



MEMORANDUM

TO: Mayor & Commission

CC: Marline Monestime, CFM, Chief of Staff

FROM: Hamid Nikvan, Director NMB Water

VIA: Andrew Plotkin, Assistant City Manager

DATE: May 29, 2025

RE: Proposal for Sustainability, Resilience, and Energy Efficiency (SREE) Initiative

This memorandum presents the **Sustainability, Resilience, and Energy Efficiency (SREE)** Initiative, a strategic plan to address climate change, aging infrastructure, and sustainability demands in North Miami Beach (NMB). We seek your approval to implement one of two pathways to position NMB as a leader in smart, sustainable urban development.

Background

NMB faces challenges from flooding, heat, energy costs, and infrastructure issues, including aging water meters (causing annual revenue loss) and 6,310 properties on septic systems. The SREE Initiative leverages smart technologies, renewable energy, and wastewater solutions to enhance resilience, reduce costs, and align with Miami-Dade County's Resilient305 strategy and UN Sustainable Development Goals (SDGs).

Proposed SREE Initiative

The SREE Initiative offers two pathways:

- **Option 1: NMB Water Department-Led Implementation**
Expands NMB Water divisions' duties to integrate sustainability into water, wastewater, and stormwater projects, including smart metering and septic-to-sewer conversion.
- **Option 2: Citywide SREE Committee**
Establishes a cross-departmental committee for a holistic strategy, including advanced transportation and citywide wastewater infrastructure.

Both options support scalable, equitable solutions, with a hybrid approach possible (starting with Option 1 and transitioning to Option 2).

Strategic Focus Areas

1. **Energy Efficiency & Renewable Energy**
 - Deploy solar panels, natural gas combined heat and power (CHP), and community solar cooperatives.

- Implement smart grids and microgrids for resilience.
- Campaign: “NMB Power Share” to promote solar adoption.

2. Climate Resilience & Infrastructure Adaptation

- Use AI-driven climate modeling and green infrastructure (e.g., bioswales, cool pavements).
- Retrofit with resilient designs and building envelope improvements (e.g., cool roofs).
- Campaign: “NMB Native Roots” for climate-adaptive landscaping.

3. Water Conservation & Circular Economy

- Install smart water meters, greywater recycling, and nutrient recovery systems.
- Pilot AI-optimized water treatment.
- Campaign: “CycleWorks NMB” for water and resource recycling.

4. Building Automation & Smart Utilities

- Implement building automation systems (BAS) and IoT-enabled smart utilities.
- Pilot blockchain for transparent energy/water tracking.
- Campaign: “NMB Smart Ledger” to showcase blockchain benefits.

5. Advanced Public Transportation

- Deploy electric buses with solar-powered charging and smart mobility apps.
- Develop bike-sharing and micro mobility hubs.
- Campaign: “NMB Green Commute” for eco-friendly transport.

6. Urban Agriculture & Food Security

- Integrate hydroponics at utility sites and community gardens citywide.
- Campaign: “NMB Grows Green” to provide irrigation kits and training.

7. Emergency Preparedness & Redundancy

- Deploy IoT sensors and digital twins for real-time monitoring.
- Establish solar/CHP-powered resilience hubs.
- Campaign: “Ready Green NMB” for sustainable preparedness.

8. Community Engagement & Equitable Smart City Integration

- Develop a smart city dashboard and augmented reality (AR) apps to visualize projects.
- Provide free Wi-Fi hotspots for digital equity.
- Campaigns: “NMB AR Vision” and “NMB Connected” for engagement and access.

9. Septic-to-Sewer Conversion & Wastewater Infrastructure

- Convert 6,310 properties and build a Wastewater Treatment Plant.
- Campaign: “NMB Clean Water”.

10. Grants, Partnerships & Funding

- Pursue EPA WIFIA, DOE EECBG, DOT SMART Grants, and Green Bonds.
- Form public-private partnerships (P3s) with tech firms (e.g., Siemens, IBM).
- Assign grant coordinators to maximize funding.

Implementation Pathways

Option 1: NMB Water Department-Led

- **Structure:** NMB Water Director oversees integration, with divisions (Water Treatment, Wastewater, Stormwater, Engineering) embedding SREE initiatives into projects.
- **Timeline:**
 - 0–3 months: Assign duties.
 - 3–6 months: Plan pilots (smart meters, solar, BAS).
 - 6–12 months: Launch pilots.
 - 12–24 months: Full utility implementation.
 - 2+ years: Expand citywide.
- **Pros:** Leverages existing staff, quick wins.

Option 2: Citywide SREE Committee

- **Structure:** Committee led by a City Manager appointee, including NMB Water, Public Works, community leaders, and regional partners.
- **Timeline:**
 - 0–3 months: Form committee.
 - 3–6 months: Develop Smart City Master Plan.
 - 6–12 months: Launch pilots.
 - 1–3 years: Full implementation.
- **Pros:** Holistic, maximizes funding, fosters collaboration.

Expected Benefits

- **Resilience:** Reduced flood and contamination risks.
- **Cost Savings:** Lower operating costs via smart utilities, solar, circular economy.
- **Economic Growth:** Attract green tech, agriculture, transit jobs.
- **Community Trust:** Enhanced through AI, AR apps, Wi-Fi, campaigns.
- **Revenue Protection:** Address metering losses and ensure compliance.
- **Funding:** Access to federal, state, and private funding.

Recommendations

1. **Approve Option 1** for rapid utility-focused results, addressing metering and septic issues.
2. **Consider Option 2** for a bold and transformative citywide strategy.
3. **Adopt a hybrid approach:** Start with Option 1, transition to Option 2 after 2 years, using NMBWater data to inform citywide scaling.

The SREE Initiative addresses critical infrastructure challenges, including metering failures and septic systems, positioning NMB as a sustainability leader. We request your approval to proceed. Please review the attached Detailed SREE Initiative Plan and Funding Opportunities Summary.

Your input is greatly appreciated.

Attachments

- Detailed SREE Initiative Plan

- Funding Opportunities Summary

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