

# ‘阿皮亚绿色港口’ 小步前进，潜力巨大



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# 阿皮亚绿色港口愿景

## → 成为“绿色”港口

- 优化能源效率，采用环境可持续的做法，并以可持续的方式发展；以及
- 高效、安全、灵活地应对气候变化和未来的商业挑战

## → 成为安全港口

- 加强预防和准备措施，确保及时有效地协调应对灾害

## → 成为性别平等的港口

- 在绿色港口运营和管理中将性别平等制度化

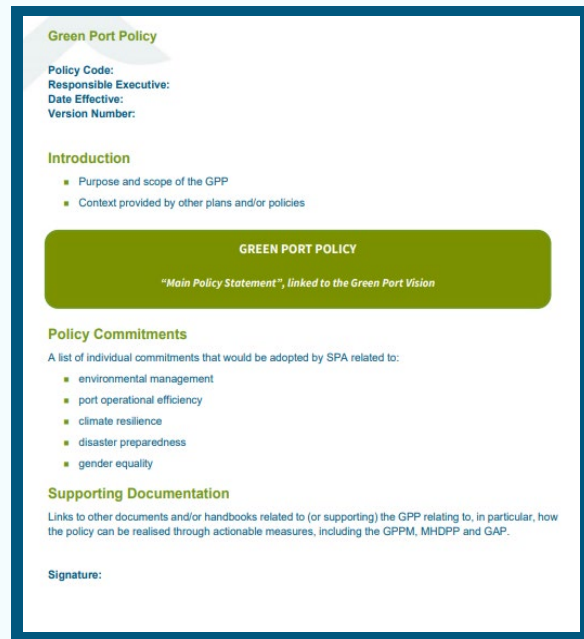


# 项目产出 ► 项目投入

- **绿色港口政策** – 包括对环境管理、运营效率、气候依赖、备灾和性别平等的承诺
- **绿色港口实践手册** – 指导绩效改进和日常运营的实践手册
- **多灾种备灾计划**
- **绿色港口倡议** – 优化运营和能源效率，促进环境可持续实践



“健康检查”



