Evaluating the INDCs of Mexico, Russia, EU and US

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Intended Nationally Determined Contributions

- Intended Nationally Determined Contributions or the INDC were a crucial outcome of the Warsaw summit in 2013
- 'Intended' suggests that the intended contribution may not be the eventual contribution inscribed in the 2015 agreement as 'Nationally Determined Contributions' (NDC)
- 'Nationally--determined' points to a bottom-up or facilitative approach, leaving the framing of contributions, solely to nations
- 'Contributions' leave their nature open- commitments or actions- what kind of actions?
- Legal nature of contributions yet unresolved

Mexico and Climate Change

- Mexico's emitted 458 $MtCO_2$ in 2011 and per capita emissions are 3.84 tCO_2
- Mexico, a developing country is vulnerable to climate change impacts in form of cyclones, droughts, flood and landslides. Average temperature increase by 0.85 degree C
- Projected mean annual temperature change by 1 deg C and 1.5 deg C. Annual Precipitation reduction in the range of 10 to 20 %
- Annual economic losses – **48 million USD** between **1980-1999** and **1.4 billion USD** between **2000-2012**

Mexico's INDC Components

A) Mitigation

B) Adaptation

- Mitigation- Cutting down of emissions and Adaptation is coping up with climate change impacts
- Under Mitigation, Mexico has **unconditional** and **conditional** commitment
- **Unconditional Reduction-** 22% of GHG reductions and 51 % of Black Carbon (Short Lived Climate Pollutants) by 2030
- **Conditional Reduction-** GHG reductions of 36 % and Black Carbon reductions of 70% in 2030 subject to finance, technical cooperation, transfer, capacity building

Adaptation

- Agenda includes protection of communities from adverse impacts of climate change

- Increase the resilience of communities by
  -establishing early warning systems,
  -risk management at every level of government,
  -capacity building and participation
  -Relocate human settlements in disaster prone areas

- To strengthen the adaptive capacity by 50 % of the municipalites (319) in the category of 'most vulnerable'

- Increase resilience of ecosystems by
  -Reaching a rate of 0% deforestation by 2030
  -Reforest high, medium and low water sheds
  -Increase carbon capture and strengthen coastal protection
  -Integral management of water

- Promote strategic infrastructure
  -infrastructure relocation programmes in high-risk zones
  -urban and industrial waste water treatment
  -diversifying of sustainable agriculture

Planning Process

- General Climate Change Law, 2012
- National Strategy on Climate Change
- Carbon Tax 2014
- National Emissions and Emissions Registry 2014
- Energy Reform (laws and regulations), 2014
- New set of standards and regulations

Assessment

- A significant step is the General Law on Climate Change (LGCC in Spanish), one of the world's first climate laws in 2012 - and the first in a developing country. Under this law, Mexico aims to reduce its emissions by 50% from 2000 levels by 2050

- Mexico's INDC includes Black Carbon. Since Black Carbon stays in the atmosphere for just few days or weeks, its effects are largely local, pertaining mostly to health

- Additionally, reductions in Black Carbon are generally not additional to reductions in CO_2 emissions

Russia's INDC

- In 2011, emitted 1712 Mt CO_2, GDP = $ 32,16,935 million
- Target- reducing GHG emissions by 25-30% from 1990 levels by 2030. Russia's INDC states that this subject to "**the maximum possible account of absorbing capacity of forests**"
- Further it states that the pledged emissions level "might be a long-term indicator"
- Time Period- 2020-2030
- Russia's INDC is an economy-wide target and includes all greenhouse gases.

LULUCF (Land Use, Land-Use Change and Forestry)

- Under the United Nations Framework Convention on Climate Change any process, activity or mechanism which removes a greenhouse gas from the atmosphere is referred to as 'Sink'

- Forests, vegetation act as natural sink and Human activities related to land-use, land-use change alter the balance of carbon

- Increasing sinks are recognized way of mitigation action under the Kyoto Protocol

Assessment of INDC

- The INDC states that this target is subject to "the maximum possible account of absorbing capacity of forests." After accounting for forestry this is a reduction of only **6% to 11%** below 1990 levels of industrial GHG emissions which is extremely low than EU or US

- Given Russia's projected forestry sink of around 0.5 $GtCO_2e$ in 2030 (Russian Federation, 2014a), it is estimated that Russia's proposed commitment for 2030 allows emissions of industrial GHG to grow significantly from the current levels to 3.0 to 3.2 $GtCO_2e$ in 2030

European Union

- EU has 28 member states, latest Croatia (joined in 2013). Total Emissions were 3667.37 Mt CO_2 in 2011

- GDP (million $) in 2011- 1,68,11,791

- Has been fore-runner in domestic actions and proposals in an attempt to set standards for the world. Actions include passing and ratification of Kyoto Protocol, European Climate Change Programme (ECCP), ETS in 2005 and Vision 2020 in 2007.

