



# Financing Electricity Sector to Meet SDG7 Electricity access and Role of DoED

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## 5. Outline of the Presentation Contd...



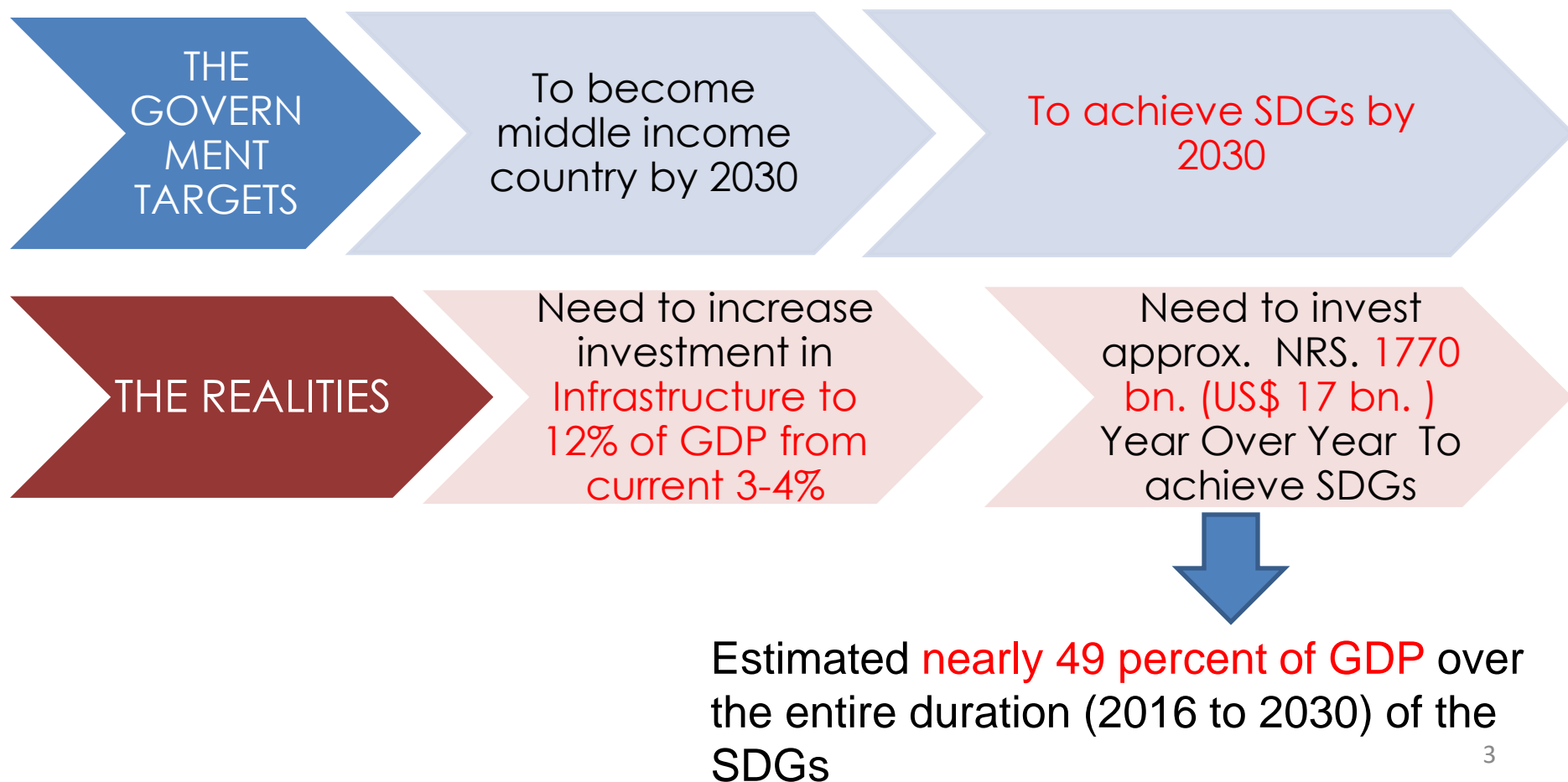
1. Government major targets
2. Sustainable Development Goals
3. Specific targets for SDG7 and white paper 2075
4. Domestic Financial Resources
5. Financing in Electricity sector
6. Project Finance Participants
7. Role of DOED



