Clean Photovoltaic Technology Co., Ltd

Way to Control Cost and Increase Efficiency

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Outline


01
Target Review
02
Overall Direction
03
Supply Chain Strategy
04
Market Strategy
05
Production Strategy
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R&D Budget Suggestions

Part 1
Target Review

- ✓ Revenue goal review and breakdown
- ✓ Budgets assumption review and breakdown

Budget Target and Budget Assumption of 2022

Overall budget target

	2021	2022 Target	Difference
Operating Revenue (w)	58159	73000	↑ 14841
Net Profit (w)	5127	7000	↑ 1873
Total Assets Turnover	1.11	1.15	↑ 0.04

Budget assumption

selling price 2%↑

80% material cost 5%↑

	Selling Price	Operating Cost	Gross Profit Rate	Workings
2021	p	c	19.90%	R1=1-c/p
2022	1.02p	0.2c+0.8*1.05c=1.04c	18.33%	R2=1-1.02c/1.04p

Trend Extrapolation Method

	2020	2021	2022(predict without cost reduction and efficiency improvement)	ratio of indicator (Indicator/Opening Revenue)	2022 Target income statement	Workings
Operating Revenue	46034	58159	73000		73000	
Operating Cost	35860	46584	59620	16.3%	58584	
Gross Profit	10174	11575	13380		14416	Gross profit rate before cost reduction and efficiency increase is 18.33%
Taxes and Surcharges	198	159	179		178.5	Average 2020 and 2021
R&D Expense	2198	2910	3410		3410	+500w (Target Budget), and meet the input standard of 14.9%
Expenses	2305	2542	2804 (Same growth rate as 2021)	3.8%	2563	Include operating/administrative/financial expense
Operating Profit	5473	5964	6987		8265	
Non-Business Expenditure	230	20	125		25	Average 2020 and 2021
Total Profit	5243	5944	6862		8140	
Income Profit	754	817	961		1140(14%)	National high-tech enterprise income tax rate 15% average the tax rates in 2020 and 2021, and use the 14% tax rate to calculate
Net Profit	4489	5127	5901		7000	

Difference is 1278
Cost reduction objective

Trend Extrapolation Method

	2020	Growth Rate	2021	Same Growth Rate	2022 (predict without cost reduction and efficiency improvement)	Ratio of Indicator	Cost Reduction Objectives (1278×ratio)	2022 Target income statement
Operating Cost	35860	/	46584	/	59620	16.3%	1036	58584
Operating Expense	903	11.52%	1007	11.52%	1123	1.5%	95	1028
Administrative Expense	1238	10.42%	1367	10.42%	1509	2.1%	134	1376
Financial Expense	164	2.44%	168	2.44%	172	0.2%	13	159

In addition to direct material costs

Total cost and expense: 1278 W

Part 2
Overall Direction for Cost Reduction

- ✓ Scale
- ✓ Automation
- ✓ Standardization

Overall Direction for Cost Reduction

01 Scale

- ✓ Fixed costs are constant
- ✓ Fixed costs will be spread evenly
- ✓ Less overall average cost

02 Automation

- ☐ Human intervention↓ → Reduce labor cost
- ☐ 24 hours uninterrupted operation
  →Without mistakes

Overall Direction for Cost Reduction

03 Standardization

cost

1

- Reduce training costs and management costs
- Easier to solve problems

streamline

2

- Reduce the bloated personnel structure
- Increase the scale effect

outsource

3

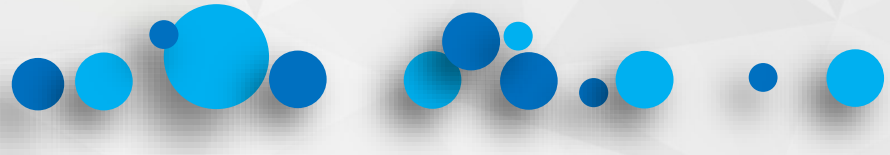
- Outsource non-core businesses and processes
- Concentrate on dealing with core businesses

