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Date: Friday, April 5, 2019 2:28 PM
 From: Ron Brand <rlbplans@gmail.com>
 To: John Robortella <jrobortella@rochester.rr.com>, Ingalsbe, Peter <pingalsbe@farmingtonny.org>
 Subject: Fwd: The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures

John,
 this just in from Dr. King on Larger solar power plants. Please distribute to Town Board, Planning Board and Zoning Board of Appeals.
 Thanks,
 Ron

----- Forwarded Message -----

Subject: The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures

Date: Thu, 4 Apr 2019 15:54:46 +0000
 From: King, Robert (Agricultural & Life Sciences) <rking@monroecc.edu>
 To: 'Ron Brand (rlbplans@gmail.com)' <rlbplans@gmail.com>

<https://www.nature.com/articles/srep35070>

The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures

- * Greg A. Barron-Gafford<<https://www.nature.com/articles/srep35070#auth-1>>
 - * , Rebecca L. Minor<<https://www.nature.com/articles/srep35070#auth-2>>
 - * , Nathan A. Allen<<https://www.nature.com/articles/srep35070#auth-3>>
 - * , Alex D. Cronin<<https://www.nature.com/articles/srep35070#auth-4>>
 - * , Adria E. Brooks<<https://www.nature.com/articles/srep35070#auth-5>>
 - * & Mitchell A. Pavao-Zuckerman<<https://www.nature.com/articles/srep35070#auth-6>>
- Scientific Reports volume6, Article number: 35070 (2016)

Abstract

While photovoltaic (PV) renewable energy production has surged, concerns remain about whether or not PV power plants induce a "heat island" (PVHI) effect, much like the increase in ambient temperatures relative to wildlands generates an Urban Heat Island effect in cities. Transitions to PV plants alter the way that incoming energy is reflected back to the atmosphere or absorbed, stored, and reradiated because PV plants change the albedo, vegetation, and structure of the terrain. Prior work on the PVHI has been mostly theoretical or based upon simulated models. Furthermore, past empirical work has been limited in scope to a single biome. Because there are still large uncertainties surrounding the potential for a PHVI effect, we examined the PVHI empirically with experiments that spanned three biomes. We found temperatures over a PV plant were regularly 3–4 °C warmer than wildlands at night, which is in direct contrast to other studies based on models that suggested that PV systems should decrease ambient temperatures. Deducing the underlying cause and scale of the PVHI effect and identifying mitigation strategies are key in supporting decision-making regarding PV development, particularly in semiarid landscapes, which are among the most likely for large-scale PV installations.

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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

Furthermore, it is noted that regular audits are essential to identify any discrepancies or errors early on. This proactive approach helps in maintaining the integrity of the financial statements and prevents any potential issues from escalating.

In addition, the document highlights the need for clear communication between all parties involved. Regular meetings and reports should be conducted to keep everyone informed about the current status and any changes that may occur.

Finally, it is stressed that adherence to all applicable laws and regulations is a top priority. This includes staying up-to-date with any new tax laws or accounting standards that may affect the organization's operations.

The second section of the document provides a detailed overview of the company's financial performance over the past year. It includes a breakdown of revenue, expenses, and net income, along with a comparison to the previous year's figures.

The analysis shows a steady increase in revenue, primarily driven by the expansion of the product line and the entry into new markets. However, there has been a corresponding increase in operating expenses, which has resulted in a narrower profit margin than in previous years.

Despite these challenges, the company remains optimistic about its future prospects. With the implementation of several cost-saving measures and the launch of new products, it is expected that the profit margin will improve in the coming year.

The third part of the document outlines the company's strategic goals for the next five years. These goals are based on a thorough market analysis and a clear understanding of the company's strengths and weaknesses.

The primary objective is to increase market share by 20% over the next five years. This will be achieved through a combination of aggressive marketing campaigns, product innovation, and strategic partnerships.

Additionally, the company aims to diversify its revenue streams by exploring new business opportunities in related industries. This will help to reduce the risk of over-reliance on a single market and ensure long-term sustainability.

In conclusion, the document provides a comprehensive overview of the company's financial and operational performance. It highlights the challenges faced and the opportunities available, and sets a clear path forward for the future.

The management team is committed to achieving the company's goals and ensuring the long-term success of the organization. We thank you for your continued support and look forward to a bright future ahead.

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