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Promotion of manual drilling in Guinea

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Unlocking the
Potential of
Groundwater
for the Poor



Water supply in Guinea



In Guinea, more than 35% of population in rural areas has no access to safe water supply

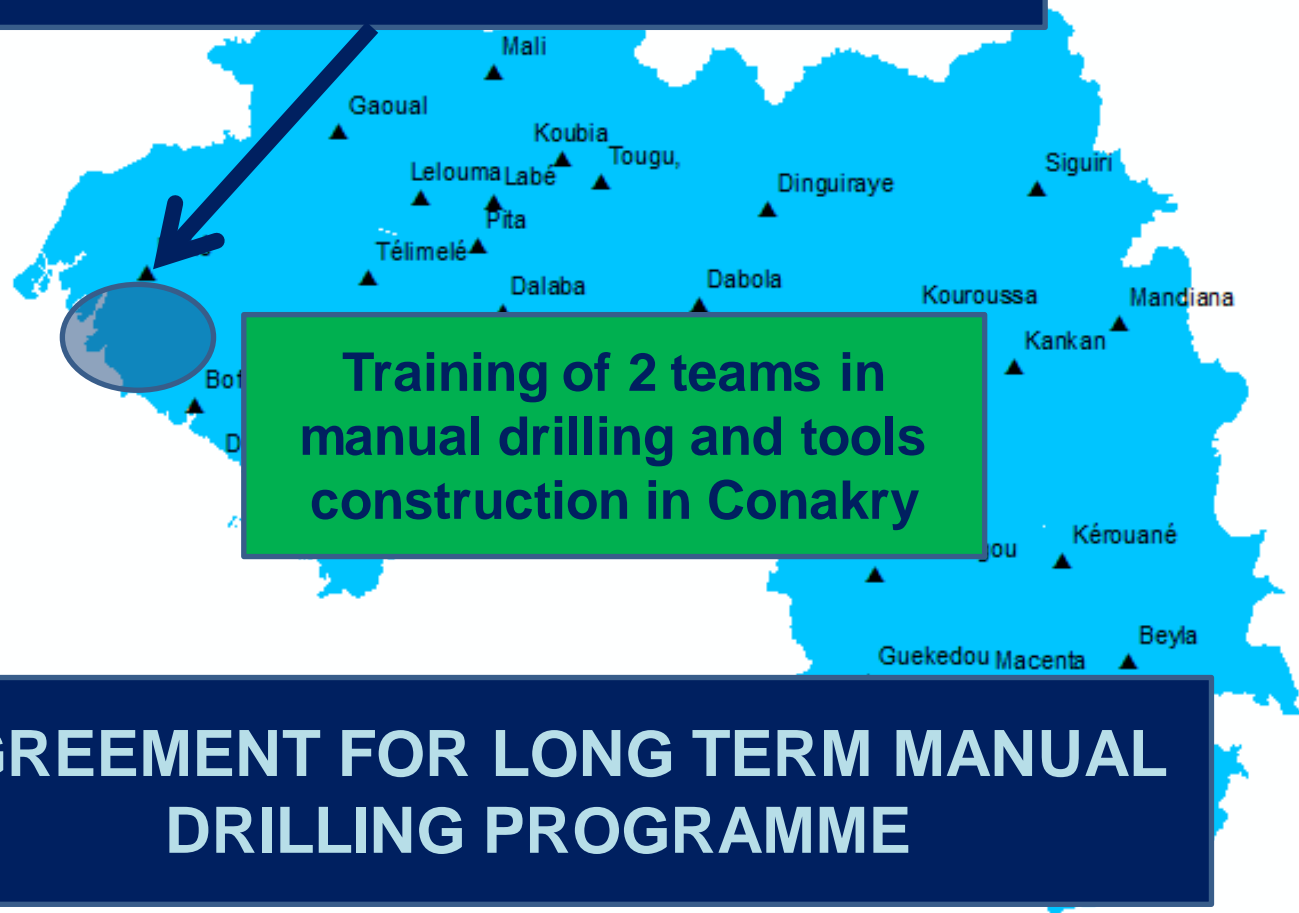
More than 12.000 safe water points are required to meet MDG

This target cannot be achieved with mechanised drilling because of high cost and lack of equipment in the country

From 2011 manual drilling (drilling boreholes using human or animal power) is considered a valid option and has been included in the national strategy to improve water supply in Guinea