- Jose Manuel Barroso, European Commission President (2004-2014) gave a famous statement ,*"If the EU did not exist, we would create it to deal with the challenge of climate change"*

EU and INDC

- Only mitigation component present in the INDC
- "***binding*** target of ***at least*** 40 % domestic reduction in greenhouse gas emissions by 2030 compared to the year **1990**". EU says that it is in line with its 2050 target of 80-95 % compared to 1990
- Would include LULUCF in mitigation framework
- EU and its member states have reduced their emissions by around 19 % on 1990 levels while GDP has grown by 44 % during the same period
- From 1990, average per capita emissions across the EU have fallen from 12 tonnes CO2 eq in 1990 to 9 tonnes CO2 eq in 2012.
- The current target of 40 % reduction will result in per capita emissions of 6 tonnes CO2 eq. in 2030

Planning Process

- Sectors covered are energy, industry, Agriculture, Waste and Land-Use, Land-Use Change and Forestry
- Current domestic legally binding legislation for 2020 climate and energy package
- New proposals to implement the 2030 targets to be submitted in 2015-2016

Assessment

- EU's former climate commissioner Connie Hedegaard believes that 50 percent is ambitious but not practically possible
- Currently-implemented policies are projected to reduce domestic emissions by 23–35% below 1990 levels and hence do not—yet—put the EU on a trajectory towards meeting either its 2030 or 2050 target
- Land Use, Land Use Change and Forestry (LULUCF) accounting into 2030 GHG mitigation framework but the accounting rules would come after 2015 and before 2020
- Perhaps, the EU can specify that its language in the INDC which is '***atleast*** 40 % reductions' would imply only GHG gases and would not account land-use accounting

- INDC does not clarify whether the 40% reduction goal is set against an industrial greenhouse gas emissions baseline in 1990, or whether LULUCF emissions and/or removals are to be included in the base year, and if so how

- Since, accounting rules would come after the Paris agreement 2015, it would be difficult to quantify EU's 2030 proposal before Paris

US and INDC

- Emissions- 5,333.06 Mt CO_2 , GDP = $ 1,55,33,800 million
- The United States is not a Party to the Kyoto Protocol. While a target of a 7% reduction below 1990 was originally negotiated, the US never ratified the Protocol and the target never came into force
- INDC mentions reducing net GHG emissions by 26–28% below 2005 in 2025
- The US has also pledged to reduce net GHG emissions by 17% below 2005 levels by 2020
- The USA stated the targets are in line with the US long-term goal of reducing emissions by 83% below 2005 by 2050

Planning Process

- The “Clean Power Plan,” announced in 2014, aims to reduce emissions from the power sector by 30% below 2005 levels by 2025

- Clean Air Act under which
- -new regulations would in place for new and existing power plants
- -promulgate post-2018 fuel economy standards for heavy-duty vehicles
- Standards to address methane emissions from landfills and the oil and gas sector

- It also has an Energy Policy Act

- Energy Independence and Security Act

  -develop energy conservation standards for a broad range of appliances and equipment

  -building code for residential buildings

Assessment

- Net GHG emissions by 26–28% below 2005 in 2025 is equivalent to only 14–17% below 1990 levels much less than the EU's target of 20 % by 2020 and 40 % by 2030

- The US has also pledged to reduce net GHG emissions by 17% below 2005 levels by 2020 which is equivalent to about 4% below 1990 levels)

- Problems with accounting approach: meaning the targets are set against base year emissions (2005) that are net of industrial GHG emissions and removals from the land sector. The uncertainty in the land sector and large fluctuations reported indicate uncertainty in the reduction in industrial greenhouse gas emissions.

- According to some estimates, 26% reduction target in net emissions would likely result in 24% actual reduction
- US actual target turns out to be even lesser than what is pledged
- According to estimates, complying with present policy measures would reduce emissions to 5820 $MtCO_2e/a$ in 2020 – (about 19% below 2005), **5660 to 5670 in 2025** (about 22% below 2005)
- To achieve even the current targets, US needs new policies and acts

Country's Targets

- US - 14 -16 % by 2030 against 1990 levels
- EU- 40% by 2030 against 1990 levels
- Russia- 6- 11 % by 2030 against 1990 levels

Are the INDCs adequate

Emitter (announced pledges)	Annual Emissions (GtCO2e)			
	1990	2005	2010	2030
EU (40% below 1990 levels by 2030)	5.4	4.9	4.4	3.2
US (28% below 2005 levels by 2025)	5.4	6.2	5.9	3.8
China			10.8	15.3
(EU-US-China) total			**21.1**	**22.3**
% total			**45%**	**39 %**
Rest of the World			**26.2**	**35.4**
			55%	**61%**
Total Global Emissions			48.5	59