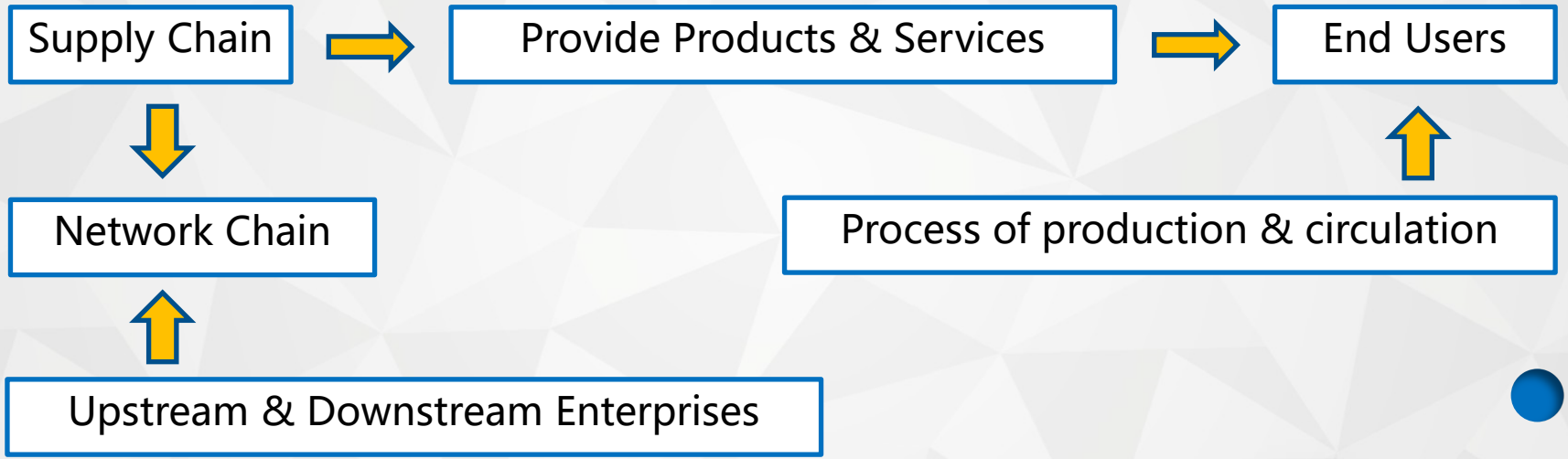
Part 3
Supply Chain Strategy

- ✓ Cost Decreasing
- ✓ Benefit Increasing

Department:
Purchasing dep.
Storage dep.
Transportation dep.

Intro of Supply Chain Centre





Cost Decreasing

Purchasing Department

- **Non-self-supporting material supply**

Plan A: Source Through Tenders

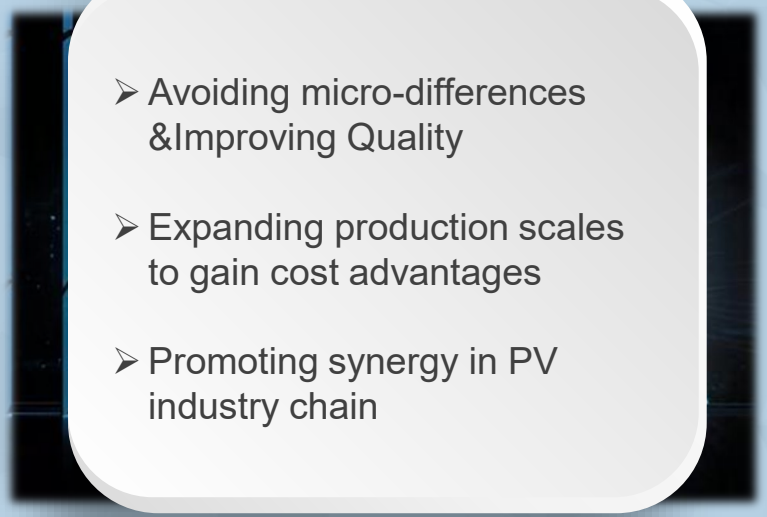
Plan B: Maintain Multiple Suppliers

- **Self-supporting material supply**

Means——**Vertical Integration**

Acquisition Or Independent Operation of raw material supplier

Doing In-House Procurement & Standardization



- Avoiding micro-differences &Improving Quality
- Expanding production scales to gain cost advantages
- Promoting synergy in PV industry chain

Benefits Are Threefold...