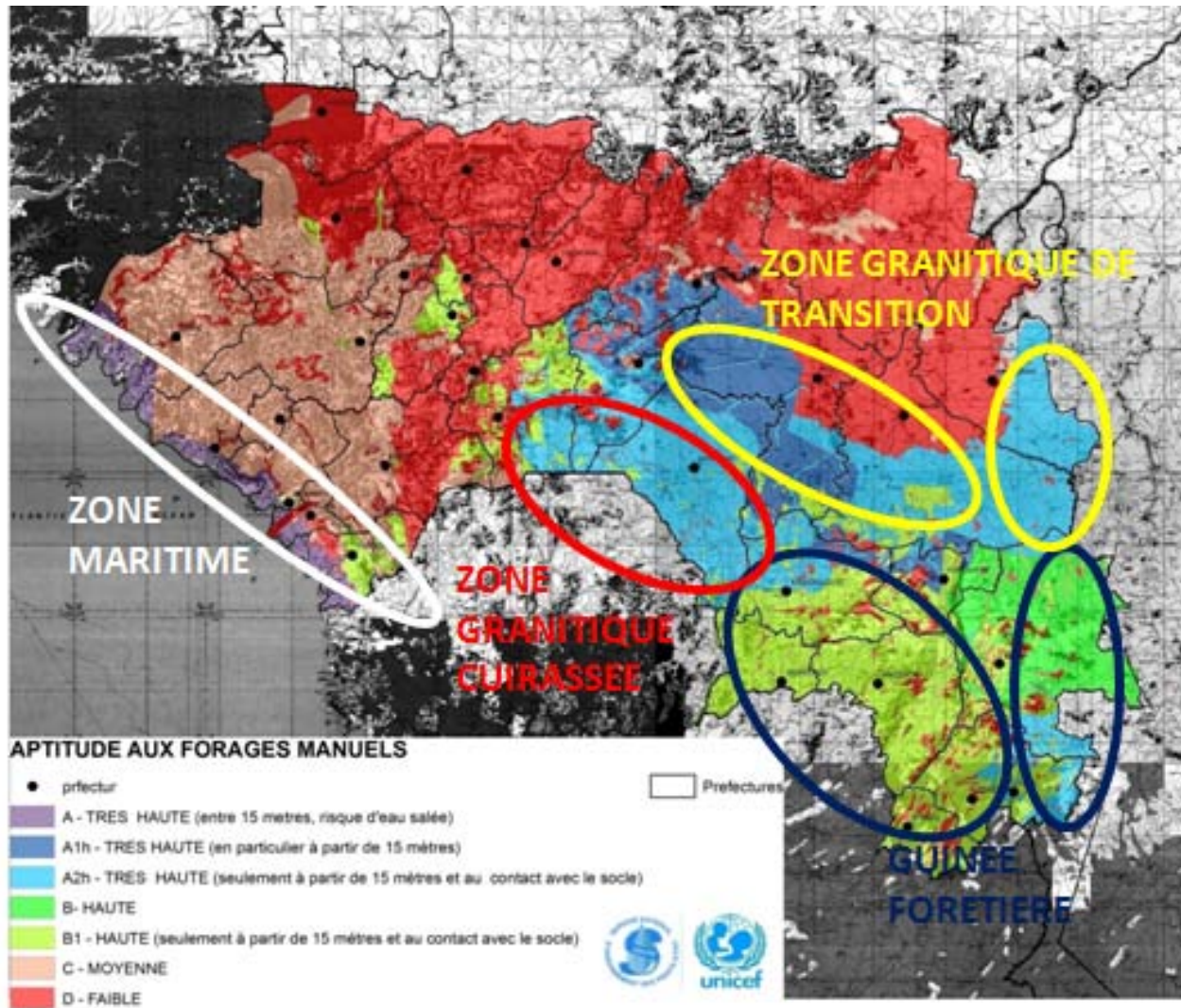
The first positive experience (2011)