# 1. Government Targets



We envision Nepal as a developing country by 2022





## 2. Sustainable Development Goals contd...



SDGs proposed a set of 17 SDGs with 169 targets for the period 2016 to 2030.



For generating, sharing and sustaining prosperity through **collaborations and coordinated efforts** of Government, Private sectors, NGOs, Cooperatives, Financial Institutions, Development partners

SDG 1 - End poverty in all its forms everywhere

SDG 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture

SDG 3 - Ensure healthy lives and promote well-being for all at all ages

SDG 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

SDG 5 - Achieve gender equality and empower all women and girls

SDG 6 - Ensure availability and sustainable management of water and sanitation for all

**SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all**





## 2. Sustainable Development Goals



- SDG 8 - Promote sustained, inclusive and **sustainable economic growth**, full and productive employment and decent work for all
- SDG 9 - **Build resilient infrastructure**, promote inclusive and sustainable industrialization and foster innovation
- SDG 10 - **Reduce inequality** within and among countries
- SDG 11 – Make cities and human settlements inclusive, safe, resilient and sustainable
- SDG 12 – **Ensure sustainable consumption** and production patterns
- SDG 13 – **Take urgent action to combat climate change** and its impacts
- SDG 14- Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- SDG-15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- SDG 16 – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive
- SDG 17 – Strengthen the means of implementation and revitalize the global partnership for sustainable development



### 3. Sustainable Development Goals 7 & White Paper



**Sustainable Development Goal 7:** Ensure access to affordable, reliable, sustainable and modern energy for all.

**Targets By 2030,**

- (i) universal access to affordable, reliable and modern energy services,
- (ii) increasing substantially the share of renewable energy in the global energy mix
- (iii) doubling the global rate of improvement in energy efficiency.

#### **Specific targets for SDG 7**

- accessibility of 99 % households to electricity;
- reduction to 30 %- from nearly 75%  
- the households who resort to firewood for cooking; limiting the use of LPG to less than 40 % of the households;
- generation of 15,000 MW of installed capacity;
- electricity consumption increased to 1500 kWh/capita/person

#### **Targets in white Paper of Ministry of Energy, Water Resources & Irrigation**

**To enhance Energy Security, Generation Mix in the system has been proposed (for generation of 15000 MW in the next 10 years of which 5000 MW for export purpose, consum. of Electricity : 1500 kWh/hr/person)**

- **Storage/pumped stor. project : 30- 35%**
- **Peaking ROR project : 25 to 30 %**
- **Run-of-River Project :30 to 35 %**
- **Solar & other renewable energy:5 to 10%**



## A. Capacity of Nepalese Financial Institutions:

- Current Deposit - Rs. 3,210 Bn. , Yearly Growth - 15%
- Hydropower Financing - 5% as per NRB rules
- Total yearly Capacity of Investment = **24 Bn.**

## B. EFP/CIT/Retirement Funds

Current Fund - Rs. 450 Bn. (some of the deposits are multiple counted in BFIs)

Loan to Retiree and depositors - around 70%

### **Yearly Capacity**

Yearly growth of Fund -  $20\% = 450 \times 0.20$  = NRs. 90 Bn.

Loan to depositors =  $90 \times 70\%$  = NRs 63 Bn.