Cost Decreasing

Self-making OR Outsourcing?
——Different decision makes different output

Self-making Product A Outsourcing Product B

Hypothetical data

- Initial Cost: $10000
- Can Only Produce Product AA
- Profit From AA: $50000
- Gross Profit: $40000

VS

Self-making Product B Outsourcing Product A

Hypothetical data

- Initial Cost: $9000
- Can Only Produce Product BB
- Profit From BB: $40000
- Gross Profit: $ 31000

Cost Decreasing

Department Storage——
ABC Classification Method

Inventory A

1

Occupied **75%-80%** of total amount

Less then **10%** of specific numbers

Inventory B

2

Occupied **10-15%** of total amount

10-15% of specific numbers

Inventory C

3

Occupied **5-10%** of total amount

More then **75%** of specific numbers

Materials Requirements

Low Inventory ⟷ **Production Method**

Establishing stock management standards

Concentrating large orders & regularly replenishing

Reduce Ordering Costs

Cost Decreasing

Transportation Department

A.Simplifiy transportation system

Make transportation more convenient and improve transportation efficiency

B.Carrying out load-sharing transport

The diversified transportation structure can simplify the transportation mode

C.Optimisating transport route

This includes reducing the overlap of transport routes

Benefit Increasing

Purchasing Department

1.Learn more information
2.Train more professional staff
3.Aggregate procurement statistics

Transportation Department

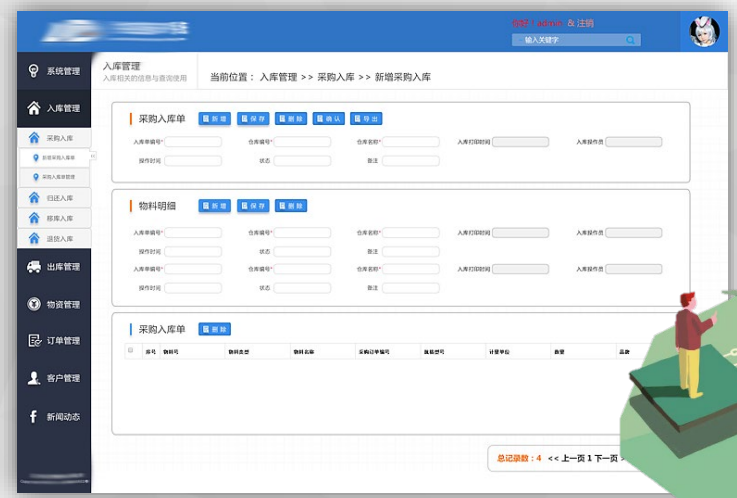
1.Use pool point
2.Use multi-stop strategy

Storage Department

Optimize product classification standards
↓
Accelerate delivery speed

Benefit Increasing

Security + Efficiency = TQCM



Integrating plans

- Upgrade digital system
- Improve risk forecast and time control ability

Setting up ERP system

用友 yonyou

SAP

Kingdee 金蝶

- Collect supplier and customer information
- Make trade flow, capital flow and information flow three in one

Get help from supply chain finance

- Ensure supply chain continuity
- Select professional companies to reach long-term cooperation
  e.g. Shenzhen SPEK

^TQCM: Total Quality and Cost Management

Part 4
Market Strategy

- ✓ Cost Decreasing
- ✓ Benefit Increasing

Department:
Planning dep.
Sales dep.

Intro of Market Centre

Basic Compositions

- Planning Department
- Sales Department

Main Functions

- Collect market information
- Publicize the corporate image
- Promote the corporate brand
- Develop promotional plans to drive sales

Cost Reduction

- Operating expense
- About 950,000￥

Efficiency improvement

- Budget revenue target：730 M
- Sales volume：23%↑

Market Centre-Planning Dep.

Planning Department

- **Pay attention to the national policy adjustment of the PV industry, and analyze the future market situation.**

- E.g. In 2019, the government adjusted subsidies for the PV industry.
——Enter the era of unsubsidized parity Internet access.

- **Pay attention to the changes in sales strategies of main competitors**

- E.g. LingXian PV and MingXi PV
——Absorb their advantages and optimize our sales strategies.

Market Centre-Sales Dep.

Sales Department

Look for new market opportunities.

- Look for market expansion opportunities

E.g. Southeast Asia has an innate advantage in developing PV power generation projects.

- Look for new empty markets.

E.g. do further market research on the developed PV junction boxes and connectors market.

Respond to the green dual-carbon policy and find the best combination of "ordinary products + low-carbon products".