15 Hand drilled wells in the coastal region (9 were successful)

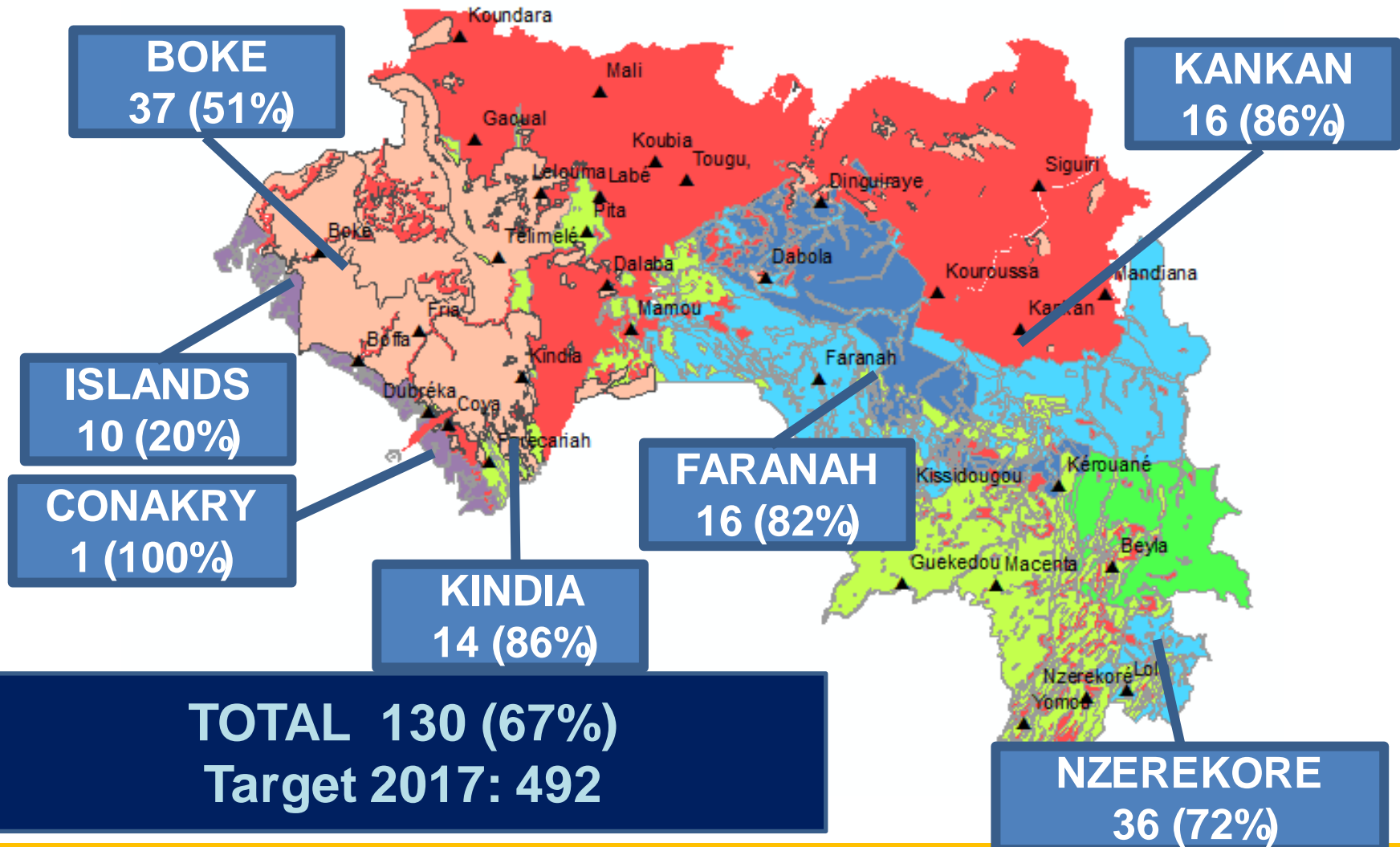


AGREEMENT FOR LONG TERM MANUAL DRILLING PROGRAMME

Results: map of suitable zones and identification of geographic priority for manual drilling (2012)



Hand drilled wells completed and rate of success (June 2014)



8 TEAMS TRAINED IN MANUAL DRILLING

With a capacity of 120 – 140 hand drilled wells / year

**4 TEAMS TRAINED IN CONSTRUCTION
OF TOOLS FOR MANUAL DRILLING**

Participation in international research program

Projet “Use of remote sensing and terrain modeling to identify suitable zones for manual drilling in Africa and support low cost water supply” (Nov 2013 – March 2015)

PARTNERS



**University Milano
Bicocca (Italy)**



SNAPE (Guinea)



**University Cheik
Anta Diop (Senegal)**



**UNICEF (Guinea and
Senegal)**

FUNDED BY:



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The research programme will produce an improved map of suitable zones in Kankan / Faranah, supporting the implementation of manual drilling



Scientific approach

Thematic maps, Remote Sensing (optical, radar), Digital terrain model



Environmental indicators (Vegetation dynamics, soil moisture, Thermal Inertia, morphometry)