Possible new investments = NRs. 90 - NRs. 63 BN = NRs. 27 Bn

Yearly capacity of Investment in hydro sector = 33 % of NRs. 27. = **NRs. 8.9 Bn**

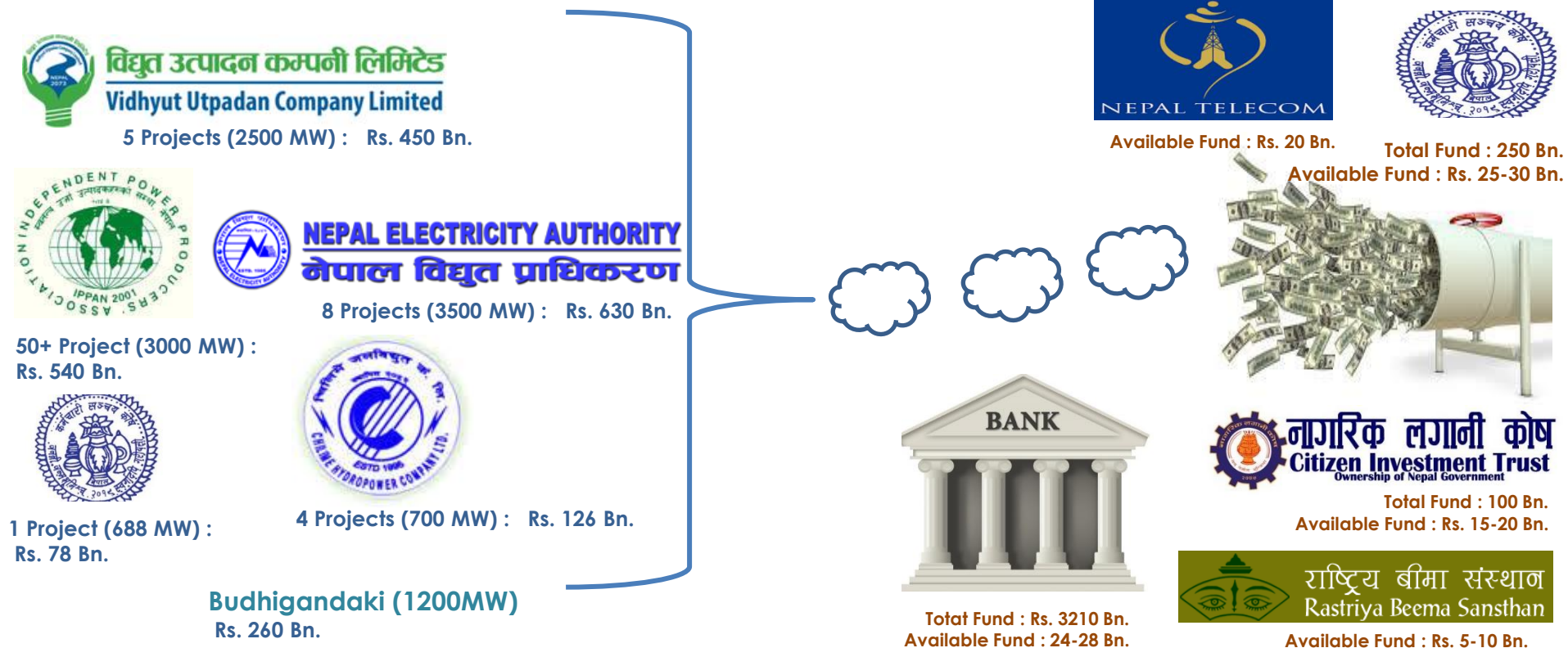
## C. Local Capital Market

Around 60% of the hydropower companies shares are trading under face value and investors are shied to invest in hydropower stock. The recent example of Himat Dolakha hydropower, which is under subscribed by 60%. The fund could be raised may be around =NRs. **22 Bn**

**Yearly fund available for Investment in hydropower from local resources Rs. =24+8.9+22= NRs. 32.9 Bn. (288 mill US\$)**