- Bring greater economic benefits.
- Obtain project support, financial incentives, and tax incentives from the government.

Part 5
Production Strategy

- ✓ Cost Decreasing
- ✓ Benefit Increasing

Department:
Junction Box Factory
Connector Factory
Electronic Factory

Intro of Production Centre

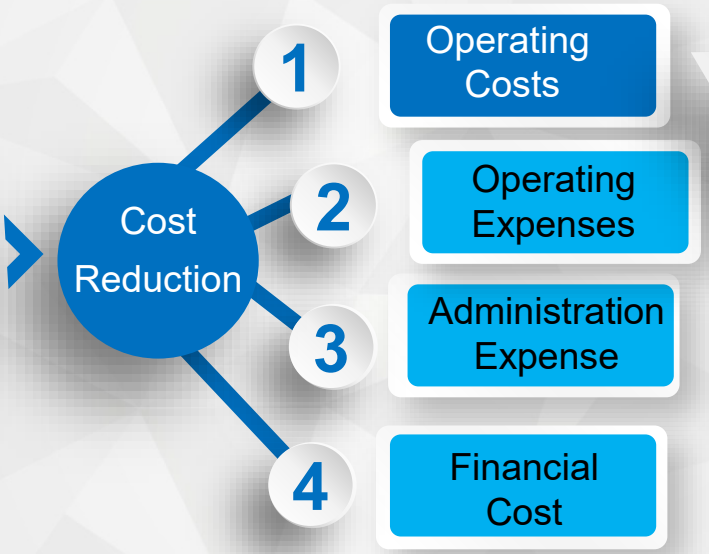
TARGET 2022

Operating Revenue

73,000

Net Margin

7000



the Optimization of Process Management &Production Strategy

the Continuous Focus on the economic benefits of Core Patents&Core Technologies

Reduction of the other Non-Main Business

Reduction on Operating Costs

01 Non-technical core parts

02 Technical core parts

Non-Technical Core Parts

Outsourcing

Benefit

- Low Cost → Save operating costs
  - Office expenses
  - Expenditure of hardware&software resources
  - ...
- High Enterprise Efficiency → Eliminate mechanical repetitive work
  - Managers ↓ Main business activities (effectively add value to the enterprise)

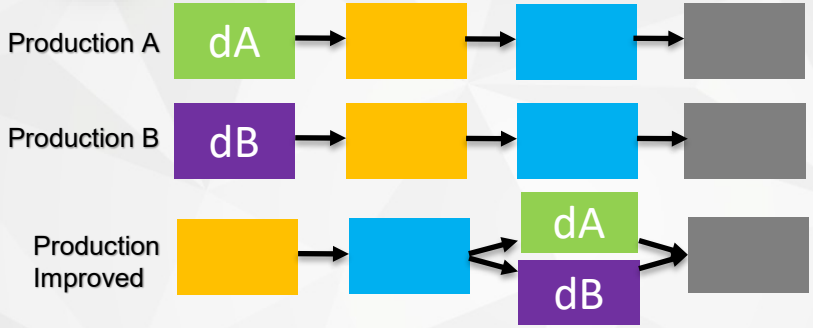
Example

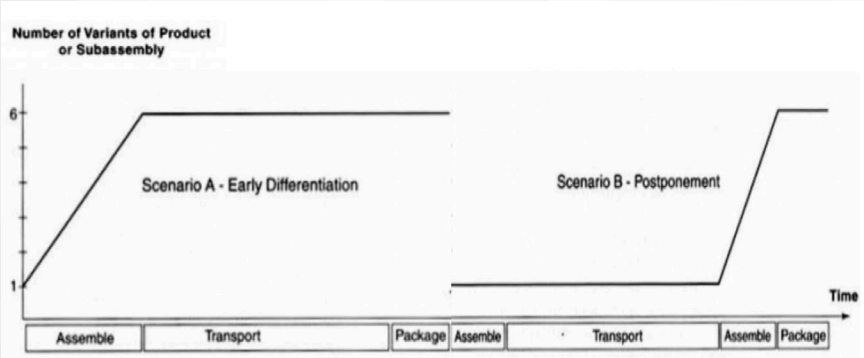
the PV junction box with bottom and the lid
(including copper terminal or plastic terminal)