Source: Stern, 2015

- Total global emissions are projected to be around **59 $GtCO_2$ eq.**

- However, according to UNEP 2014 report, inorder to prevent global warming to 2 degree C, the amount of emissions in 2030 should be between **46 to 48 $GtCO_2$ eq**

- **Thus, the current pledges are not sufficient and need to be scaled drastically up**

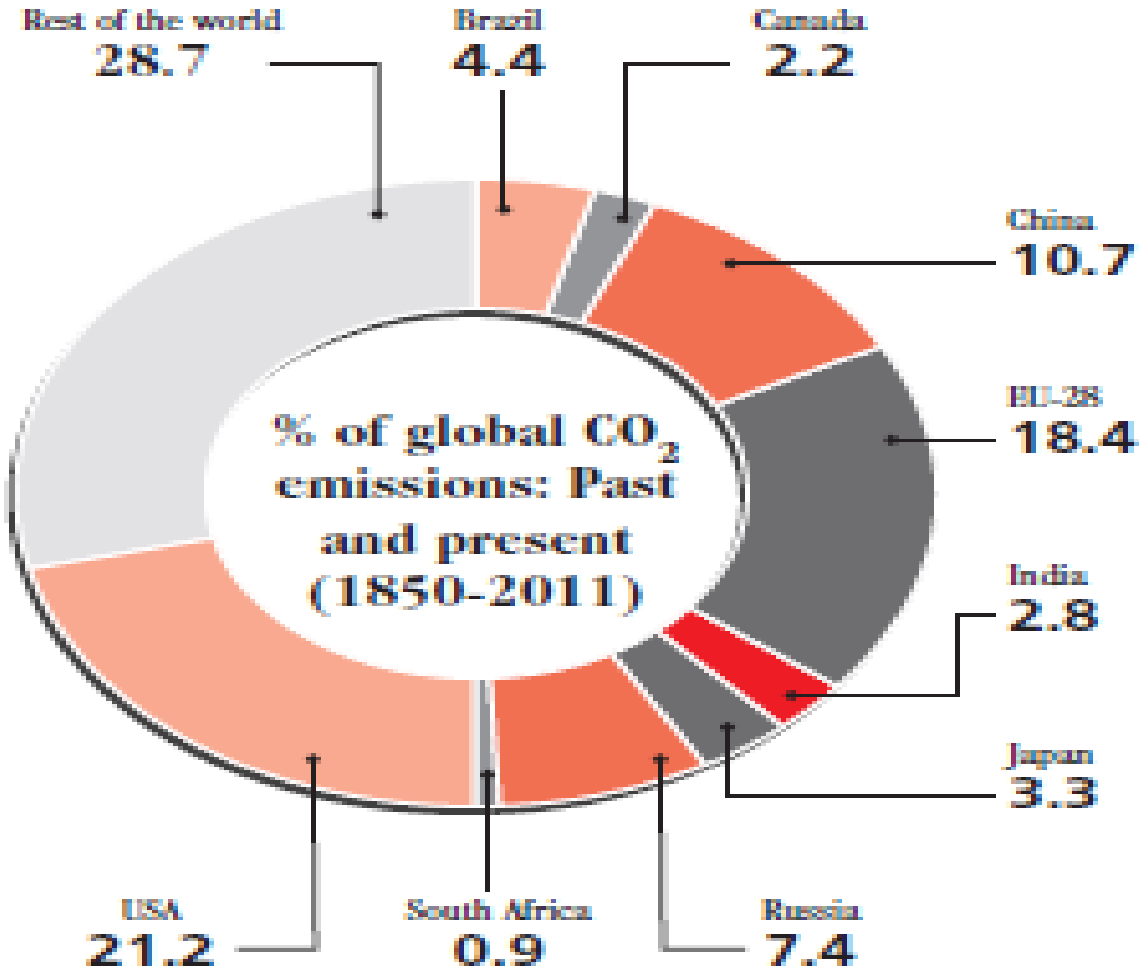
Historical Responsibility and Equity

- The UNFCCC considering responsibility in that it notes a historical responsibility dimension in its pre-ambular paragraph mentioning countries "*to take more responsibility who are responsible for its creation*"

- Equity explained in the concept of CBDRRC

- The Convention's Article 3, boldly captured the concept of CBDRRC, stating that "*Parties should protect the climate system for the benefit of future and present generations of human kind on the basis of equity and in accordance with their common but differentiated responsibility and respective capabilities. Accordingly, developed countries should take the lead in combating climate change and the adverse effects thereof*"