- Nepal needs around USD 15 -18 Bn. for the development of 10,000 MW



NRs.1824 Bn

NRs. 86 Bn, if all available money is invested in only hydrosector





# Domestic Financial Resources



Year	Budget Size, NRS	MOEWRI Budget	Tentative Local Resources for Generation and Transmission				Tentative Investment requirement	Surplus/Deficit
			GoN	Local BFIs	Equity and Capital Market	Total local resources		
							Amount in NRs. Bn	
2019	1,511.08	83.49	438.96					
2020	1,646.77	105.38	42.15	32.90	22.00	97.05	300.00	(202.95)
2021	1,825.99	121.67	48.67	36.19	24.20	109.06	300.00	(190.94)
2022	2,047.20	134.71	53.89	39.81	26.62	120.31	300.00	(179.69)
2023	2,301.31	150.66	60.26	43.79	29.28	133.33	300.00	(166.67)
2024	2,576.49	168.22	67.29	48.17	32.21	147.67	400.00	(252.33)
2025	2,874.23	189.57	75.83	52.99	35.43	164.25	400.00	(235.75)
2026	3,202.15	213.78	85.51	58.28	38.97	182.77	400.00	(217.23)
2027	3,568.39	240.64	96.25	64.11	42.87	203.24	400.00	(196.76)
2028	3,979.68	270.66	108.26	70.52	47.16	225.95	400.00	(174.05)
2029	4,440.96	304.32	121.73	77.58	51.87	251.18	400.00	(148.82)
2030	4,956.27	342.28	136.91	85.33	57.06	279.31	400.00	(120.69)
	Total	2,241.90	896.76	609.68	407.69	1,914.12	4,000.00	(2,085.88)



## Financing in Electricity Project through PPP basis

Public sector : Equity, Debt portion

Private sector(IPPs) : Equity portion

Foreign sector: through foreign direct investment

Domestic and foreign banks/financial institutions : Debt portion

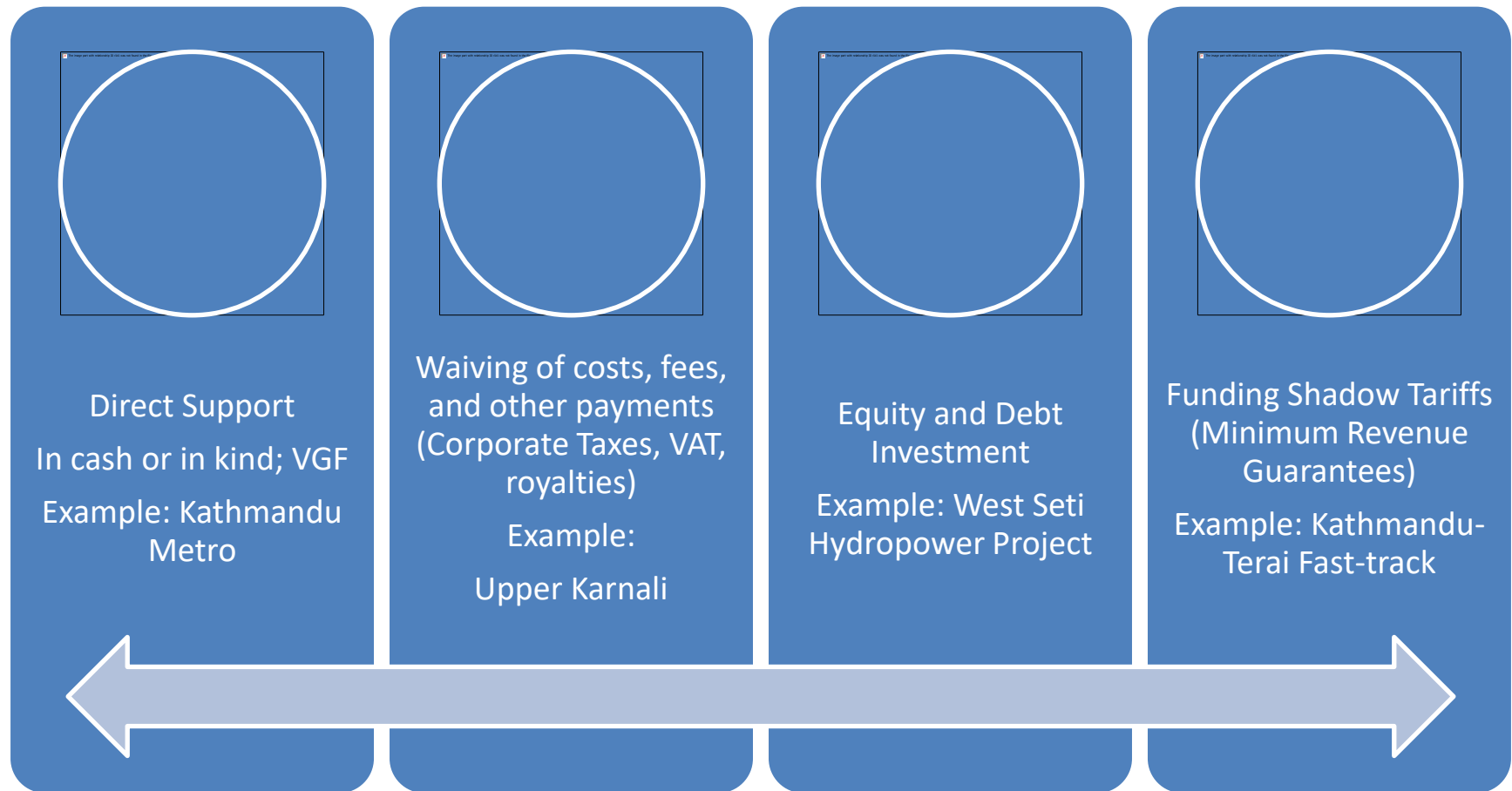
Public Private Partnerships (PPPs):