Technical Core Parts-Cost Control

Standardi-zation

01 Differentiation Delayed Strategy





02 "All in one" Tactics

To integrate two or more products with similar models or the same parts

Benefit

Reduce the total types of products and production costs
Improve efficiency

Example

三合一、二合一（Y型）光伏连接器

Technical Core Parts-Production Strategy

Automation

Benefit

· High working efficiency, improving efficiency on production
· High consistency of products
· High operation accuracy
· Less personnel management cost of enterprises

Example

Background

- Test types and group number is huge (according to National Standard)
- Work load with high repeatability

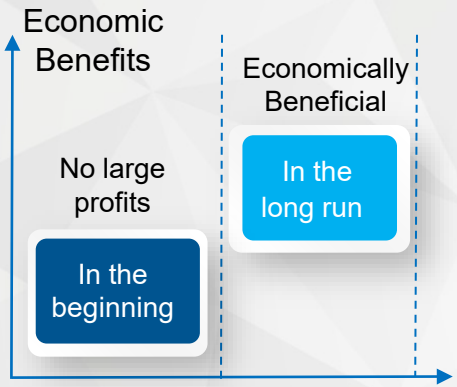
"Automatic Soldering and Seamless Welding Junction Machine"

Function

- Check whether the measuring junction box virtual welding
- Effectively save manpower and time
- Improve the test efficiency
- Reduce the operation error

Technical Core Parts-Production Strategy

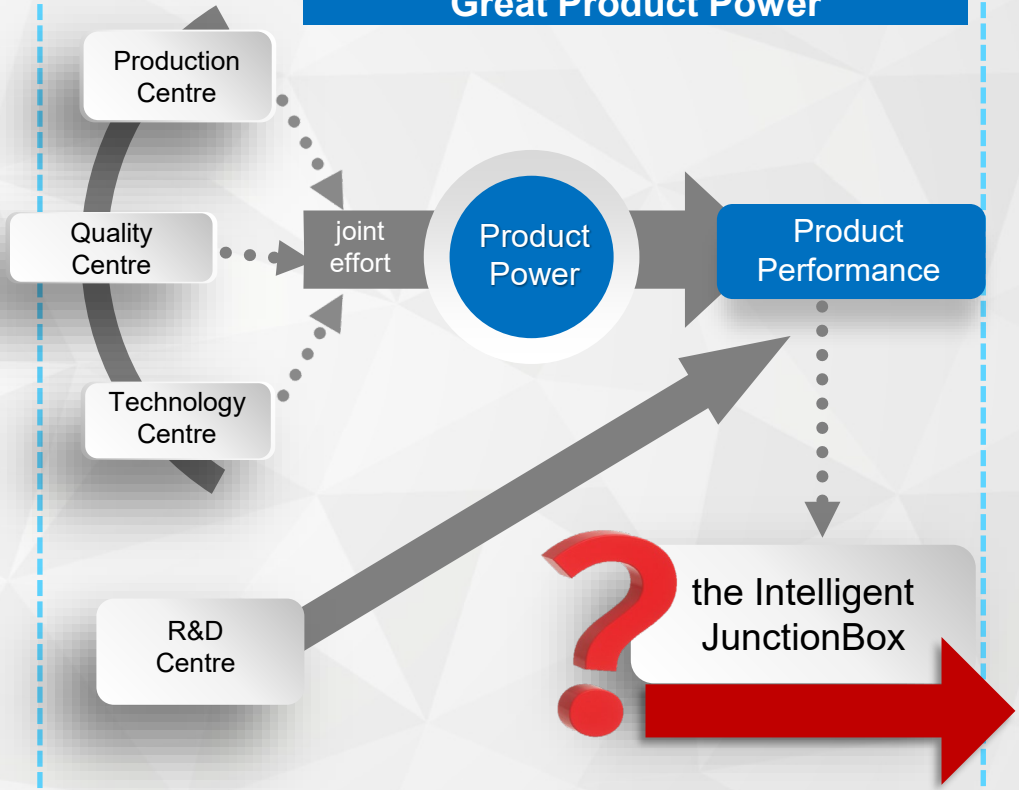
Green Technology Innovation



- ✓ In response to the call of the government
- ✓ Reduction of waste rate
- ✓ Better input-output ratio
- ✓ Rewards and subsidies for relevant national policies

E.g.
Green factory certification

Great Product Power



Part 6
R&D Budget Suggestions

- ✓ TDS & PDS
- ✓ Rationality and feasibility of the 500W
- ✓ Budget Suggestions

R&D Stages

1) Research stage: refers to the original and planned investigation conducted to acquire new scientific or technical knowledge and understand them.

