

Towards Myanmar's Green Leapfrog Development: Opportunities and Challenges with focus on Energy and Water sectors

Third Green Economy Green Growth Forum
IGES Parallel Session
21 November 2013, Yangon

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WHY Green Growth?

- Myanmar attracting a significant amount of global interest.
- With 60-million people, a sizable pool of low-cost labor, and rich mineral and energy resources, much of this interest has focused on the country's untapped growth potential.
- **Two scenarios to move forward:**

(1) The grow-first, clean-up later model

- Involve leveraging the country's labor force to extract natural resources with little regard for attendant environmental, economic, and social impacts.

**Multi-
benefit!**

(2) The green growth model

- Involve establishing policy frameworks and governance architectures needed to leapfrog unsustainable development stages and harmonize social, environmental, economic priorities.

State of Environment

Water

- Abundant water resources, but limited usage. Hydropower is the most highly developed renewal energy source.

Energy

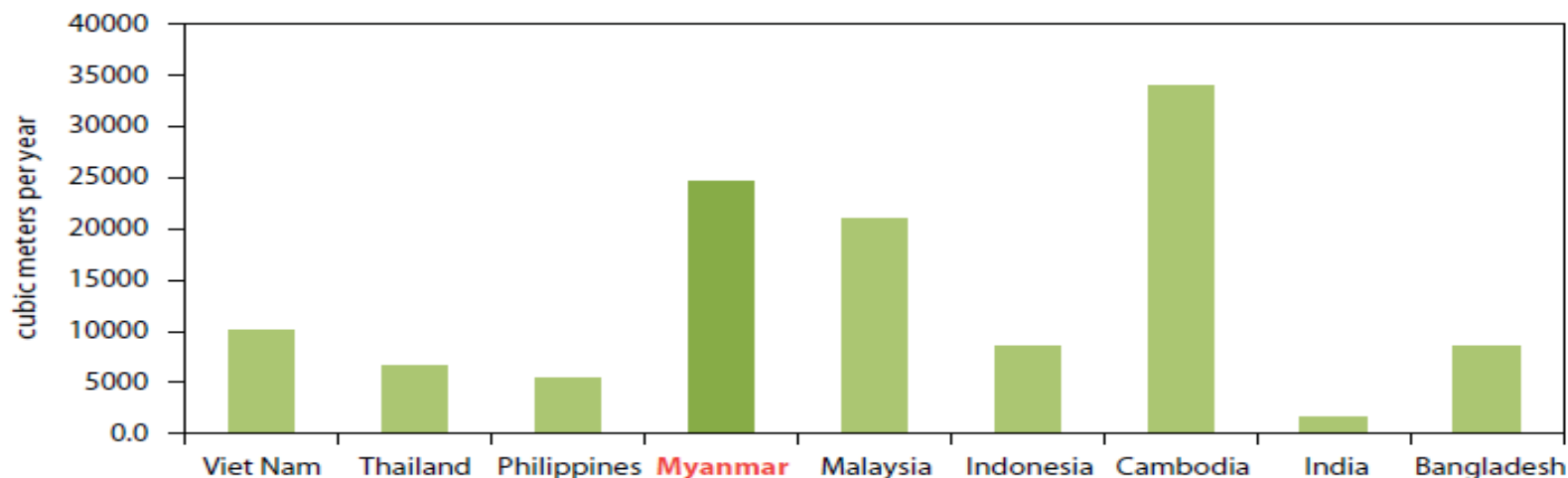
- Limited access to electricity (30% of total population)
- Conventional energy consumption is still low, with nearly two thirds from charcoal, fuel wood and biomass.

Others

- Forests accounted for 61% of total land area in 1975, and decreased to 47% in 2010.
- Municipal solid waste in Myanmar consists of organic waste (73%), paper and cardboard (18%), wood (4%), plastic (2%), textile (2%), and other materials (1%)
- A primary source of air pollution stems from the transport sector, with the number of vehicles on the road doubling since 2004, to close to 2 million.
- Severely affected by extreme weather events.