## Types of Financing

1. Government funding
2. Recourse financing
3. Limited Recourse financing
4. Non-recourse financing



## 1. Government Financing in PPPs



Government can raise debt at a lower interest rate than private institutions



## 2. Recourse Financing

**Recourse Financing** is a method of financing where the **DEBT** is backed by collateral from the borrower.

The lenders like recourse financing because it protects them:  
They are assured some repayment, either through cash or assets  
The cost of capital is less compared to non-recourse financing  
because there is less risk in lending

ALSO known as BALANCE SHEET FINANCING





## 3. Limited Recourse

Lenders will seek additional credit support (in addition to assets of the project)  
Rationale: Hedging against downside performance of the projects

Lenders also use this avenue to save ensure no poor performance by the Project Proponents



## 4. Financing PPP Projects: Non-Recourse Financing

Project finance is a method of funding major infrastructure projects.

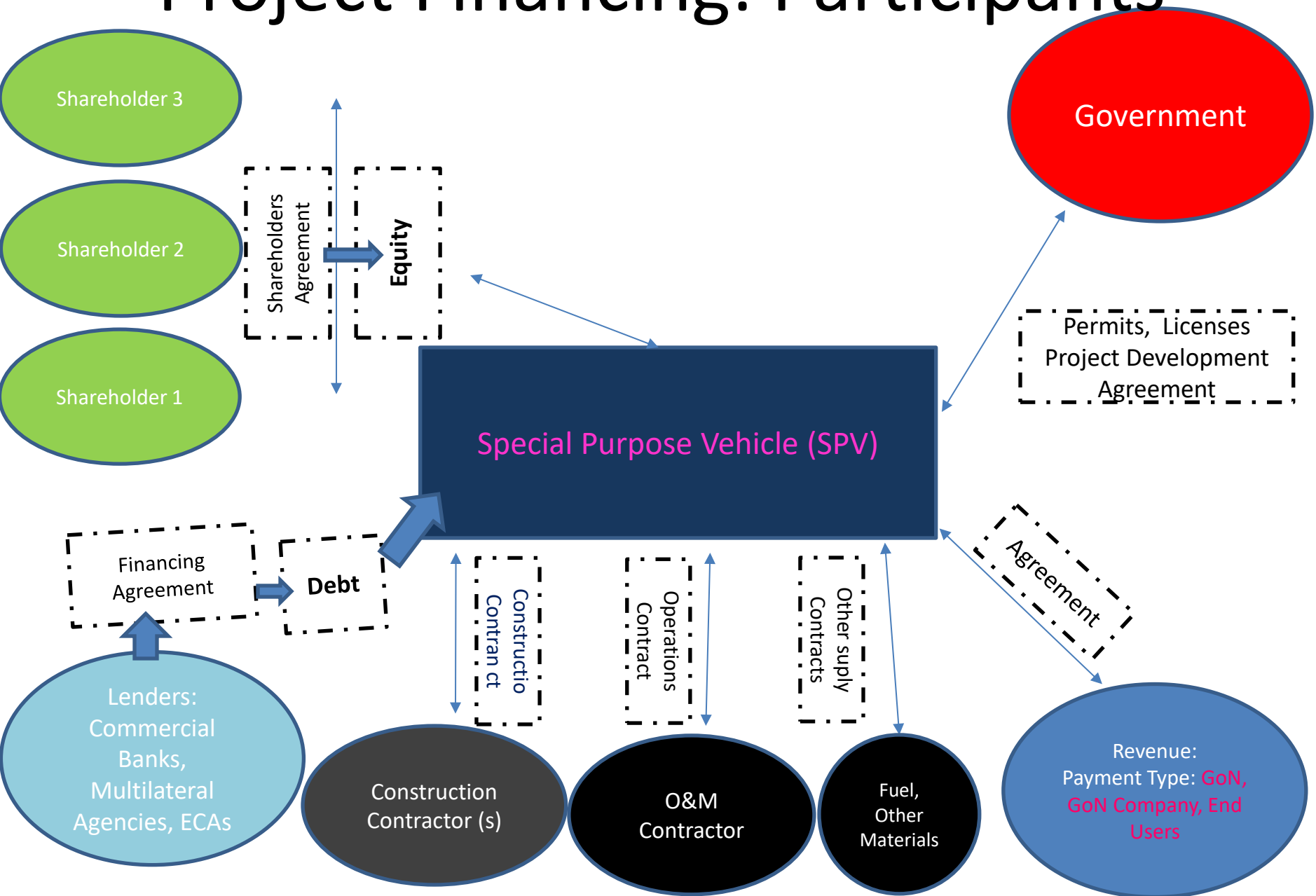
Non-recourse funding:

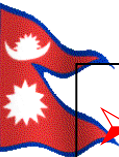
Funding required to cover debt comes from the revenues generated by the project AND NOT from project sponsor guarantees

The assets of the project will be the **collateral** for the debt

- Lenders need to perform **substantial due diligence**
- The cost of borrowing for non-recourse lending is **HIGHER** than that of recourse lending

# Project Financing: Participants

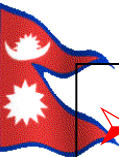




## **DOED to act as a study and promotional body**

- To play level playing field to all participants involving in the power sector
- Carry out study of hydropower projects to prepare bankable project reports to be developed
- To enhance transparency and competitive in awarding the project license
- To provide facilities or recommend to provide explosives, foreign currency exchange, work permit, Non-tourist visa, security arrangement
- Review of reports and recommendations of IEE/EIA report





## **DOED to act as a study and promotional body and to act as one stop shop for power developers**

- **Recommend to provide VAT, TAX exemption for construction equipment, machines required in the project**
- **Monitoring of project being studied, constructed and operated**
- **Compliance of terms and conditions in the licentections, Project Development Agreement and approved IEE/EIA report**
- **Protection of the Project area allocated to one particular project and preparing and maintain project database**
- **Protection of water rights to developers**
- **Protection from change in law and tax**
- **Collection of royalty from developers**



**THANK YOU !**