2) Development stage: refers to the application of research results or other knowledge to a plan or design to produce new or substantially improved materials, devices, products, etc. before commercial production or use.

——Accounting Standards for Business Enterprises No. 6 - Intangible Assets

	Technology development ≈Research stage	**Product development**≈Development stage
Target	Master new technology	Realize business value
Content	Feasibility study & Relevant data query	Product design & Production test
Output	Research report & Design idea	Products meeting the market standard
Feature	Exploratory & low predictability	High process certainty
Risk	High technical risk: whether the technical objectives can be achieved	High business risk: whether it is marketable and competitive
Personnel allotment	Top technical experts Focus on quality	Large number of participants Focus on speed

Different Management Priorities

Technology Development → **Human Resource Management (Experts)**

Difference

To keep core elements controllable

Product Development → **Process Management**

TDS——Rolling Plan

Leading Experts

Core work

1st Stage

determined work objectives

1 Month

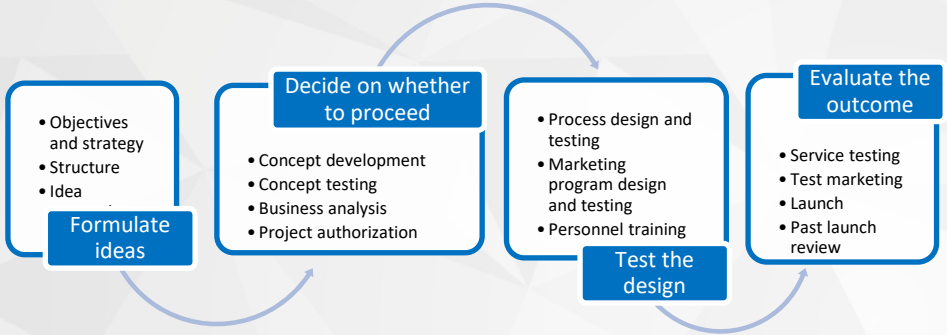
Follow-up

..

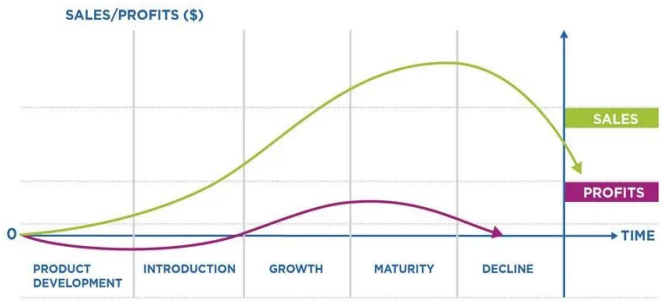
2-n Stage

regular re-inspection to quickly adjust the changes

PDS——Follow the Fixed Process



New Product Development Process (Jones,1996)



Product Life Cycle(Vernon,1966)

- ✓ Follow steps
- ✓ Fast response to changes
- ✓ All departments involved

Financial Center
Help with budget allocation

Personnel Administration Center
Help with schedule management

Market Center
Focus on the changes of market trends

Rationality of 500W

1 Income enough to cover expenses

2021	2022 E
Actual Opening Revenue: 58159w	Target Opening Revenue: 73000w
Actual Invest Rate: 5.0%	Average Investment Rate: 4.9%
Actual R&D Expense: 2910w	Target R&D Expense: 3577w

Difference > 500W

2 Fast recovery of funds

Traditional junction box

Average price:18.58
Average gross profit: 20%
Output 1: 5000000/ (18.58*20%)
=1345532.83 (set)