Statistical analysis



Map of suitable zones for manual drilling

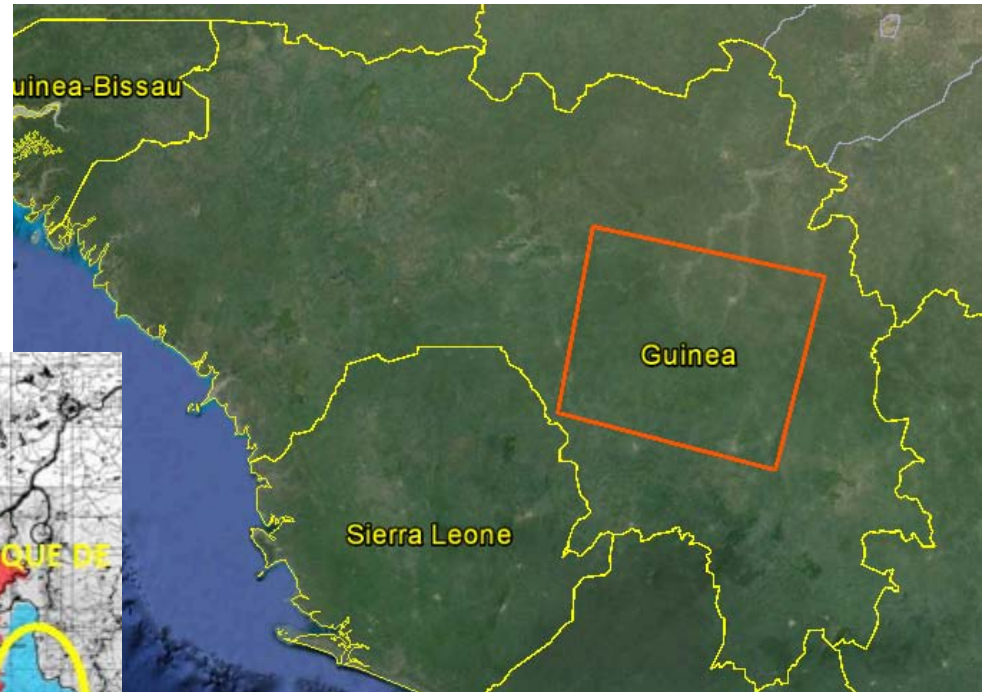
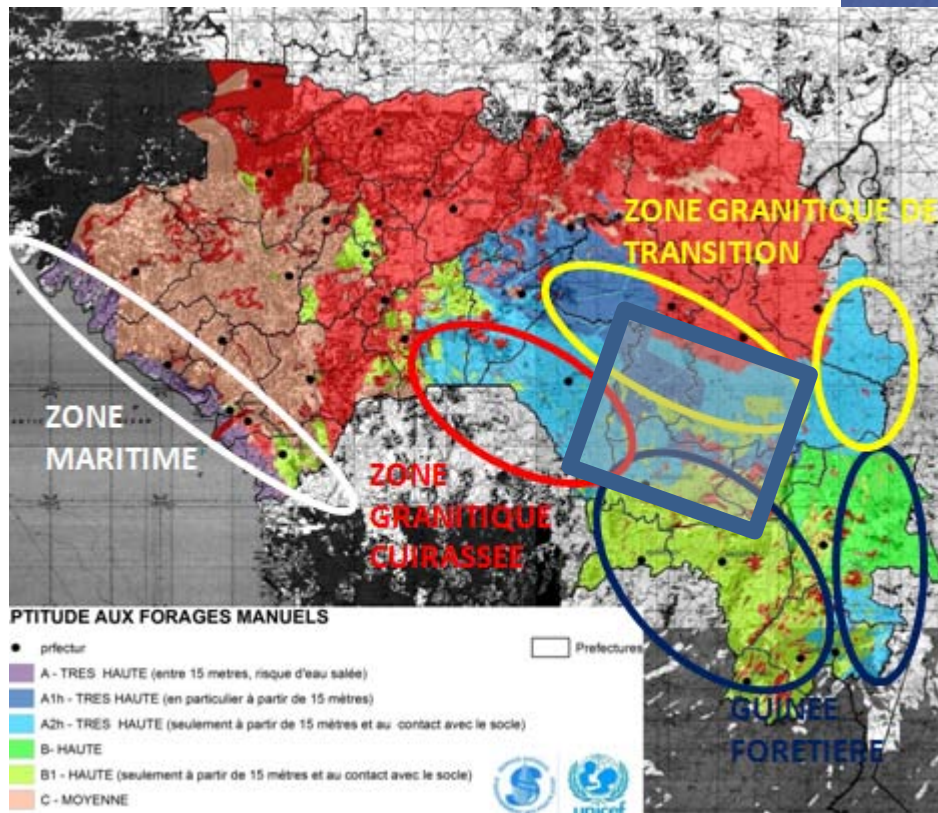
Hydrogeological features at observation points