# “健康检查”主题

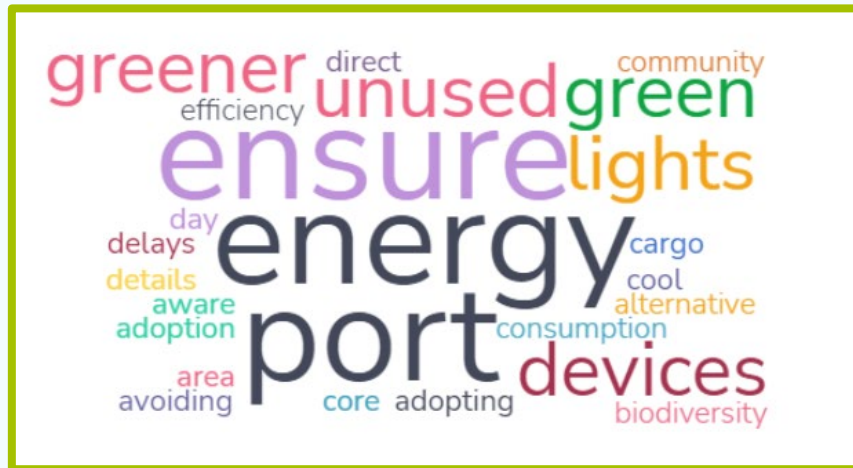
## ❖ 环境管理

- ❖ 能源效率和转型
- ❖ 污染控制
- ❖ 环境可持续性

## ❖ 经营效率

- ❖ 监管控制
- ❖ 海运和货运业务
- ❖ 数字化成熟度
- ❖ 基础设施质量

## ❖ 气候韧性



## ❖ 灾害预防

- ❖ 事前规划
- ❖ 资源
- ❖ 监视和监视
- ❖ 事后恢复

## ❖ 社会可持续性，包括性别

- ❖ 性别平等
- ❖ 约定
- ❖ 社会问题

# 健康检查评分

Theme	Topic / Measure of:	Indicator	Scoring Criteria				
			0	1	2	3	4
Green Port	Environmental Management	Local renewable energy generation	Not considered at all yet	Interest shown and options considered by port	Feasibility study conducted for renewable energy generation potential	Designs underway and funding applied for	Initiatives implemented and infrastructure available; existing installed capacity
	Operational Efficiency	Quality of infrastructure Security infrastructure - fencing, lighting, gates, CCTV for secure and safe port facility management	No complete port boundary fencing or gate controls. Insecure.	ISPS grade boundary fencing and gates in good repair	Port lighting to support safe 24hr operation and security surveillance by patrols	Manual procedures to manage access control, inspections and security patrols	Digital access control system in place to manage entry/exit, with CCTV and inspection facilities at gates for ISPS level 1-3

# 健康检查评分



Enhancing the Safety, Security and Sustainability  
of Apia Port, Samoa

## Apia Green Port Health Check - Results



Theme	Topic / Measure of:	Indicator	Score	Port target	Comment
Marine and cargo operations		Safe navigation supervision (VTS, Aids to Navigation)	1	3	Limited navigation aids. Not aware of a Harbour Master Directions or Port Guide book. Written notice of ship arrivals received from stevedores.
		Monitoring and communicating port weather, physical conditions & bathymetry (surveying sea floor)	1	3	No regular surveys (draft & seabed). They were not clear of the last survey date, or outcome. Last dredge was 2003 to -11mCD. SPA consider that there is a need to dredge again.
		Vessel congestion & marine service resilience at port	2	3	Was level 0 (not measured), but we are trying to bring this in via PortMeter. Initial view is minimal, level 2 or 3. Not enough data to be clear yet. Little data to support the awareness factor. Did not establish if they measure wait time, though suspect the agents do record such information. Stevedores notify SPA of delays in writing. Some congestion associated with the presence of fishing vessels - cruise and tankers have priority.
		Vessel cargo handling services, reliability & performance	1	3	Trying to embed measurement through Port Meter (although Bentham do this). Training - unknown. Three stevedores manage the yard and CHE separately. They have different contracts with SPA, based on moves, time or other (being determined). Can't establish if container location is shared among the 3 stevedores - ACTION to determine. Throughput is recorded via manifests. Plan to introduce a CBS. However, JW advised that their would be little point in SPA investing in this if the terminal/vessel handling continues to be controlled by the stevedores.
		Terminal yard management, stock control & supervision	1	3	Manifests are provided by the Agents, paper, not email. SPA maintain a tally but cannot track boxes. Container locations are managed by the individual stevedores. No central database or record. No sharing of equipment. This causes delays. Plans are being considered for a TOS (CBS), though not sure how this will work with current Stevedore practice.



# 2022年健康检查结果

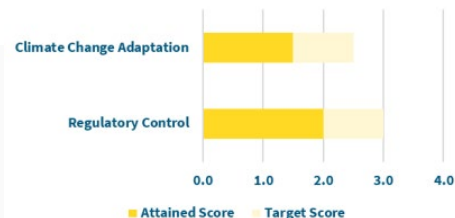
## Environmental Management



## Operational Efficiency



## Climate Resilience



## Disaster Preparedness



## Social Sustainability



# 阿皮亚绿色港口政策声明

萨摩亚港务局将努力：

- 优化资源利用，降低港口运营的碳排放
- 采用环境可持续的做法，以可持续的方式发展
- 高效、安全、灵活地应对未来的气候变化和商业挑战





# 绿色港口政策承诺

## 环境管理

1. 确保港口内资源（电力、柴油和水）的高效和可持续利用
2. 管理港口运营，以防止污染和对环境和当地社区的影响；测量和减少对空气和海洋的排放
3. 负责任地管理和减少港口和航运活动产生的废物 - 减少、再利用、回收
4. 减少对化石燃料的依赖，通过采用可再生能源来支持脱碳
5. 遵守港口和萨摩亚签署的所有环境立法、法规和条例
6. 在港口影响范围内保护和养护生物多样性