Water Sector

Renewable water resources per inhabitant in neighboring countries (2012)



Source: FAO-Aquastat 2012

Performance MDG7 Improved Drinking Water Source (%)

Myanmar		Indonesia		Malaysia		Thailand		Vietnam	
Earliest Year	Latest Year	Earliest Year	Latest Year	Earliest Year	Latest Year	Earliest Year	Latest Year	Earliest Year	Latest Year
57 [1990]	69 [2010]	71 [1990]	80 [2008]	88 [1990]	100 [2008]	91 [1990]	98 [2008]	58 [1990]	94 [2008]

Source: ADB (2012)

Water policies and institutions

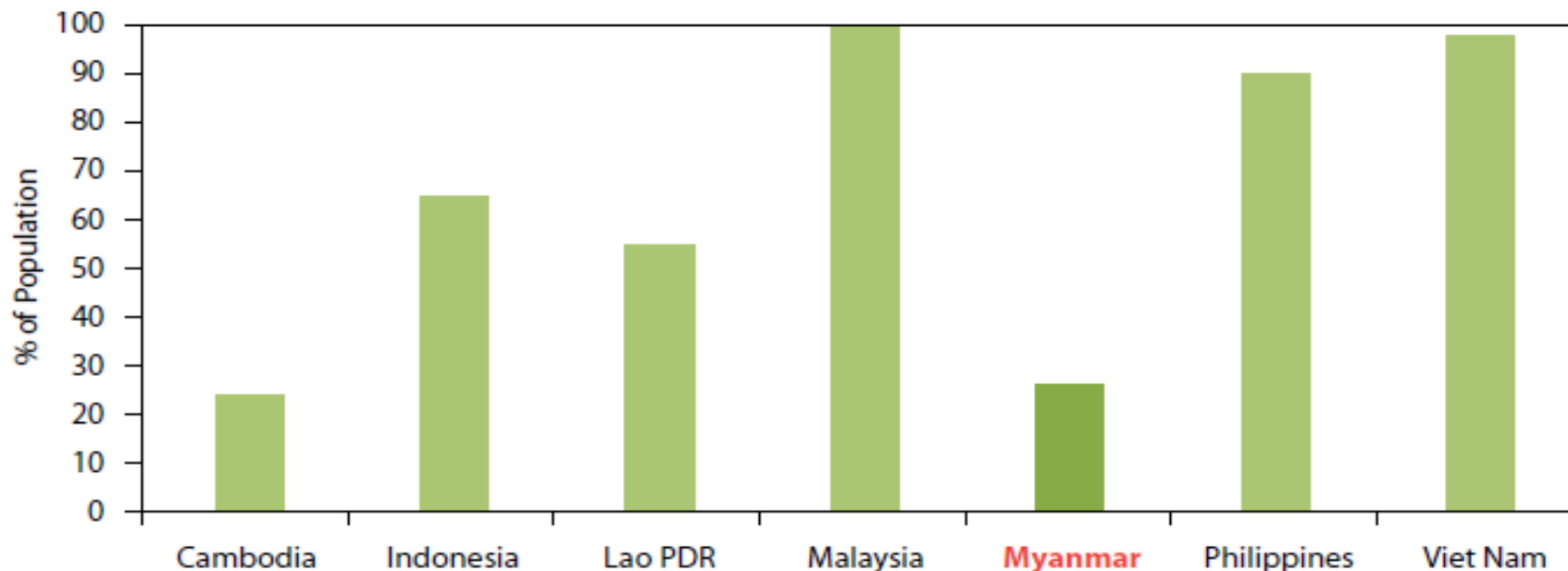
- No single law that covers all aspects of water resources.
- No particular agency responsible for overall management of national water resources.
- Institutional reforms emerging
 - Establishment of National Water Resource Committee (NWRC) in 2005
 - Proposal to upgrade NWRC into Myanmar Water Commission (October 2012)
- Challenges in implementation and financing water sector.



Energy Sector

Myanmar has limited access to modern energy

Access to electricity in neighboring countries (%/population) (2012)



Lao PDR = Lao People's Democratic Republic.

Note: The graph plots 2009 data, except for Myanmar, 2011.