Intelligent junction box

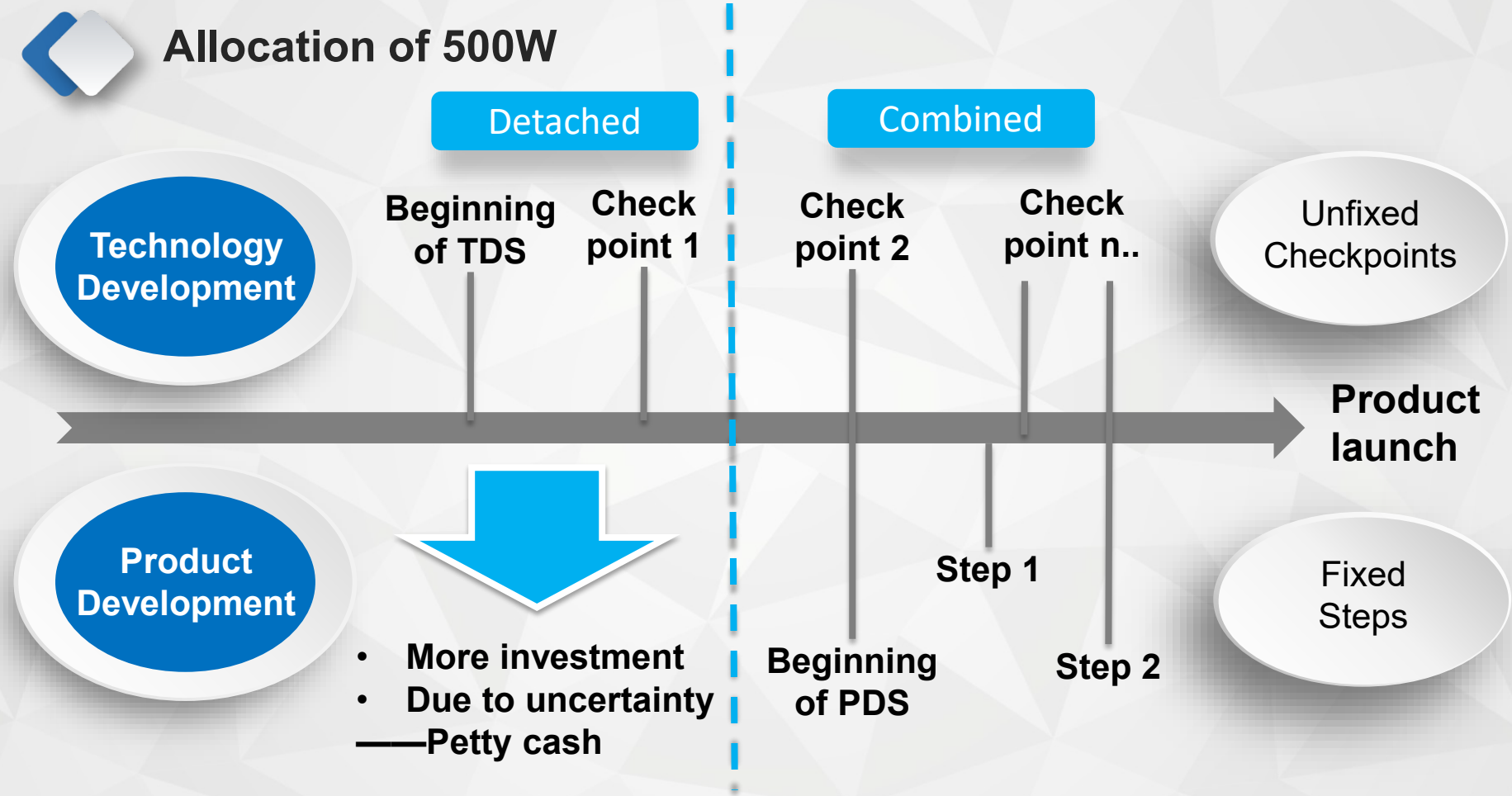
Average price:92.59
Average gross profit: 55%
Output 2: 5000000 / (92.9*55%)
=97586.93 (set)

Output 1> Output 2

- “The sales price of intelligent junction box is 5-6 times higher than that of traditional junction box (average price is 18.58￥)”
- “The gross profit rate of can reach 55%”

——QC Solar (SuZhou) Co., Ltd.

Allocation of 500W



Suggestions on Budget

Zero-based Budgeting

- Start from zero rather than historical statistics
- analyze activities from the actual needs

Performance Evaluation

- Salary incentives for personnel
- Stimulate work enthusiasm

Expense VS Capitalization

	E	C
Generation Stage	TDS/PDS	PDS
Predictability	N	Y
Affected Accounts	R&D Expense	Intangible Assets

- Actual R&D expenses < 500w
- Formulate reasonable standards for expenditure capitalization

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