## 运营效率

7. 提高操作和航行安全性
8. 通过提高堆场效率和减少延误来降低运营成本

## 气候韧性

9. 确保港口资产和运营能够抵御气候变化，以持续提供服务

# 绿色港口 关键绩效指标 ▶ 绿色港口倡议

## 环境管理

#	政策承诺	关键绩效指标
E1	减少对化石燃料的依赖，通过采用可再生能源来支持脱碳	SPA（和租户）消耗的可再生能源（千瓦时）占总用电量的百分比
		碳足迹总二氧化碳当量(碳吨)
E2	确保港口内资源（电力、柴油和水）的高效和可持续利用	柴油使用量（消耗的升数与货物吞吐量的关系；例如升/标准箱）
		用电量（千瓦时）
		用水量（立方米）
E3	管理港口运营，以防止污染和对环境和当地社区的影响；测量和减少对空气和海洋的排放。	投诉数量（收集来自阿皮亚居民的噪音、光污染事件报告）
		空气质量污染事件监测（连续监测；超过PM2.5/NOx/SOx浓度阈值的事件数量）
E4	负责任地管理和减少港口和航运活动产生的废物 - 减少、再利用、回收	废物总量（按类型划分的产生/收集的废物吨数）
		回收（占回收总量的x%）
E5	遵守港口和萨摩亚签署的所有环境立法、法规和条例	遵守所有相关的国际、国家和地方法规。
E6	在港口影响范围内保护和养护生物多样性	生物多样性（通过监测影响海水的油污或其他污染事件来监测水质）