Historical Responsibility



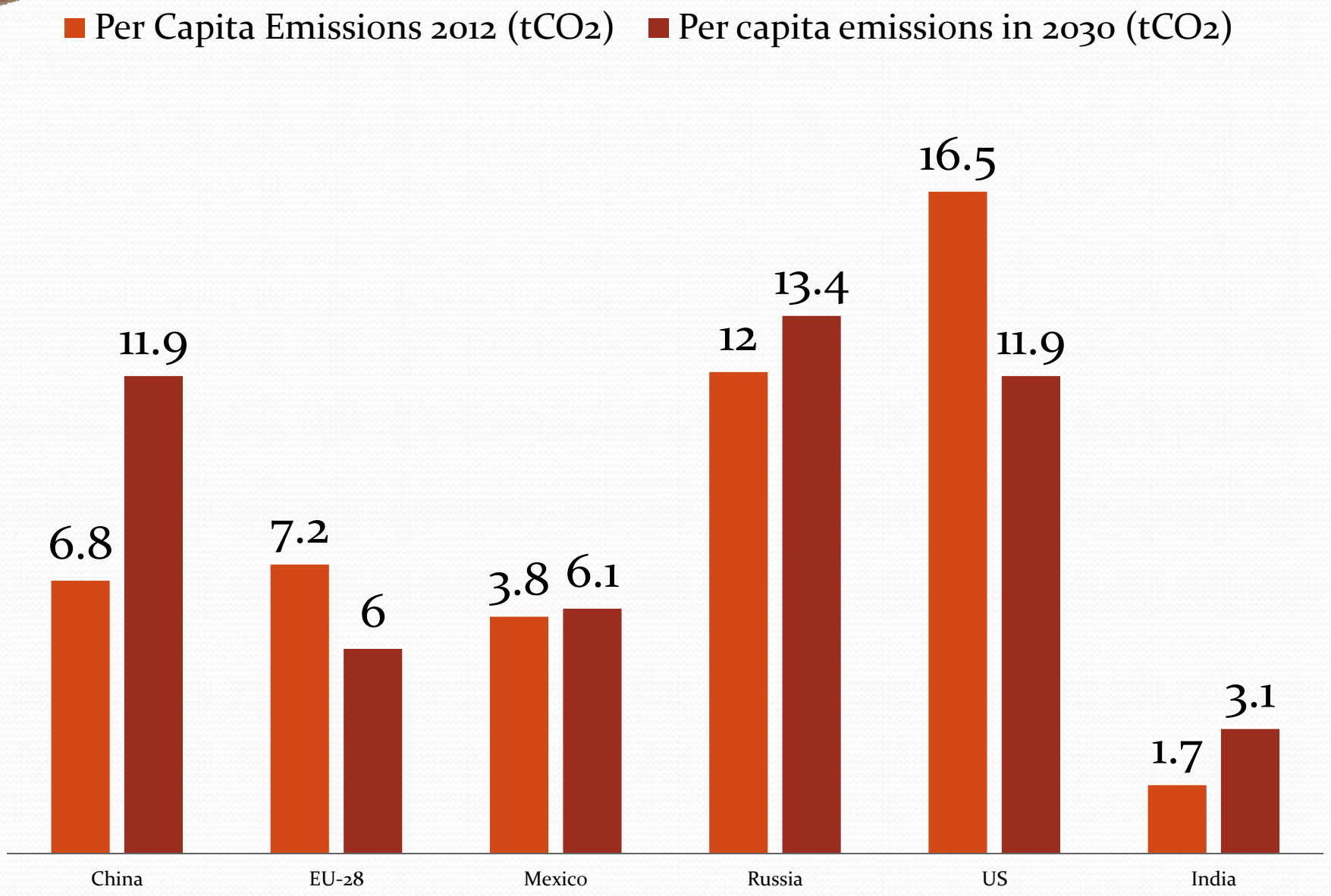
Source: CSE Factsheet 2014

CO2 emissions in (GtCo2)

Country	1850-1949	1990-2011	Projected(2012-2030)	1850-2011	1850-2030
USA	140.8	123	91.4	**411**	502.5
EU-28	118	91.3	58.9	**356.3**	415.2
China	44.3	99.6	265.4	**208.4**	473.8
Russia	28.7	37.7	32.1	**142.6**	174.7
India	12.4	26.2	61.5	**53.5**	115

Source: WRI, 2014

Per Capita Emissions



Human Development Index

Country	HDI Value	Rank
US	0.914	5
EU	0.735	-
Russia	0.732	57
Mexico	0.729	71
China	0.719	91
India	0.586	135

UNDP, 2013

Equity diluted in climate negotiations

- Equity has been clearly diluted over the years in climate negotiations
- The Lima Text mentions '*common but differentiated responsibility, in light of national circumstances*' thereby altering the principle of Convention for the first time
- Now only an external reference mechanism can bring equity back on the agenda
- Synthesis report to assess aggregate effect of contributions to come out in November before Paris Summit 2015