Source: WB-WDI 2012 and data provided by MOEP-1 to the September 2011 ADB mission.

Energy Sector cont.

Energy sector is the biggest FDI

Share of energy investments in accumulative foreign direct investment to Myanmar (total 43901.7 million USD).

No	Sector	Number of Enterprises	Approved amount of investment	Share
1	Power	7	19284.432	43.93
2	Oil and Gas	115	14372.272	32.74
3	Mining	68	2833.734	6.45
4	Manufacturing	287	3456.306	7.87
5	Hotel and Tourism	50	1599.711	3.64
6	Real Estate	22	1229.15	2.8
7	Livestock & Fisheries	26	347.474	0.79
8	Transport & Communication	16	313.906	0.72
9	Industrial Estate	3	193.113	0.44
10	Agriculture	12	191.961	0.44
11	Construction	2	37.767	0.09
12	Other Services	12	41.892	0.1
	Total	620	43901.72	100

**More
than 75 %**

Energy Policies and Institutions

- Policy reforms emerging through development of the **National Framework of Economic and Social Reforms (FESR)**
 - ⌘ Governance and Transparency (FESR-2012)
 - ⌘ Extractive Industries Transparency Initiative (FESR-2012)
 - ⌘ Expansion of Electrical Power Supply on a Fast Track Basis
 - ⌘ Energy Pricing and Subsidy (FESR-2012)
 - ⌘ New Foreign Investment Law (forthcoming)
- A large number of Government departments, agencies and offices are involved in the energy sector.
- Institutional reforms emerging;
 - ⌘ Proposal made for establishing a new Directorate for Renewable Energy Resources Development and a new Directorate for Energy Efficiency Improvement and Conservation Program etc.

Recent progress, potential and challenges

	General environment	Energy sector	Water sector
General characteristics	<ul style="list-style-type: none"> Rich endowment in natural resources, including forestry and biodiversity Growing environmental concerns in urban area, such as air and water quality, waste management and traffic congestion 	<ul style="list-style-type: none"> Rich endowments of in gas (and hydropower) Biggest FDI destination Gas as a significant source for government revenue Limited access to electricity 	<ul style="list-style-type: none"> Rich per capita availability of freshwater Sedimentation of rivers Increasing pollution
Recent progress	<ul style="list-style-type: none"> High level political support Increasing institutional and policy reforms Adoption of ECL as a foundation for specific laws Upgrading of the former MOF to MOECAF 	<ul style="list-style-type: none"> Number of policy and institutional reforms Aims at achieving ASEAN energy target 	<ul style="list-style-type: none"> National Water Resource Committee established in 2005
Policy and institutional challenges	<ul style="list-style-type: none"> Weak position of environment within overall Myanmar's national interest Limited human and financial capacity Limited inter-ministerial coordination 	<ul style="list-style-type: none"> Lack of long-term integrated energy planning and implementation Lack of transparency and energy policy and pricing mechanism (ADB, 2012) Limited data 	<ul style="list-style-type: none"> Environmental and social impacts of hydropower dam projects No single law that covers all aspects of water resources No particular agency responsible for overall management of national water resources

Green-frog!!

