



Action Plan Implementation

COMPANY NAME AND WEBSITE:

Chillax Yachting MCPY
Website: www.chillax.Cruises
Telephone:302112342847

COMPANY DESCRIPTION:

Established in 2019 and based in the waters of Greece, Chillax Yachting is a premier yacht charter company committed to delivering maritime experiences. Specializing in exclusive charters company's goal is to provide charters for any occasion.

COMPANY'S CURRENT SITUATION (PROBLEMS):

The company currently relies heavily on fossil fuels, particularly diesel, to power its fleet of sailing yachts. This dependence on traditional propulsion methods contributes to significant carbon emissions and environmental impact.

Chillax Yachting is facing increasing pressure to address its environmental impact and adopt more sustainable practices in line with global efforts to combat climate change. Concerns about carbon emissions, waste generation, and marine pollution are becoming prominent issues for the company.

PROCESSES THAT HAVE BEEN DISCUSSED TO BE REENGINEERING:

In pursuit of our commitment to environmental sustainability and minimizing our carbon footprint, Chillax Yachting has made a strategic decision to transition from motor yachts to sailing yachts for our charter operations. This decision reflects a holistic approach to new process management and aligns with our dedication to responsible and eco-friendly maritime practices.

KEY ELEMENTS OF THE STRATEGIC DECISION:

- REDUCED HORSEPOWER AND FUEL CONSUMPTION
- LEVERAGING WIND POWER:

CHILLAX YACHTING HAS UNDERTAKEN A COMPREHENSIVE PROCESS REENGINEERING INITIATIVE FOCUSED ON MINIMIZING, NOT ONLY CO2 EMISSION BUT ALSO WASTE



GENERATED DURING CHARTERS, WITH A SPECIFIC EMPHASIS ON WASTE REDUCTION AND RECYCLING. THIS INNOVATIVE APPROACH INVOLVES MULTIPLE FACETS.

CO2 EMISSION REDUCTIONS:

- Sentinel Telemetry System
- Client Education And Speed Management
- Promotion Of Sailing Experience

PROCESS THAT WILL BE REENGINEERED

Based on the comprehensive reengineering efforts, Chillax Yachting is considering of further enhancing its sustainability initiatives:

1. INVESTMENT IN RENEWABLE ENERGY SOLUTIONS:

Consider integrating renewable energy solutions such as solar panels and wind turbines into the design and operation of sailing yachts. These technologies can harness natural resources to generate clean energy, reducing reliance on fossil fuels and minimizing CO2 emissions.

2. IMPLEMENTATION OF HULL CLEANING AND PROPELLER MAINTENANCE PROTOCOLS:

Develop and implement regular hull cleaning and propeller maintenance protocols to optimize the vessel's hydrodynamics and propulsion efficiency. By keeping the hull and propellers free from marine growth and fouling, the yacht can achieve better fuel efficiency and reduced CO2 emissions.

ACTIONS TO BE TAKEN FOR THE REENGINEERING OF THE PROCESS:

Implementation Plan:

INVESTMENT IN RENEWABLE ENERGY SOLUTIONS:

- **SOLAR PANELS: INSTALL SOLAR PANELS ON THE YACHT'S DECK OR OTHER SUITABLE AREAS TO CAPTURE SOLAR ENERGY AND CONVERT IT INTO ELECTRICITY. THIS ELECTRICITY CAN POWER ONBOARD SYSTEMS AND AMENITIES, REDUCING THE NEED FOR DIESEL-GENERATED POWER.**
- **WIND TURBINES: EXPLORE THE INSTALLATION OF SMALL-SCALE WIND TURBINES ON THE YACHT'S MAST OR OTHER ELEVATED STRUCTURES TO HARNESS WIND ENERGY WHILE SAILING. THIS ADDITIONAL SOURCE OF RENEWABLE ENERGY CAN SUPPLEMENT ONBOARD POWER NEEDS AND FURTHER REDUCE FUEL CONSUMPTION.**
- **Hybrid Energy Management Systems:** Implement advanced energy management systems that intelligently balance power from renewable sources (solar and wind) with traditional diesel generators. These systems optimize energy usage, maximize efficiency, and minimize CO2 emissions by prioritizing renewable energy whenever available.

IMPLEMENTATION OF HULL CLEANING AND PROPELLER MAINTENANCE PROTOCOLS:

- **SCHEDULED CLEANING: ESTABLISH A ROUTINE SCHEDULE FOR HULL CLEANING AND PROPELLER MAINTENANCE, CONSIDERING FACTORS SUCH AS SAILING FREQUENCY, WATER CONDITIONS, AND SEASONAL VARIATIONS. REGULAR CLEANING HELPS PREVENT THE ACCUMULATION OF MARINE ORGANISMS AND BIOFOULING, WHICH CAN INCREASE DRAG AND FUEL CONSUMPTION.**
- **Use of Eco-Friendly Cleaning Methods:** Utilize environmentally friendly cleaning products and techniques to minimize the impact on marine ecosystems while effectively removing fouling and growth from the hull and propellers.
- **Collaboration with Marina Facilities:** Partner with marina facilities equipped with eco-friendly hull cleaning and maintenance services. Collaborate on best practices



for sustainable vessel maintenance and share knowledge and resources to promote environmental stewardship within the maritime community.

MONITORING

Monitoring and Optimization

Utilize sophisticated monitoring tools and analytics to track energy production and consumption in real time. Continuously optimize energy usage patterns and system configurations to maximize the utilization of renewable energy sources and minimize reliance on fossil fuels.

Also Implement monitoring systems to track the vessel's performance metrics, including fuel consumption, speed, and emissions. Evaluate the impact of hull cleaning and maintenance activities on fuel efficiency and CO2 emissions, and adjust protocols as needed to optimize results.

RESULTS OF THE IMPLEMENTATION

SOLAR PANELS:

Estimate solar panel efficiency at 15%, providing an average daily energy production of 30 kWh per sailing yacht.

WIND TURBINES:

INSTALL A 1 KW WIND TURBINE ON THE YACHT'S MAST.

Estimate wind turbine efficiency at 20%, providing an average daily energy production of 4 kWh per sailing yacht.

HYBRID ENERGY MANAGEMENT SYSTEMS:

IMPLEMENT A HYBRID ENERGY MANAGEMENT SYSTEM THAT OPTIMALLY COMBINES POWER FROM SOLAR PANELS, WIND TURBINES, AND DIESEL GENERATORS.

Estimate the system's efficiency at reducing diesel generator usage by 30%.

With solar panels generating 30 kWh/day and wind turbines generating 4 kWh/day, each sailing yacht can produce a total of 34 kWh/day of renewable energy.

THE HYBRID ENERGY MANAGEMENT SYSTEM REDUCES DIESEL GENERATOR USAGE BY 30%, RESULTING IN AN AVERAGE REDUCTION OF 7 LITERS OF DIESEL FUEL CONSUMPTION PER DAY PER SAILING YACHT.

Over the course of a year, extrapolating these savings across the fleet of sailing yachts results reduction in CO2 emissions by 60,000 kg.

FURTHER RECOMMENDATIONS