

# **Review of revised paper of Peng et al. (2016) “Inventory of anthropogenic methane emissions in Mainland China from 1980-2010.**

**18 September 2016**

## **Correspondence to Anonymous Reviewer #2.**

### **Upfront note**

The authors did improve the paper on the spatial distribution, documenting in section 2.3 and Table S1 the method and proxy datasets used. I would still have expected some recommendation on the seasonality. The latter does not have to be a full set of monthly profiles, but an evaluation of what is so far used in chemical transport models and its representativeness (e.g. taking into account certain habits, frequency of rice yield per year, etc.).

### **General comments**

- 1) The authors addressed the question of abandoned mines fully. Can the authors also add something with regard to the coal fires (IPCC category 7)?
- 2) The authors addressed in full the spatial proxy data in section 2.3 and Table S1.
- 3) The authors should not only take into account the second communication of China to the UNFCCC with the 2005 inventory but also the first communication with the inventory of 1994 (in the middle of the 31 years which the paper addresses). Moreover the authors should include these two points in Fig. 2. For section 4.1 I also would recommend to enlarge the comparison description in the first 5 lines with the first national communication. For the last lines of this first paragraph, I would recommend to clarify the last part of the sentence (“is under investigation by the EDGARv4.2 team”), given that this investigation since 2013 (when Bergamaschi noted this slope error) meanwhile might have been concluded.

### **Concerning the enriching of the paper content**

For the points 1), 3) and 4) it would be worthwhile that the authors provide in the introduction of their paper an indication of what the reader can expect and what not. This could include recommendations for the temporal distribution, the frequency of the inventory update, and an outlook on the reduction potentials (indicating the sectors of interest for a future study).

Concerning point 2), for the sake of clarity, it would be nice to repeat in the introduction the definition of “Mainland China” for the full period. That Taiwan islands are not included is only part of it, Macao (as established nowadays) differs from the years before 1999 in status. It is important for inventory compilers to know exactly which regions/provinces the activity data include for the full period (also in the period before 1999).

### **Specific comments**

These were addressed in a satisfactory way.