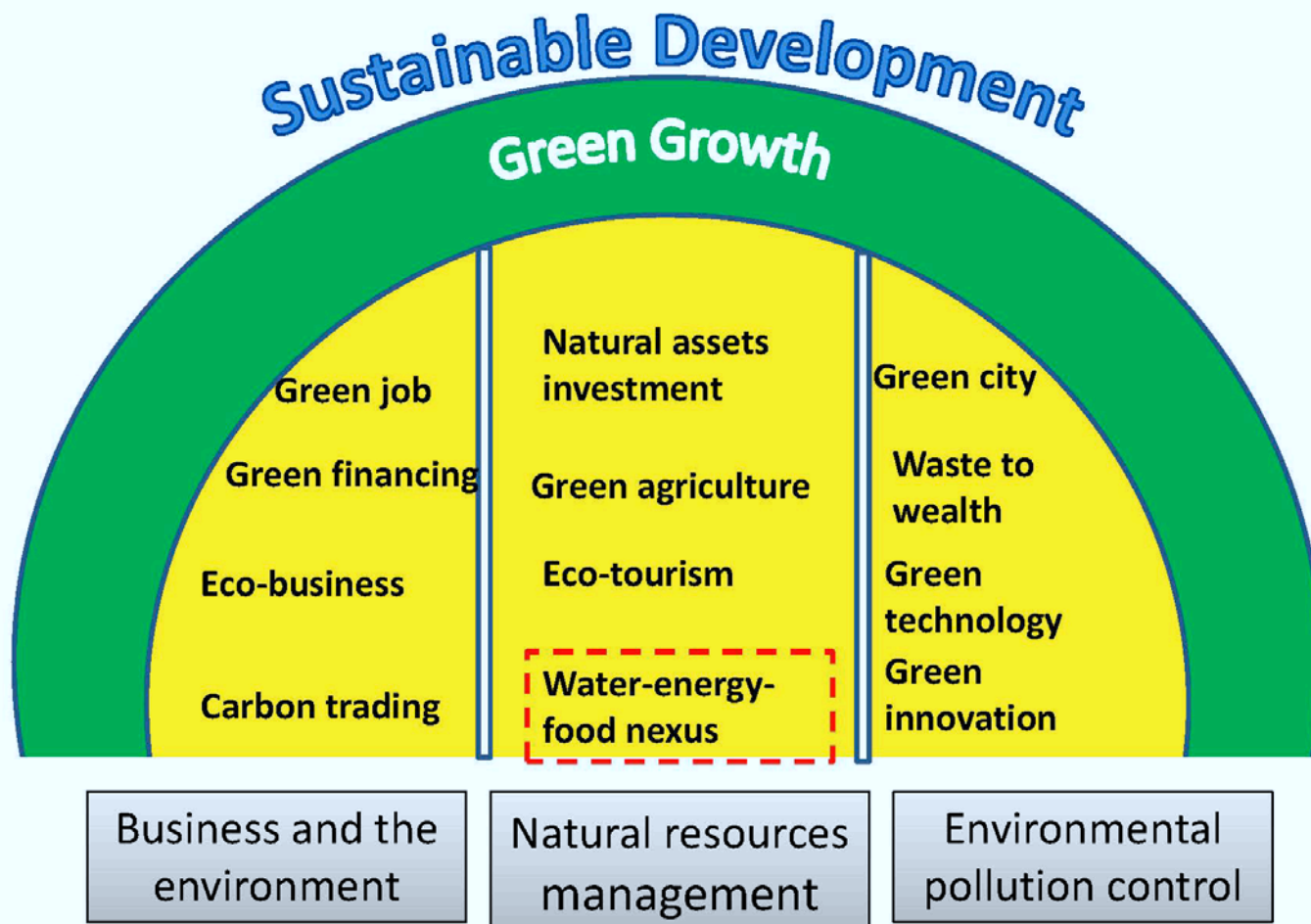


Source:
www.livingaloud.com

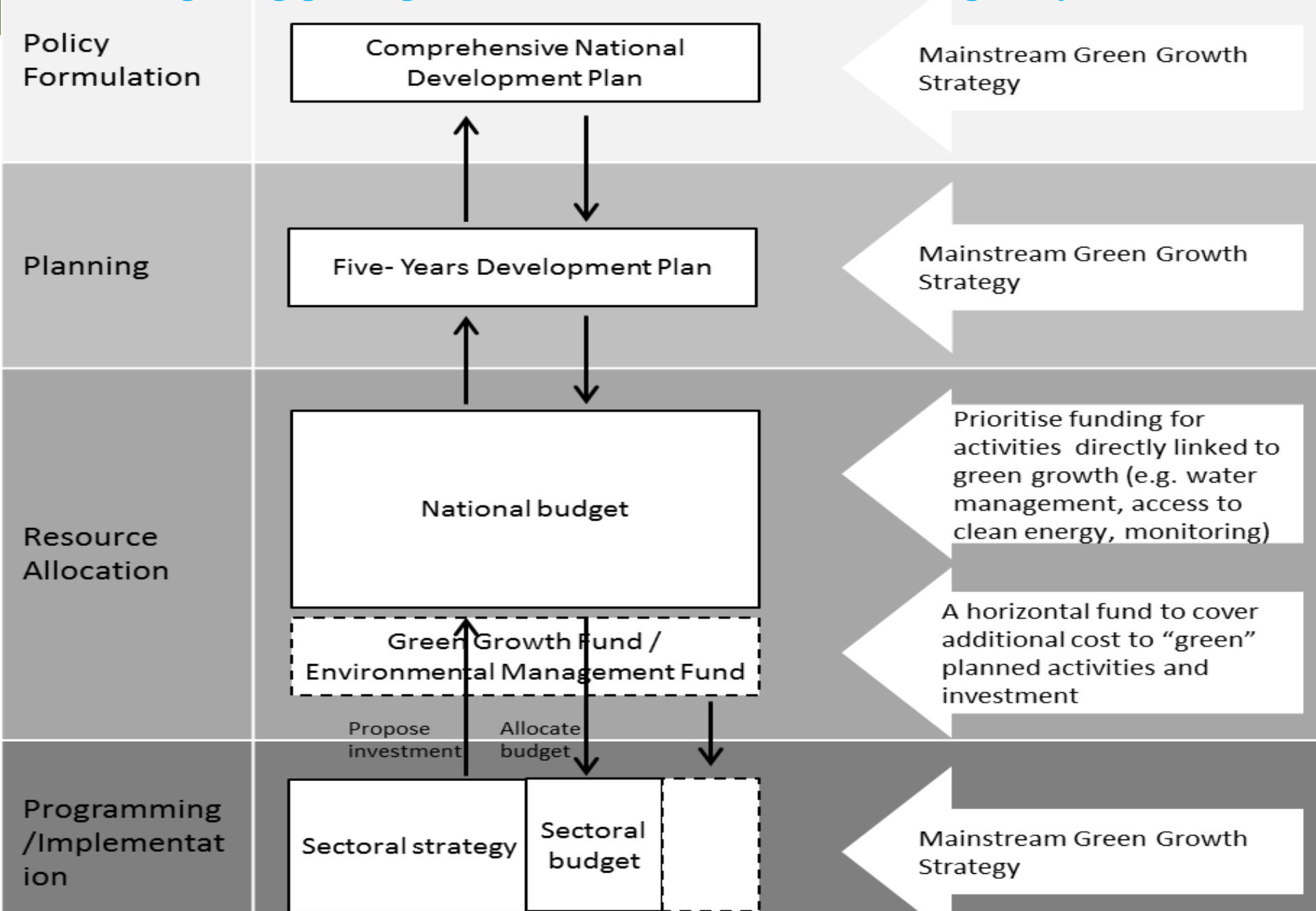
The Way Forward

- Myanmar has significant potential to **leapfrog** ahead of its ASEAN neighbors and to learn from regional and global best practice.
- **Mainstream the idea of green growth in Myanmar's development planning**
- **Strengthen environment-related bodies**
- **Learning from and working with neighboring countries (South-South cooperation)**

Strategies of green growth in sustainable development



Integrating green growth into national decision-making in Myanmar



Environmental Conservation Law as a benchmark to green sectoral policies

ECL		Selected sectors	
Chapter	Main Texts	Water	Energy
I-II	(Definitions, objectives) Environmental Quality Standards/Audit/ Pollution/Waste etc.		
III	(Environmental Conservation Committee) Inter-ministerial coordination/financial and technical assistance		
IV	(MOECAAF's mandate) Planning, implementation, M&E, donor coordination, EIA/SIA, establishment of Environmental Management Fund	✓	✓
VI	(Environmental Quality Standards) Water quality, air pollution, and waste etc.	✓	
VII	(Environmental Conservation) Monitor environmental conservation (i.e. waste, pollution)	✓	
VIII	(Management of Urban Environment) Land, water, air, noise etc.) etc.	✓	✓
IX	(Natural Resources and Cultural Heritages)	✓	✓
X-XIV	(Prior Permission, Insurance, prohibitions, Offences and Penalties, and Miscellaneous)	✓	✓

Thank you very much for your attention!



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