# 绿色港口倡议 ▶ 42个长名单

运营效率

12 GPIs

灾害预防

7 GPIs

环境管理

19 GPIs

气候韧性

1 GPI

社会可持续性

3 GPIs



另请参阅

### 战略资产管理计划 ▶ 资产管理计划

#### 是什么?

- 符合ISO55000标准的SAMP将为关键港口资产提供结构和流程。
- 对于最重要的资产，检查间隔和关键维护任务都需要AMP。

#### 怎么做?

- 为土地、基础设施、设备资产的SPA组合生成SAMP，包括拥有的资产清单和港口运营的关键性矩阵。
- 开发AMP，以提高关键资产的弹性和可靠性。

#### 利益?

- 提高业务弹性和连续性。
- 降低气候变化和台风带来的风险。
- 为资产相关投资提供最佳价值指引。

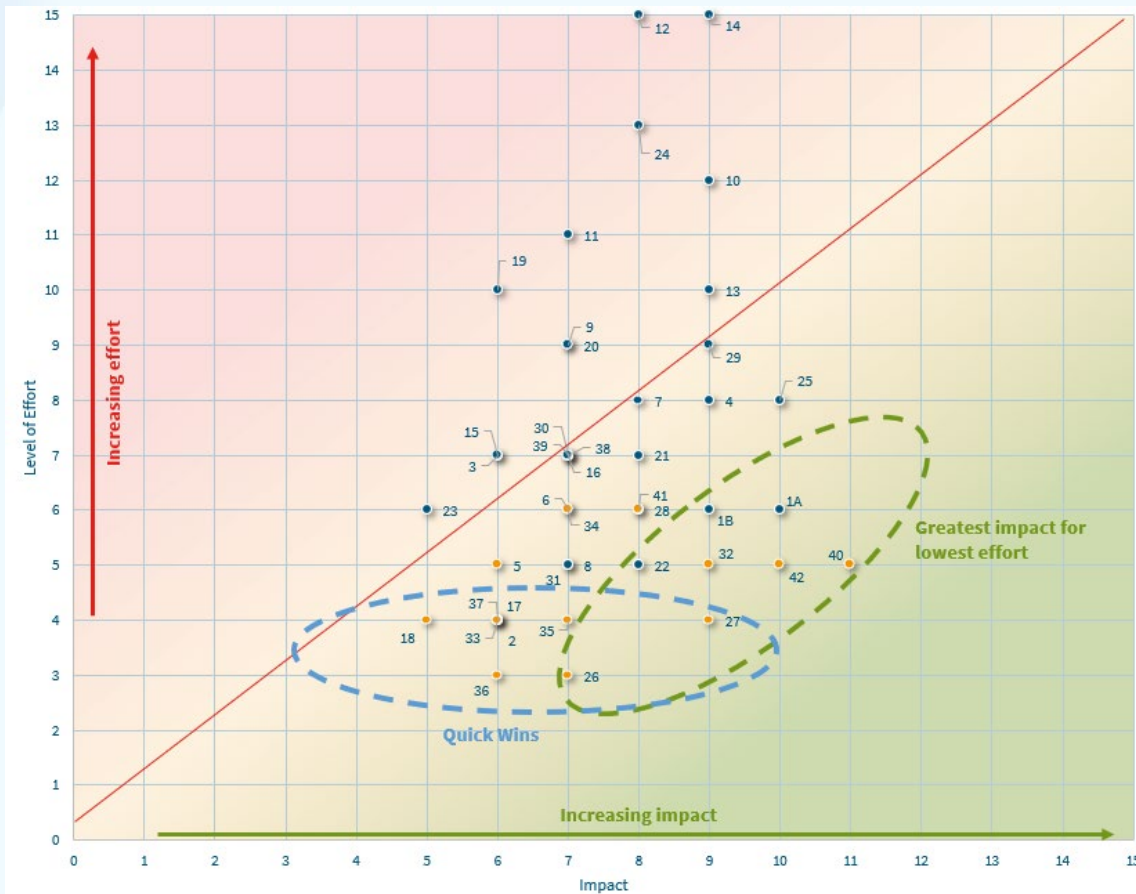
#### 先决条件?

- 支持SAMP的员工可用性和知识。
- 港口资产的库存/所有权记录。
- 维护记录和历史记录，用于指导AMP。

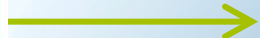
# 绿色港口倡议 ▶ 影响vs努力

环境  
社会  
商业

成本  
资源  
时间框架



高冲击/  
低努力



Impact



# 绿色港口倡议 ▶ 13个短名单



SPA的目标应该是现实的、可实现的

小步前进·潜力巨大...

Group Name	Original GPI #	Original GPI Title
2 Green Port Awareness Raising	18	Green Port Ambassadors
	2	Training – Resource Use Awareness and Behavioural Change
Rainwater Collection for Grey Water Usage	3	Rainwater Collection for Grey Water Usage
5 Environmental Management and Enhancement	4	Environmental Management Plan
	21	Review of Safety Policy for 24/7 Operations
Review of Safety Policy for 24/7 Operations	21	Review of Safety Policy for 24/7 Operations
Strategic Asset Plan & Asset Management Plans	22	Strategic Asset Plan & Asset Management Plans
3 Operational Management Plans	27	Traffic Management Plan
	38	Hazard Identification & Disaster Risk Assessment
1 Disaster Preparedness	37	Disaster Management Storeroom
	6	Solid Waste Management
Solid Waste Management	6	Solid Waste Management
Smart Lighting	8	Smart Lighting
4 Solar PV on Building Rooftops	19	Vehicle Low Emission Zone
	31	Harbour Instructions for Visiting Vessels
Vehicle Low Emission Zone	19	Vehicle Low Emission Zone
Harbour Instructions for Visiting Vessels	31	Harbour Instructions for Visiting Vessels
Training Relevance Review and Revised Protocol	42	Training Relevance Review and Revised Protocol

感谢  
FAAFETAI TELE LAVA  
谢谢

