGESTION ANAÉROBIE ET DISPOSITIF POUR LA MISE EN ŒUVRE DUDIT PROCÉDÉ

(57) Abstract:

(EN): This invention relates to a method and to a device for the implementation of said method, to decompose and to selectively extract methane, carbon dioxide, NPK salts (nitrogen, phosphorus and potassium salts) of various titre and clarified water, from an organic matrix; said components will be the raw material for further industrial processes. The method is characterized in that it includes the following phases: • implementation of a hydrolytic phase, constituted by the fission action by means of the water, by hydration; • implementation of a acidogenesis phase generated by means of specific bacteria; •

implementation of a acetogenesis phase generated by means of specific bacteria; • implementation of a methanogenesis phase by means of specific bacteria, with a simultaneous gravimetric separation of a mainly oleic phase, lighter and of a predominantly protein phase, heavier; • gravimetric separation of solutions of said NPK salts of different titres • taking of clarified water. The device is characterized in that it comprises a basin (1) divided into various zones (V1), (V2), (V3), in each of which biological reactions occur, in accordance with the claimed method, said zones being all communicating and identified by suitable separation baffles, in particular: • a first baffle (2) extended from a first end (1a) of the basin to a second end (1b) of said basin (1), dividing it into two parts; • a second baffle (3), of height equal to said first baffle that divides one of said parts in a first zone (V1) and in a second zone (V2) extending from said first end (1a) of the basin (1) until it reaches the vicinity of said second end of the basin (1), so that said two zones (V1) and (V2) are communicating through an opening, of substantially vertical development, between the end of said second baffle (3) and the second end (1b) of the basin (1); • a plurality of baffles (4) and (5) transversely arranged to said first baffle (2) and inside a third zone (V3), delimited by said first baffle (2), said third zone (V3) being placed in communication with said second zone (V2) through a

transfer pipe (6), positioned at about half height of said first baffle (2); • two blocks (B) and (C), placed in the upper part of said basin (1) and provided by taking means (12, 12a, 13, 13a), each of said blocks (B) and (C) including a plurality of vertical pipes and being fitted to carry out a gravimetric separation of the gases that are generated during the treatment of said mixture; said baffles (2) and (3) and said transfer pipe (6), by identifying a path crossed by the liquid mixture to be treated, that runs into the beginning of said first zone (1) where it is placed an inlet pipe (7) of the liquid mixture to be treated and comes out from various points of said third zone (V3).

(FR): La présente invention concerne un procédé et un dispositif pour la mise en œuvre dudit procédé, pour décomposer et extraire sélectivement du méthane, du dioxyde de carbone, des sels de NPK (sels d'azote, de phosphore et de potassium) de titres divers et de l'eau clarifiée, à partir d'une matrice organique; lesdits composants constituant la matière première pour d'autres procédés industriels. Le procédé est caractérisé en ce qu'il comprend les phases suivantes : mise en œuvre d'une phase hydrolytique, constituée par l'action de fission au moyen de l'eau, par hydratation; mise en œuvre d'une phase d'acidogénèse au moyen de bactéries spécifiques; mise en œuvre d'une phase d'acétogénèse au moyen de

bactéries spécifiques; mise en œuvre d'une phase de méthanogénèse, au moyen de bactéries spécifiques, avec séparation gravimétrique simultanée d'une phase principalement oléique, plus légère, et d'une phase principalement protéique, plus lourde; séparation gravimétrique de solutions desdits sels de NPK de titres différents; prélèvement de l'eau clarifiée. Le dispositif se caractérise en ce qu'il comprend un bassin (1) divisé en différentes zones (V1) (V2), (V3), dans chacune desquelles ont lieu des réactions biologiques, conformément au procédé de l'invention, lesdites zones étant toutes communicantes et identifiées par des chicanes de séparation appropriées, en particulier : une première chicane (2) s'étendant d'une première extrémité (1a) du bassin jusqu'à une deuxième extrémité (1b) dudit bassin (1), le divisant en deux parties; une deuxième chicane (3), de hauteur égale à celles de ladite première chicane qui divise l'une desdites parties en une première zone (V1) et en une deuxième zone (V2) s'étendant entre ladite première extrémité (1a) du bassin (1) et le voisinage de ladite seconde extrémité du bassin (1), de sorte que lesdites deux zones (V1) et (V2) communiquent par une ouverture, de développement sensiblement vertical, entre l'extrémité de ladite deuxième chicane (3) et la seconde extrémité (1b) du bassin (1); une pluralité de chicanes (4) et (5) placées transversalement par rapport à ladite

première chicane (2) et à l'intérieur d'une troisième zone (V3), délimitée par ladite première chicane (2), ladite troisième zone (V3) étant mise en communication avec ladite deuxième zone (V2) par un tuyau de transfert (6), placé à environ la moitié de la hauteur de ladite première chicane (2); deux blocs (B) et (C), placés dans la partie supérieure dudit bassin (1) et munis de moyens de prélèvement (12, 12a, 13, 13a), chacun desdits blocs (B) et (C) comprenant une pluralité de tuyaux verticaux et étant conçu pour effectuer une séparation gravimétrique des gaz qui se dégagent pendant le traitement dudit mélange; lesdites chicanes (2) et (3) et ledit tuyau de transfert (6) délimitant un trajet emprunté par le mélange liquide à traiter, qui s'étend du début de ladite première zone (1) dans laquelle est placé un tuyau d'entrée (7) du mélange liquide à traiter et sort par différents points de ladite troisième zone (V3).

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Declarations:

Declaration made as applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate

Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv)) for the purposes of the designation of the United States of America


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