Borehole logs interpretation, pump test, geophysics

Research study area

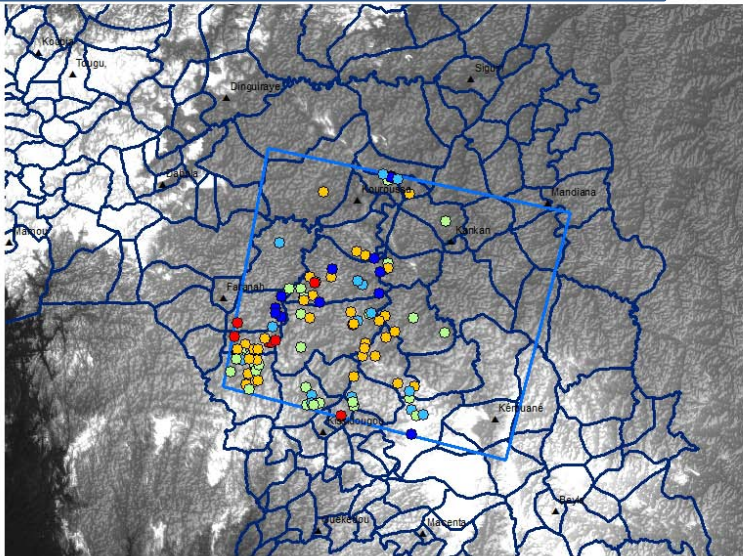
REGION OF KANKAN AND FARANAH (EAST GUINEA)



- Very suitable region for manual drilling
- Priority for wells implementation 2014-2017 (30 hand drilled wells completed in this zone)

Preliminary results of the research

Organization and interpretation of borehole logs from SNAPE database

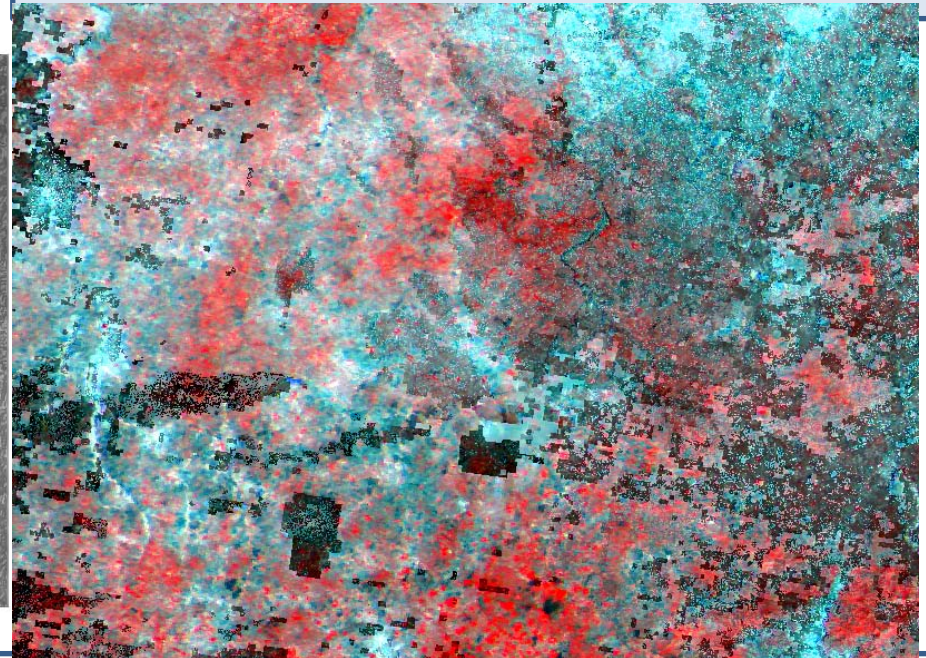


GUINEE
Profondeur des couches rocheuses dure (roche > 50%)
dans les forages de la zone du projet

- moins de 10 m
- entre 10 et 20 m
- entre 20 et 30 m
- entre 30 et 40 m
- plus de 40 m

0 25 50 100 150 200
Kilometers

Analysis of vegetation dynamics and thermal inertia from satellite images



Project activities (field data collection) are strongly delayed because of Ebola outbreak

FACTORS OF SUCCESS IN GUINEA

-Collaboration between partners



-Coordination between scientific research, training of drilling teams, implementation of hand drilled wells in target zones, advocacy

- Deep Involvement by national institution (SNAPE)

-Active role of UNICEF in support and fund raising



Thanks very much for your attention